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# PALESTINE EXPLORATION FUND.

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Patron—THE QUEEN.

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*Quarterly Statement*

FOR 1891.

23 79

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The Year 1890.

THE  
PALESTINE EXPLORATION FUND

Died

ON THE 25TH DECEMBER, 1890,

THE ARCHBISHOP OF YORK,  
*President of the Society.*

THE YEAR 1890.

1. The chief event of the year has been the work of Mr. Flinders Petrie at Tell el Hesi. A firman having been granted for excavation within an area of ten kilometres at Khürbet 'Ajlân, Mr. Petrie went up from Egypt in February, and commenced the operations which have been so surprisingly successful. Tell el Hesi was the spot chosen for the excavations, and here the wall of the ancient Amorite city of Lachish was discovered, as well as later constructions believed to belong to the times of Rehoboam, Asa, Jehoshaphat, Uzziah, Jotham, and Manasseh. The discoveries of pottery are of great importance. Mr. Petrie states that "we now know for certain the characteristics of Amorite pottery, of earlier Jewish, and of later Jewish, influenced by Greek trade"

2. Herr Schick's untiring and intelligent work at Jerusalem has produced many interesting and valuable results. He has reported further discoveries north of Damascus Gate, including a Greek inscription; several more rock-hewn chapels and rooms at Silwân; a very remarkable passage, with shafts, leading to the spring of Gibeon; further excavations on the eastern brow of Zion which revealed the existence of an extensive series of rock-cut chambers apparently designed for dwellings; a remarkable and elaborate tomb near Bethany; and excavations on Olivet, and at Siloah in connection with the (so-called) "second" aqueduct.

3. To Herr Schumacher the Fund has been indebted for notes on subjects of interests from Galilee, and for a description and photographs of the curious human figures cut in the rocks near Kâna.

4. Dr. Post of Beirût has contributed the first part of an essay on the sects and nationalities of Palestine, and Mr. Frederick J. Bliss, also o

Beirut, has furnished an elaborate report on Ma'lula and its dialect, derived from personal investigations on the spot.

5. Many finer observations and discoveries have been reported. Professor Hayter Lewis has sent a photograph of a squeeze of an Assyrian tablet found at Jerusalem; the Rev. J. E. Hanauer has described another visit to the curious cave at Saris; Mr. Gray Hill and Mr. W. Simpson have reported observations on a remarkable system of irrigation by underground canals, and the Rev. James Neil has communicated a paper on the same subject in connection with the pits at Nimrin; Dr. Selah Merrill has supplied an account of "birds and animals new to Palestine"; and Dr. Chaplin has reported the discovery of an inscribed Hebrew weight, believed to belong to the period of 800 B.C., and of a stone mask from Er Râm.

6. Apart from actual discoveries, valuable literary contributions to the *Quarterly Statement* have been made by Major Conder, R.E., the Lord Bishop of Salisbury, the Rev. W. F. Birch, the Rev. H. Brass, the Rev. J. H. Cardew, Mr. George St. Clair, Mrs. Finn, and others.

7. A manuscript of a journey to Tadmor in 1691 having been placed in the hands of the Executive Committee, they thought it well to print it. It contains copies of many inscriptions in Greek and in the Palmyrene character.

8. The publication of the meteorological observations taken under the auspices of the Fund at Saron and Jerusalem, has been continued by Mr. James Glaisher, the indefatigable Chairman of the Fund.

9. The new publications of the year (besides the *Quarterly Statements*;) have been—

"Palestine Under the Moslems," by Guy le Strange.

"Ajlûn Within the Decapolis," by G. Schumacher.

The New Map of Palestine.

## NOTES AND NEWS.

Everyone interested in the Archæology of Palestine will regret to learn that the famous "Siloam inscription" has been cut out of its place in the rock tunnel and carried away. It was broken in removal, and the fragments are reported to have been sold to a Greek of Jerusalem. On receiving this intelligence the Executive Committee forwarded to Hamdi Bey a resolution expressing their regret, and the hope that immediate steps will be taken to secure the fragments.

Fortunately an accurate copy of this inscription has been made and published by the Fund. The occurrence shows how valuable the work done by the Fund has been in preserving records of monuments which are in daily danger of being destroyed. The Rev. W. Ewing, of Tiberias, reports that the gateway of the small synagogue at Kefr Birim has disappeared, but that the stone bearing an inscription has been preserved.



The manufacture of "Antiques" in Palestine seems to be going on with renewed energy. Another "Siloam inscription" has been produced, and copies of it sent to several persons in England. It is a clumsy forgery in seven lines of Phœnician characters, which appear to have been transliterated from an original in square Hebrew.

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Herr Schick reports a find of *shekels* at Hebron, which were purchased by a resident at Jerusalem; but adds, "a good many false ones are in circulation."

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The Committee have engaged the services of Mr. Frederick Jones Bliss, B. A., son of the President of the American College, Beirût, to continue the excavations at Tell el Hesy (Lachish), begun by Mr. Flinders Petrie last spring. The Sublime Porte have renewed the Firman. Subscriptions for this object are urgently needed.

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Excavations in search of water are being made in and around Jerusalem under government auspices. Herr Schick states that the people employed for this work "have a man, a Greek, who understands where water is to be found. He puts his ear to the ground in order to hear the gurgling. First they dug "outside the Damascus Gate, then in the neighbourhood of the Tombs of the "Kings, and then at two places inside the Damascus Gate, but without success." Herr Schick's latest note on the subject will be found on page 20.

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It may be well to mention that plans and photographs alluded to in the reports from Jerusalem and elsewhere cannot all be published, but all are preserved in the offices of the Fund, where they may be seen by subscribers.

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An account of the excavations at Tell 'el Hesy (Lachish) and places visited in Palestine by Mr. Flinders Petrie will be ready in a few days. It contains 10 plates and other drawings illustrating the articles found. Price to Subscribers to the Fund, 6s. 6d., in paper covers.

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The first volume of the "Survey of Eastern Palestine," by Major Conder has been issued to subscribers. It is accompanied by a map of the portion of country surveyed, special plans, and upwards of 350 drawings of ruins, tombs, dolmens, stone circles, inscriptions, &c. The edition is limited to 500. The first 250 subscribers pay seven guineas for the three volumes; subscribers to the "Survey of Western Palestine" are privileged to have the volumes for this sum. The price will be raised, after 250 names are received, to twelve guineas. The Committee are pledged never to let any

*copies be subscribed under the sum of seven guineas.* Mr. A. P. Watt, 2, Paternoster Square, is the Sole Agent. The attention of intending subscribers is directed to the announcement after Maps and before Contents of this number.

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Mr. H. Chichester Hart's "Fauna and Flora of Sinai, Petra, and the Wady Arabah" is almost ready, and will be sent out to subscribers in a few days. All the Illustrations for M. Ganneau's volume are ready, and it is hoped they will be issued with the letterpress before the end of the year.

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The following gentlemen have kindly consented to act as Honorary Local Secretaries:

Rev. John Howell, for Mountain Ash.  
 W. E. S. McGregor, for India.  
 Rev. J. L. Thomas, M.A., for Briton Ferry.  
 Joseph Hall, Esq., for Swansea.  
 Rev. J. H. Skewes, for Liverpool.  
 J. B. Davies, Esq., Hafod y Coed, for Llanfairfechan.  
 Rev. W. Vaughan Jones, for Wrexham.

---

The Committee have to acknowledge with thanks the following donations to the Library of the Fund, viz. :—

From Capt. Hankey, R.N., "The Antiquities of Palmyra," (1696).  
 From the Author, "Wine and Oil from Emmanuel's Land," by Rev. James Ormiston.  
 From the Author, "With the Beduins," by Gray Hill.

---

The Committee have added to their list of publications the new edition of the "History of Jerusalem," by Walter Besant and E. H. Palmer (Bentley & Son). It can be obtained by subscribers, carriage paid, for 5s. 6d., by application to the Head Office only. The "History of Jerusalem," which was originally published in 1871, and has long been completely out of print, covers a period and is compiled from materials not included in any other work, though some of the contents have been plundered by later works on the same subject. It begins with the siege by Titus and continues to the fourteenth century, including the Early Christian period, the Moslem invasion, the Mediaeval pilgrims, the Mohammedan pilgrims, the Crusades, the Latin Kingdom, the victorious career of Saladin, the Crusade of Children, and many other little-known episodes in the history of the city and the country.

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The books now contained in the Society's publications comprise an amount of information on Palestine, and on the researches conducted in the country, which can be found in no other publications. It must never be forgotten that no single traveller, however well equipped by previous knowledge, can compete

with a scientific body of explorers, instructed in the periods required, and provided with all the instruments necessary for carrying out their work. The books are the following (*the whole set can be obtained by application to Mr. George Armstrong, for £2, carriage paid to any part in the United Kingdom only*):—

By Major Conder, R.E.—

- (1) "Tent Work in Palestine."—A popular account of the Survey of Western Palestine, freely illustrated by drawings made by the author himself. This is not a dry record of the sepulchres, or a descriptive catalogue of ruins, springs, and valleys, but a continuous narrative full of observations upon the manners and customs of the people, the Biblical associations of the sites, the Holy City and its memories, and is based upon a six years' experience in the country itself. No other modern traveller has enjoyed the same advantages as Major Conder, or has used his opportunities to better purpose.
- (2) "Heth and Moab."—Under this title Major Conder provides a narrative, as bright and as full of interest as "Tent Work," of the expedition for the *Survey of Eastern Palestine*. How the party began by a flying visit to North Syria, in order to discover the Holy City—Kadesh—of the children of Heth; how they fared across the Jordan, and what discoveries they made there, will be found in this volume.
- (3) Major Conder's "Syrian Stone Lore."—This volume, the least known of Major Conder's works, is, perhaps, the most valuable. It attempts a task never before approached—the reconstruction of Palestine from its monuments. It shows what we should know of Syria if there were no Bible, and it illustrates the Bible from the monuments.
- (4) Major Conder's "Altaic Inscriptions."—This book is an attempt to read the Hittite Inscriptions. The author has seen no reason to change his views since the publication of the work.
- (5) Professor Hull's "Mount Seir."—This is a popular account of the Geological Expedition conducted by Professor Hull for the Committee of the Palestine Fund. The part which deals with the Valley of Arabah will be found entirely new and interesting.
- (6) Herr Schumacher's "Across the Jordan."
- (7) Herr Schumacher's "Jaulán."—These two books must be taken in continuation of Major Conder's works issued as instalments of the unpublished "Survey of Eastern Palestine." They are full of drawings, sketches, and plans, and contain many valuable remarks upon manners and customs.
- (8) "The Memoirs of Twenty-one Years' Work."—This work is a popular account of the researches conducted by the Society during the past twenty-one years of its existence. It will be found not only valuable in itself as an interesting work, but also as a book of reference, and

especially useful in order to show what has been doing, and is still doing, by this Society.

- (9) Herr Schumacher's "Kñ. Faiñl." The ancient Pella, the first retreat of the Christians; with map and illustrations.
- (10) Names and Places in the Old and New Testament and Apocrypha, with their modern identifications, with reference to Josephus, the Memoirs, and *Quarterly Statements*.
- (11) Besant and Palmer's "History of Jerusalem," already described.
- (12) Northern 'Ajlñn "Within the Decapolis," by Herr Schumacher.

To the above must now be added Mr. Henry A. Harper's "The Bible and Modern Discoveries," a cheap edition of which is in the press—price to the public, 7s. 6d.; to subscribers to the Fund, 5s. Mr. Guy le Strange's important work "Palestine under the Moslems," price to the public, 12s. 6d.; to subscribers to the Fund, 8s. 6d.; and Mr. Flinders Petrie's account of his excavations at Tell el Hesý (Lachish), price to the public 10s.; to subscribers to the Fund, 6s. 6d.

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The work of Mr. Guy le Strange on "Palestine under the Moslems" was published in April, 1890.

For a long time it had been desired by the Committee to present to the world some of the great hoards of information about Palestine which lie buried in the Arabic texts of the Moslem geographers and travellers of the Middle Ages. Some few of the works, or parts of the works, have been already translated into Latin, French, and German. Hardly anything has been done with them in English, and no attempt has ever been made to systematise, compare, and annotate them.

This has now been done for the Society by Mr. Guy le Strange. The work is divided into chapters on Syria, Palestine, Jerusalem, and Damascus, the provincial capitals and chief towns, and the legends related by the writers consulted. These writers begin with the ninth century and continue until the fifteenth. The volume contains maps and illustrations required for the elucidation of the text.

The Committee have great confidence that this work—so novel, so useful to students of mediæval history, and to all those interested in the continuous story of the Holy Land—will meet with the success which its learned author deserves. The price to subscribers to the Fund is 8s. 6d.; to the public, 12s. 6d.

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The new map of Palestine, so long in hand, is now ready. It embraces both sides of the Jordan, and extends from Baalbek in the north to Kadesh Barnea in the south. All the modern names are in black; over these are printed in red the Old Testament and Apocrypha names. The New Testament, Josephus, and Talmudic names are in blue, and the tribal possessions are tinted in colours, giving clearly all the identifications up to date. It is the most comprehensive map that has been published, and will be invaluable to universities, colleges, schools, &c.

It is published in 21 sheets, with paper cover; price to subscribers to the Fund, 24s., to the public, £2. It can be had mounted on cloth, rollers, and varnished for hanging. The size is 8 feet by 6 feet. The cost of mounting will be extra (*see Maps*).

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The third edition of Mr. Henry A. Harper's book, on "The Bible and Modern Discoveries," is already sold out, and a new and cheap edition will be ready in February. The work is an endeavour to present in a simple but yet connected form the Biblical results of twenty-two years' work of the Palestine Exploration Fund. The writer has also availed himself of the discoveries made by the American Expeditions and the Egyptian Exploration Fund, as well as discoveries of interest made by independent travellers. The Bible story, from the call of Abraham to the Captivity, is taken, and details given of the light thrown by modern research on the sacred annals. Eastern customs and modes of thought are explained whenever the writer thought they illustrated the text. To the Clergy and Sunday School Teachers, as well as to all those who love the Bible, the writer hopes this work will prove useful. He is personally acquainted with the land, and nearly all the places spoken of he has visited, and most of them he has moreover sketched or painted. The work is illustrated with many plates, and a map showing the route of the Israelites and the sites of the principal places mentioned in the sacred narratives. It should be noted that the book is admirably adapted for the school or village library.

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Branch Associations of the Bible Society, all Sunday School unions within the Sunday School Institute, the Sunday School Union, and the Wesleyan Sunday School Institute, will please observe that by a special Resolution of the Committee they will henceforth be treated as subscribers and be allowed to purchase the books and maps (by application only to the Secretary) at reduced price.

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The income of the Society, from September 22nd to December 19th inclusive, was—from annual subscriptions and donations, including Local Societies, £126 3s. 0d.; from donations for excavations, £29 12s. 6d.; from all sources, £589 19s. 7d. The expenditure during the same period was £642 11s. 7d. On December 19th, the balance in the Bank was £785 17s. 0d.

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Subscribers are begged to note that the following can be had by application to the office, at 1s. each:—

1. Index to the *Quarterly Statement*, 1869-1880.
2. Cases for Herr Selunacher's "Jaulân."
3. Cases for the *Quarterly Statement*, in green or chocolate.
4. Cases for "Abila," "Pella," and "'Ajlûn" in one volume.

Early numbers of the *Quarterly Statement* are very rare. In order to make up complete sets, the Committee will be very glad to receive any of the following numbers :—

No. II, 1869; No. VII, 1870; No. III, 1871; January and April, 1872; January, 1883; and January, 1886.

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It having again been reported to the Committee that certain book hawkers are representing themselves as agents of the Society, the Committee have to caution subscribers and the public that they have no book hawkers in their employ, and that none of their works are sold by itinerant agents.

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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.

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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.

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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, and all illustrated by original photographs shown as "dissolving views":—

*The Survey of Western Palestine, as illustrating Bible History.*

*Palestine East of the Jordan.*

*The Jerusalem Excavations.*

*A Restoration of Ancient Jerusalem.*

- (2) The Rev. Thomas Harrison, F.R.G.S., Member of the Society of Biblical Archaeology, 38, Melrose Gardens, West Kensington Park, W. His subjects are as follows:—

(1) *Research and Discovery in the Holy Land.*

(2) *In the Track of the Israelites from Egypt to Canaan.*

(3) *Bible Scenes in the Light of Modern Science.*

- (3) The Rev. Charles Chidlow, M.A., Cairo Vicarage, Llandilo :—

*Recent Discoveries in Bible Lands.*

## HERR SCHICK'S REPORTS.

## I

## CHRISTIAN TOMBS IN JERUSALEM.

INSIDE the town, east of the new gate of Jerusalem, the Franciscan Convent is again clearing a place for new buildings. On removing the earth, two large tombstones were found, of which I enclose drawings. They were not *in situ*, but lying without order in the earth or rubbish. One has a prismatic form, is 5 feet 2 inches long and 1 foot 6 inches high; on the base is a border 2 inches high, so that each of the sloping sides measures 1 foot 8 inches. On these sloping sides are crosses (one on each side) near the same end. They are not exactly of the same form, so I give the picture of both. They are in slight relief, indicating probably the order of the knight buried underneath.

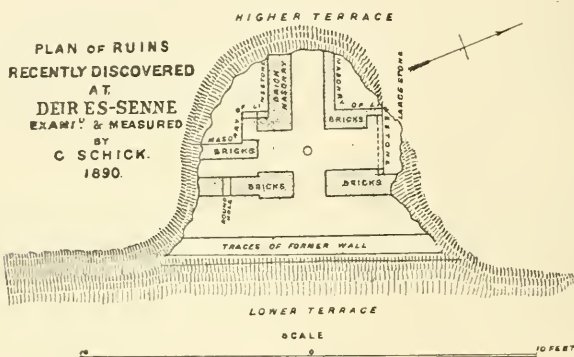
The other stone has a square or cubic form. It is 5 feet 11 inches long, 1 foot 7 inches wide, and 1 foot 2 inches high. On the top face, the edges round about have a slant of  $3\frac{1}{2}$  inches. On this upper surface there is a plain cross in slight relief. I found no writing nor any other marks on these two stones, they are worked nicely, and are soft *mezze*. They were found south of the pieces of old wall discovered some time ago.

## II

## ANCIENT BATH AND CISTERN NEAR BETHANY.

A fellah of the Village of Silwân came and told me that he had made some excavations in his vineyard, and found remarkable remains of brick masonry. So I went with him, and he took me towards Bethany; but on the height between Jebel el Tur and Baten el Hawa, where the Bethany road bends eastwards, we went straight on (*see* Ordnance Survey Plan of Jerusalem, scale  $\frac{1}{10000}$ ), and on the east slope of the Mount of Offence, downwards, for the most part, in a southerly direction, as far as the Contour 2,129, where, a little more to the south and further down, I observed a pool hewn in the rock, which is shown on the map but the word "pool" omitted. Further down, at the Contour 2,019, we came to the vineyard of the man. Near the cistern there he had his hut, lodging in it during the summer months; and on the side of it, towards a declivity, he had made some excavations in search of hewn stones, which are found everywhere about in the soil. There are on the top or brow of

the present declivity the remains of a former wall made of hewn stones ; west of this an empty space or path, about 2 feet wide ; and west of the latter some curious masonry made of bricks, &c., of which I enclose plan. These brick walls are 2 feet 6 inches high, the bricks are of rather small size, hard—not brittle—and without any mark. Before the bricks were used there was some masonry of hewn limestone, and everywhere the stones, which are of rather small size, were cased with bricks. This seems to indicate that the fabric was intended for fire and was probably meant for a bath—the fire to be made in the most spacious part, the fuel being put in by the door, the round hole regulating the draught. The whole was covered with flagging stones, which had become burned by the fire just as the hot Turkish baths do to-day in this country. But it puzzled me to find an indication that ever fire was used.



The brick masonry looks rather new and unused. On the north side there is a large hewn stone, no more *in situ*, but lying there where the brickwork was done, not blackened in the least. In the centre point they found a piece of a slender marble pillar, 4 inches in diameter and 1 foot long, without any base. This place and the vineyards round about is called *Deir Essenna*, which may perhaps be translated *Convent of the Year* ; but this implies no meaning, so I rather think it has to be translated—the “Convent (or lodging place) of the Essenes,” the Jewish sect of which Josephus speaks, “Bello,” 2, 8, 2-13. My guide (the proprietor of the ground) told me there was formerly here a village, perhaps as large as Silwân at this day, but there came a plague amongst its inhabitants, so that they all died out, and this ground was then allotted to the people of Silwân. During my examinations and measurements another fellah came from the neighbouring vineyard, telling me the same thing, and stating that wherever they dig they find masonry or hewn stones. He led me a few minutes eastwards, where on the Ordnance Survey Plan stands the word “Cave,” and here I found a remarkable cistern. The external opening looks like that of one of the caves of which there are so many in this district ; but if one goes in he passes downwards from



one to another, and finally reaches a very large cistern, of which I give plan and section. It is entirely hewn into the rock, but for keeping water and holding the cement laid out round about with masonry of a few feet thick, as shown in the plan and section.

This wall casing or lining does not go up to the rock roof, but only to some height about 10 feet lower than the rock ceiling, so that a man can walk on the top of the wall round about. In the roof are two mouths cut in the rock, but on the top, covered up, and not observable in the vineyard. The size and form of the cistern is rectangular, 73 feet long, 49 feet wide. The height I could not exactly ascertain, as there is on the bottom a great accumulation of stones, earth, and dung. The cistern is very often the resort of cattle, sheep, and goat herds, and this accumulation is certainly 8 or 10 feet thick, so that the entire height would be about 55 feet, taking 45 feet of water, if restored again. In the southern wall there is a breach, by which men and animals can go down to the bottom of the cistern. In the masonry of the east and north walls are several holes broken, on a level with the present bottom of the cistern, so that one may see the rock behind. These seem to have been made and used as fire-places, as they are so blackened by smoke, and the man said: the shepherds also put sick animals there, in order that they may not be molested by the others; even the shepherd himself does so sometimes.

This cistern is called "Boberich," which may be translated "large" or "grand." If the Essenes lived round about here they had water enough for their many washings.

### III.

#### MORE DISCOVERIES AT SILWÂN.

When watching the excavation work at the so-called "second" aqueduct people told me there was discovered on the ground of the Russians some interesting writing, so I went there.

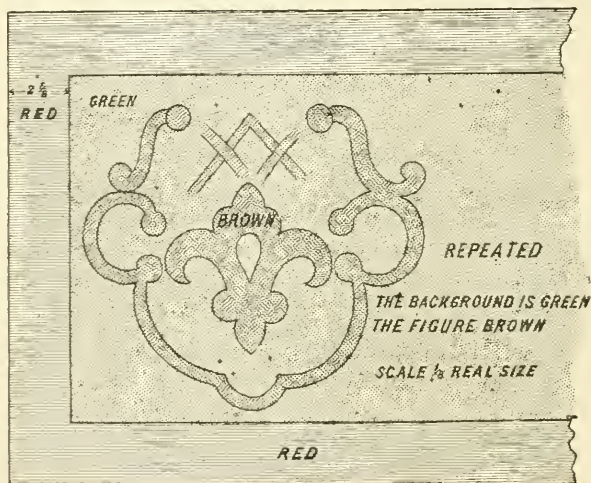
It is on the Scarped Rocks, at the north end of the village, on the spot where Sir Charles Wilson's map of Jerusalem,  $\frac{1}{25000}$ , mentions ancient tombs. Where the letter C stands the rock is projecting. This projecting part is of considerable height, and at the upper part a room is excavated in it, having a window on the north side. This window served also as the door, and to get up to it a ladder is required. Below, near the surface of the ground, is a passage of about a man's height, formed by two recesses, one from the east side and one from the north side, meeting inside. They are hewn in rock, only the corner being left for support. In the floor of this short passage is the mouth of a small cistern.

Opposite this rock projection, 20 feet distant, is another, not so high. The space between has a rock flooring, which apparently once formed a

room or chapel. The north wall, which was of masonry, has now disappeared; the three other sides are rock scarps, in which are small holes, for the poles of the roofing. In the south-eastern corner there still stands a piece of masonry, which once supported the roof.

Some months ago the ground in front of this rock was bought by the Russian Archimandrite, who erected a boundary wall, and then made some excavations, especially between the two projecting parts. On the east wall of the room or chapel described three recesses were found. One is small and of no importance; another, which is opposite, is a semi-circular excavation in the rock, like a Moslem "Mihrab," and the one in the middle is square in form, 2 feet 8 inches high, 1 foot 3 inches wide, and about 10 inches deep. At the middle of the height are grooves on each side, as if for a shelf. This wall had been painted over in "fresco." Between the centre recess and the semi-circular one the painting represents a square frame in deep red, the space enclosed is dark blue, and on it are seven lines of fine writing, done in white paint. The lines are not in a horizontal but a vertical position, the greater part no longer legible, but some are still clear, and of these I made a copy, which I now forward. The letters resemble Hebrew, although the whole arrangement seems to be Christian.

South of the centre recess, and in the same line with the inscription frame, that frame is continued. It is red, and on the enclosed surface, which is green, figures are painted in brown, one of which I copied. I could not find any cross here, but high up on the rock,



on the west side of the above-mentioned window or door, a plain cross of two strokes, without any ornamentation, about 8 inches high, is hewn into the rock. I could find no opening of a tomb, but there may be such in the middle of the flooring where a heap of earth is lying.

2. When leaving this place I was taken to a house in the upper part of the village, and shown an inscription engraved slightly in the stone on the side of a window. They had before brought me a squeeze of this, very imperfectly done, as it seemed to me, and I now compared the squeeze with the stone, going on letter by letter, and made it distinct and corrected it with a brush in black water-paint. It was too high to make a better squeeze, as I had no ladder, and there was nobody on the spot. Also I supposed it probable that Monsieur Ganneau may have long ago copied the inscription, and that hence it is not necessary to take much pains about it. However, I enclose here

Reduced from a Squeeze  
of an inscription on a  
house in the village  
of SILOAH

I N H II  
 E N I H I  
 H Π C N E O I  
 K W J □ Y E H  
 V I U N □ □  
 I X J M I F I

the squeeze-copy, such as it is, and hope it will be good enough for judging whether Mons. Ganneau has copied it already or not, and also whether it is of any value or not. To me it seemed to have been once a tombstone.<sup>1</sup>

## IV.

## THE "SECOND" SILOAH AQUEDUCT.

September 29th, 1890. In April and May last, I made three shafts in search of the second aqueduct with comparatively negative results, which I fully reported in the first week of June (see *Quarterly Statement*, 1890, p. 257). Since then I have made three more shafts with better results.

In order to go on more safely, I first opened again the shaft C, which was made four years ago (see *Quarterly Statement*, 1886, p. 197). This shaft was then marked "C." In the accompanying plan and section I now mark it "4," as it is the fourth made this year.

When coming down again to the rock-cut aqueduct (the "second"), my intention was to clear it out northwards (towards the Virgin's Spring) and follow wherever it may go. As it had no covering stones the earth was so hard that the workmen could clear it out without frames. When it was cleared for a length of 23 feet it became difficult to go on further, and so I made another shaft (the fifth) marked 5 on the plan, and on

<sup>1</sup> This appears to be the writing I described in 1872 which is written in vertical lines and seems to be 6th century Syriac.—C. R. C.

coming down into the rock-cut channel it was found that there was a door, and that the channel was covered with rock, *i.e.*, from this point it was seen to be a rock-cut tunnel  $6\frac{1}{2}$  feet high (in parts even more), at the bottom only from 8 inches to 15 inches wide, at or near the top always about 2 feet wide, in several parts more, so that the sides are slanting. The direction is rather in a crooked line, as the adjoining plan will show.

When cleared out for 17 feet a rock ledge was met, 2 feet high and 7 inches thick, standing across the channel, in order, apparently, to enable the water to be stored when necessary. There is a round hole in the ledge near the bottom, and when this was opened the water would run out. A few feet further north there is, on the east side, a door-like opening, and rock-cut steps lead down to the channel, or the water. About 20 feet further north is a similar door and steps, also on the eastern side. As it was difficult to go further on with the clearing, we opened another shaft over these last steps, marked in plan "6" (being the sixth). As according to the drawing in Sir Charles Wilson's plan of Jerusalem ( $\frac{1}{25000}$ ), the present aqueduct (now in use) must be very near to this "second" one.

I hoped we might come to it, *i.e.*, to a masonry wall, which, when broken through, would bring us to the present aqueduct, and my original idea was that this "second" one is simply the original continuation of the real one, the lower part of which latter was afterwards hewn westward through the mountains, and this lower piece abandoned. But it is now clear that this was not the case. The level of the "second" is already here a few feet higher than the other; and having passed the "bend" without meeting the aqueduct, and still going northward, it is evident that the "second" is entirely another one! About 25 feet from the last steps there appears to be a door in the western side, and over it a kind of shaft, shut up with a large stone. The rock having here also some clefts, we intended to make a shaft here, but as I had no time for fixing the exact site over it, the workpeople went farther on, and thus found the passage shut up by a wall, consisting of square hewn stones laid dry, without mortar, so that this being removed it was found that here also the passage has a door, behind which (north) the rock roofing had an end. So I resolved to make here a shaft, being already in the ground of the neighbour who does not make so much difficulty as the proprietor of the ground in which we made the shafts 4, 5, 6. By guidance of the bearings with the compass in the passage, and then on the surface, I fixed the point, and people are now digging the shaft. Of the further results I will report in due time.

At shaft 6, over the lower steps, there is laid a very large covering stone on the rock shoulders, as shown in the section. It is most remarkable that two aqueducts were made so near to one another, running parallel, and at no great difference of levels. Both cannot have been made at one and the same time, and the question may be asked which is the older one? To me it seems the so-called "second" one is the oldest, which brought the water only to the lower or large pool, the present



THE  
VILLAGE  
WELL

To Pool  
of Silsam  
Shaft

ROCK-CUT TUNNEL

Garden

Garden

To the Pool  
Garden wall

Garden wall

Garden wall

I.  
Plan of

SECOND AQUEDUCT  
AND NEIGHBOURHOOD.

by Baurath C. Schick.  
April to November, 1890.

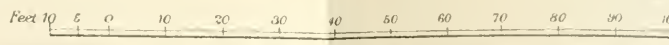
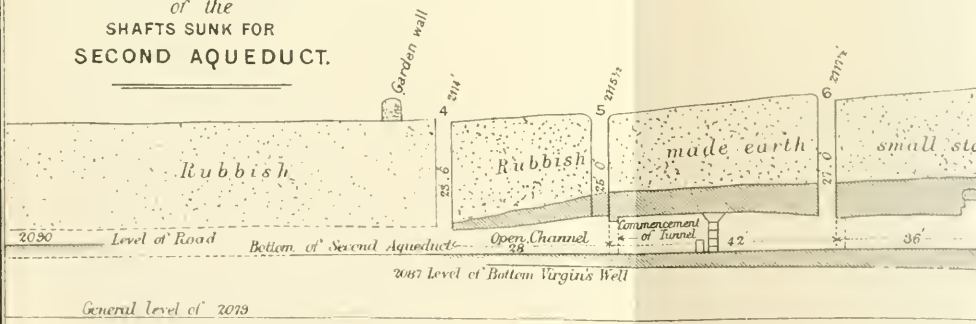
To the Village of Silsam

Garden wall  
Garden

II.

Section & Elevation  
of the

SHAFTS SUNK FOR  
SECOND AQUEDUCT.



C. Schick







“Birket Hamra”—“Old Pool” on Sir Charles Wilson’s map. It is remarkable that the present one comes so much eastward out from the mountains, running parallel with the “second” in this region and then going again westwards through the mountain. What may have been the reason? These (seemingly) unnecessary bendings made the aqueduct 225 feet longer, and hence caused much more labour and expense, so it must have had a reason. Further, the decline of the “second” one is rather large, whereas the present one is nearly level, with a very slight descent, so that if the decline should be found further on, as it has been found in the part already excavated, it will come out only a few feet below the present surface, round the entrance to the Virgin’s Spring, at a level of about 2,116, whereas the bed of the spring is 29 feet below.<sup>1</sup>

From the translation of the inscription found near its lower end it is always believed that two parties of workmen have done the present aqueduct, beginning at the same time at both ends, and meeting in the middle. If this was so, then during that time the water must have had another outflow, and been brought up probably by wallings to a higher level, for running off; otherwise the water would have followed the workpeople and drowned them.

I may also notice that the part of this “second” aqueduct, now excavated, is very similar to that near Bir Eyûb, excavated by Sir Charles Warren.

On the levels mentioned in this report, and entered in the adjoining plan and section, I have to remark that only to a certain degree can they be depended upon, as at my levellings I had not a fixed and sure starting-point. I wished to take the bench-mark on one of the lowest houses in the village of Silwân as the starting-point, but unhappily this bench-mark is no longer visible, as the wall of a new house has been built in front of it.

So, as I did not know the level of the bench-mark, I took as a starting-point the inserted level, 2,078, in the road going over from the aqueduct side to the village. But always in winter the surface, even in the street or road, becomes altered by the heavy rains, so my starting-point with the level, 2,079, is only approximate. I think in future to take the bed of the Virgin’s Spring as the starting-point, and, if necessary, correct the others accordingly. Finally, I have to remark that the part of the present or “famous” aqueduct, running parallel with the part of the “second” now excavated, is given in Lieutenant Conder’s drawing quite straight, as I have entered it in my plan; but in Sir Charles Warren’s Map of Jerusalem the lines form a slight bow, as I have shown by dotted lines in my plan. It is now quite clear that the water of the

<sup>1</sup> This aqueduct appears already to have been traced to a level which precludes the idea that it came from the Virgin’s Spring. I expect it was connected with the surface channels on Ophel which I described in 1872, but which were afterwards quarried away. Possibly it was a drain. It is, however, interesting to follow out. I see no reason why it should be older than the Siloam aqueduct to the Virgin’s Pool.—C. R. C.

spring came out originally on a higher level, so that the "second" aqueduct could carry it off, and that when the present aqueduct was made it was found necessary, in order that it might be hidden, to lay it lower, and hence the necessity for a new canal. But the whole was shut and filled up so that no enemy could see or find either spring or aqueduct.

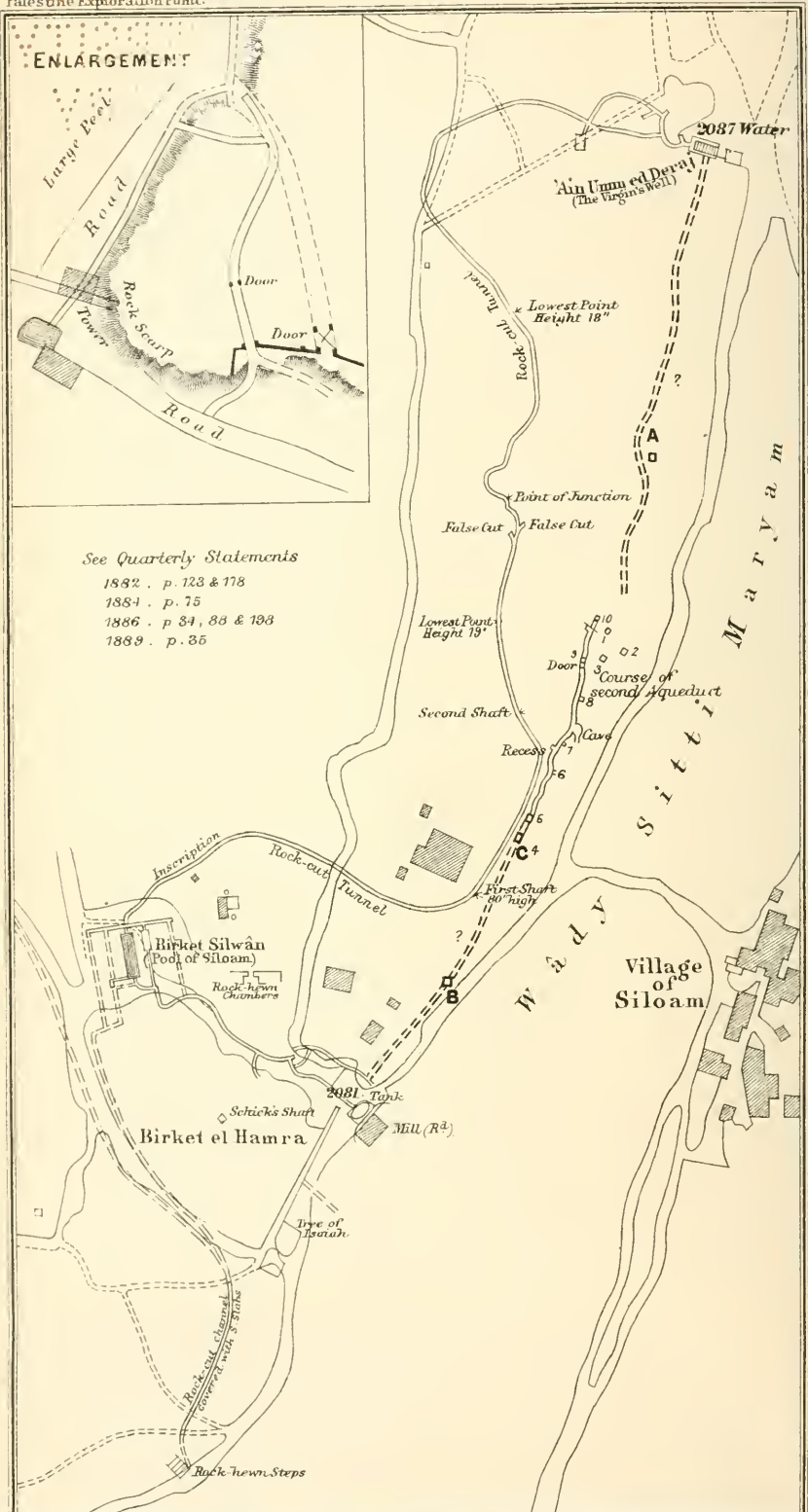
*November 18th, 1890.*—At the end of September I reported on the excavations at the "second" Siloah aqueduct, done by order of the Committee. To-day I have the honour to report on the further progress of this work, illustrating it by the accompanying complete plan and section. The drawings sent with the first report only show the state of things so far as known at that time, and hence are incomplete. Those I send now represent the whole work done during this year, and the result thereof.

*Explanation:*—The shafts which were made I numbered 1 to 10 according as they were made one after the other. Nos. 1, 2, and 3 were made in April, as I fully reported at the time. Then 4, 5, and 6 were made successively, and reported in my last, with what had been found up to that time—*i.e.*, that the aqueduct was already cleared to the end of the piece of ground, and shaft 7 had to be opened in order that we might be enabled to go on with the work. This shaft was made beyond the boundary wall, being already on the ground of the neighbour, who had no objection if six or eight francs backsheesh were paid for each. The shaft 7 was 29 feet deep, coming only a little on the side (as the plan shows). The aqueduct has here a kind of door, and runs more and more away from the present or acting one; so all hope that it afterwards enters it has faded. Also the door towards west, of which I spoke in my last, proved to be no arm or branch of a tunnel, but simply a recess like the one opposite. When the passage was cleared northwards for about 20 feet from the middle of the shaft on the eastern side, a hole was found, which led downwards to a sort of cave with a good deal of earth in it. It was cleared to some depth, when seeing a cleft like a channel running from it southwards (*see drawings*), we discontinued the work in it. This cave is partly natural and partly artificial. From its lower position it can never have been a tributary to the aqueduct, but rather have been a ventilator or water distributor, when there was a great stream. As the opening to it is several inches above the bottom of the aqueduct, when the stream of water was low none would go through it (*see section*). Here the aqueduct makes a bend, taking a direct northerly course, its previous direction being north-easterly. At 46 feet from the last shaft (7) another shaft or hole in the rock on the top of the aqueduct appeared, and I resolved to open it, in order that the work might go on better, as when bringing all *débris* and stones out by shaft 7 the advance was very slow. Not being quite well, I was not inclined to take the risk of going down, so my substitute took the bearing and fixed the point on the surface where the shaft had to be made. It proved afterwards to come some feet too much east, which had, however, some advantage, namely, to enable the steps

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PLAN OF THE AQUEDUCTS AND CONNECTIONS  
RECENTLY DISCOVERED AND SUPPOSED CONTINUATION OF COURSE.

Fales 6th Exploration Fund.



See Quarterly Statements  
1882 . p. 123 & 178  
1884 . p. 75  
1886 . p. 34, 88 & 103  
1889 . p. 35

going down from the surface of the rock to be cleared, and anything falling down the shaft would not fall on the heads of the workers below. Also, the height of the rock could be measured; it is here  $10\frac{1}{2}$  feet from the floor of the aqueduct, and up to the surface is  $30\frac{1}{2}$  feet. A little north of it stands a fine pomegranate tree, and I thought the tunnel would go just under it, but it proved to be a few feet more west. A little further, and the tunnel was filled with stones rather than with earth as hitherto; sometimes large ones, so that they had to be broken in pieces before they could be brought in the baskets up through the shaft No. 8 to the surface. Thus the advance in a day was not great. At 35 feet from shaft No. 8 the tunnel became suddenly much wider, viz., 2 feet 8 inches instead of 1 foot 6 inches to 2 feet; and also much higher, namely, 7 feet instead of  $5\frac{1}{2}$  or 6 feet (as the height is varying—in the so-called door only 4 feet or a little more). The top or ceiling of this wider and higher part for a distance of 6 feet was not rock, but six stones, rough and unhewn, each on an average 1 foot broad and 4 feet long, were put across. I now pointed out the place where a new shaft (No. 9) had to be made, a little more north, so that the shaft may come partly on the top of the rock, and thus the men be enabled to remove one or two of the covering stones. It turned out that when one was removed there was opening enough to go on with the work. This latter shaft is 37 feet deep; it is situated on the contour line 2,129 feet above the Mediterranean; the floor of the aqueduct is therefore 2,092 feet, or 5 feet *above* the floor of the Virgin's Well. It is clear that when this second aqueduct was abolished, the hitherto oblong or squared opening (or shaft) was shut up by putting the six stones across it, after a good many stones and earth were cast down, which we had now removed again. East of it I had opened the shafts Nos 1, 2, and 3, in April, without result.

From shaft No. 9 the aqueduct was cleared for 38 feet further north. At 27 feet the rock has a cleft on the top, and partly also on both sides (*see* plan). North of the cleft the rock is *nahry* and brittle, whereas till here it had been of a harder nature. The thickness of the covering part is here less than hitherto, and at the point mentioned, 38 feet from shaft 9 the cover having been thin, had fallen down. So another shaft can be made here. But as the days have now become short, and the rains will soon set in, I have resolved to give up the work. If it is wished to continue the work, it can any day be taken up again, as I fixed the point where the next, or shaft 10, will have to be made. It is on the ground of another man, now planted with nice cauliflowers.

As regards the sinking of the shafts, the soil was for the greater part hard-made earth, but in each were also layers of small stones and chippings, which rendered necessary some propping and scaffolding, although not regular casing. I am thankful to God to be able to say that no accident happened, either to myself, my men, or the general labourers.

The result of these excavations brings the full and unquestionable proofs that *there was in ancient time a "second" Siloah aqueduct*, of which

I laid bare, several years ago, a length of about 125 feet, and now its continuance of 245 feet. The piece between, of about 200 feet, not yet excavated, can hardly be a matter of question, as quite the half of its length is fully proved.

With regard to the level, the excavations prove that the starting point at the Virgin's Well was higher situated than now. In my former report I spoke of a calculation to come out nearly on the surface there, but as in the portions afterwards cleared out the decline is much less, and not everywhere the same, the decline is, on an average, as far as I can now reckon, only  $1\frac{2}{3}$  per cent., and the aqueduct will accordingly come out at the Virgin's Well, on the flooring on which the upper stair ends, or at the foot of the upper stair, very likely where now the Moslem *Mihrab* is situated.

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## V.

### THE HEIGHT OF THE SILOAH AQUEDUCT.

All explorers who have undertaken the task of going through the whole aqueduct hewn in the rock from the Virgin's Well to the Pool of Siloah say that about the middle there is a long piece very *low*—so low, that one must creep on the belly, and that if the stream should be strong, the explorer might be drowned. (See "Jerusalem Vol.," page 355, and elsewhere.)

From the south end northwards the height goes down from 16 to  $4\frac{1}{3}$  feet in a length of 350 feet, for 450 feet further the height on an average is  $3\frac{3}{4}$  feet, and there was a shaft up to the surface, now covered and unknown on the surface; from this shaft further northwards in 600 feet the canal lowers to  $2\frac{1}{2}$  feet, then becoming still lower, 150 feet further it is only 1 foot 10 inches; but, adding the mud silt of 1 foot 5 inches, the whole height is 3 feet 3 inches.

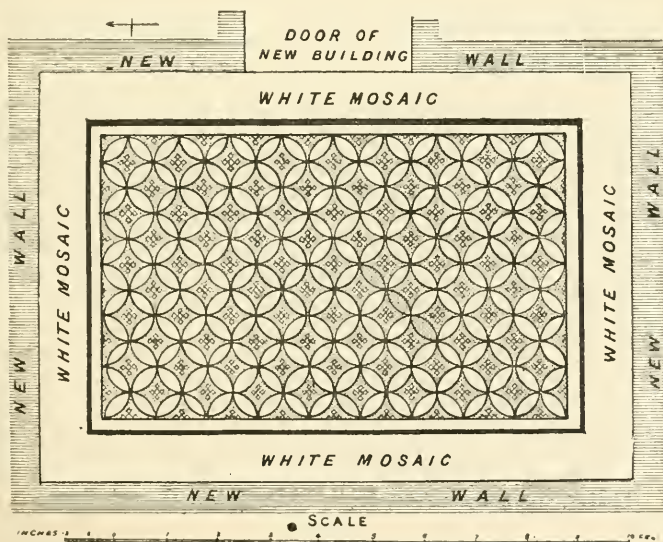
As the low part is near the surface of the brow of the hill, I had an idea that the channel might originally have been open on the top, then covered with flagging, which, having since been encrusted with lime by the water deposit, can no more be seen, but appears as rock. How could men have cut the aqueduct in a height of about 2 feet? It seems impossible, although Captain Conder (page 362) says: "the excavators were under the average size of the modern peasantry in Palestine," *i.e.*, *boys*. It is remarkable that Sir C. Warren had already spoken of some height of "mud silt," which I learned only now when reading his report, and finding in my second tunnel the floor of the channel, not level, but sometimes lower, sometimes a little higher, I thought it might be so in the other one; and as this latter is now dry I sent in my men with the necessary tools and the order to examine the floor at the place where the aqueduct is so low, and to dig down to the bottom, *i.e.*, to the *rock*; the result was—there is first some mud and a crust, and under this a deposit

of sand, so that the whole height is there 3 feet 8 inches, a height in which a man of ordinary stature might easily work. In the accompanying drawing I have tried to illustrate this. It is clear that originally there was water in all the depressions, that in course of time these became filled with sand and other deposit, and that what more came of such stuff was floated down to the pool, together with the water, as there was no more room for settling down, so that in course of a long time a crust was formed, over which the water ran, washing uneven particles off.

## VI.

## SEARCHING FOR THE ST. PETER'S (OR COCK-CROW) CHURCH ON ZION.

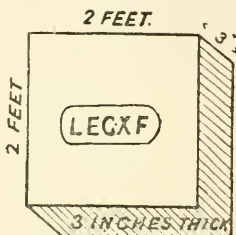
The excavating work by the Augustine Brethren went on during the summer months, but only in a small way. Walls of no special interest were laid bare, especially masonry made from bricks, which were apparently Roman baths. Better materials had been taken away long ago, but a *water channel* was found bringing the water downwards from a higher point, very likely from the aqueduct coming from Solomon's Pools. This channel is of poor workmanship, and not ancient. Also



MOSAIC FLOORING LAID BARE BY THE AUGUSTINE MONKS ON EAST SLOPE OF MOUNT ZION, 1890.

there was found a Mosaic flooring, perfectly preserved, of which I send the pattern. In order to preserve it, the Brethren built a room over it.

Some of the bricks, especially the larger ones, have *stamps*, of which also I give a pattern. We learn from them that these baths were made in midst of the ruins by the Roman soldiers of the 10th Legion. As such are found elsewhere also, as I have reported from time to time, it would seem that this legion was stationed for a long time in Jerusalem, and



ROMAN TILE FOUND ON EASTERN SLOPE OF MOUNT ZION.

perhaps that their tools for brickmaking may have been used afterwards by others, possibly even by the natives.

## VII.

### PROCEEDINGS IN SEARCHING FOR WATER.

As all places hitherto tried had failed, they made a shaft on the north side (inside the pool) of the southern wall of the Sultan's Pool in Wady Rahab, in the valley west of the Protestant (Bishop Gobat's) School, and *found some water*, but no conduit. The water simply came out from the moist deposit there, and when they had taken out this water it ended; there was neither spring nor drainage. Some digging in the street of Deir Addas, north of the Haram Area, had the same result: no spring was found, only a very little water, coming out from an unsound cistern.

## NARRATIVE OF A TRIP TO PALMYRA IN APRIL, 1890.

By Rev. GEORGE E. POST, M.A., M.D., F.L.S., Beirût, Syria.

WE chose Damascus as our starting point, for several reasons—(1) its accessibility from Beirût, a matter of importance, as we had but a fortnight for the journey; (2) The ease with which we were able to get animals and supplies in that city; (3) The desire to observe the physical geography and botany of the spurs of Antilebanon, and the outlying



plains at the border of the arable land and the desert between Deir 'Atîyeh and Qaryetein.

At 9 a.m. of Thursday, April 3, the barometers<sup>1</sup> read *W.* 27·48, *B* 27·63; another aneroid, with which I compared both, read 27·43. This would give the height of Damascus above the sea as 2,325 feet. The sky was at the time overcast, following a previous day of showers.

At 1 p.m. we left the city by Bab Tûma, and rode for some time along the paved Aleppo causeway, until we struck the mountain road to Ma'arrâh.

Just out of the city we passed fields of Fenugreek (*Arabice Fīlbaḥ*). The seeds have a sweet, Coumarin smell, and are used to give an acceptable odour and taste to bread and biscuit. The plant is used as fodder, or to mix with other fodder to give it an appetizing smell and flavour. Cattle will often eat musty food when flavoured with Fenugreek. The milk of cows fed with it acquires a strong taste, which the natives do not dislike, but which is unpleasant to many foreigners.

The chain of Antilebanon begins at Hermon, which resembles a gigantic fin-back whale, rising over the plain of Cœle-syria. A *first chain*, composed of a table land, with few marked elevations above the general surface, extends from the shoulder of Hermon by Rasheiyah, E. by N., to the latitude of Baalbek, where it joins the main chain of Jebel-esh-Shurqi. The Wadi-el-Harîr and Wadi-el-Qarn form a pass through this chain, of which advantage was taken in constructing the Damascus Road. A *second chain* diverges somewhat more to the east, and under the name of *el-Jebel-esh-Shurqi*, trends about N.N.E. to the latitude of Hems Lake, where it gradually sinks to the plain at the "entering in of Hamath." The highest peaks of the Antilebanon are in this chain, overlooking the oval plain of Zebedani, which separates the two chains. The Barada, arising in this plain, flows southward, and then turning eastward, breaks through the second chain at Suq-Wadi-Barada, and continues an eastward course to Damascus. A *third chain* diverges from the Jebel-esh-Shurqi, north of el-Fiji, and trends in a N.E. direction to near the latitude of Hems, where it sinks into the plateau between Deir 'Atîyeh and Qaryetein. This is the ridge, on the eastern flank of which Sidnâyah is situated, and is known by the name of *Jebel Qalamân*. A *fourth chain* continuous with the ridge of Jebel Qaisûn, takes a more easterly direction and then sweeps again to the north-east, and at last is merged south of Qaryetein in the range of el-Bârîdi and Jebel-'Ain-el-Wu'ûl, which stretches away to Palmyra. In the first part of its course from Damascus to Ma'arrâh, it is called *Jebel Khiṭmeh*.

<sup>1</sup> The aneroids used on this trip were one of Watson's and one of Brown-ing's make. In the text *W* will signify the former and *B* the latter. Prof. Robert West, of the Syrian Protestant College has kindly calculated the heights indicated by the readings of the barometers, by comparison with those of the standard barometer of the Meteorological Department of the Observatory under his care.

These four chains have been compared to the four fingers of a left hand, spread apart, with the palm or surface directed upward. In this schematic representation, Hermon constitutes the palm; the westernmost chain corresponds to the forefinger; the main chain, or Jebel-esh-Shurqi, to the middle finger; the third, or Jebel Qalamûn, to the ring finger; and the fourth, or Jebel Khiṭmeh, to the little finger.

Our road from Damascus to Ma'arrâh lay over the little finger of the mountain hand. On the chalky foot hills, glaring in the afternoon sunshine, we met with *Astragalus angulosus*, *Scorzonera lunata*, *Iberis odorata*, and *Androsace maxima*.

We breasted the first spur of this range in the face of a gale, which made it difficult for our animals to maintain their footing on the slippery rocks. But as we got under the lea of the ridge the wind ceased to blow in our faces, and we were able to enjoy the magnificent panorama of the Ghantâh, Haurân, and Gilead, with the mountains of Galilee for a frame on the right, and Jebel-el-Bârîdi in the far distance on the left. The top of Jebel Khiṭmeh is saw-toothed and jagged in the extreme, and a steep talus of *débris* forbids the ascent along most of its eastern flank. We wound up gradually to a break in the crest, and just before reaching it passed through a natural cleft, where we collected fine specimens of *Lloydia rubroviridis*, *Bellevalia flexuosa*, and *Ornithogalum montanum*.

As soon as we had surmounted the crest, we began to pass over the rolling table land of Ma'arrâh, which lies between the little and ring-fingers of the mountain system. Just before reaching the village we passed a series of shafts, many of them not more than eighteen inches across—some of them in the very path, where an incautious man or animal might easily fall in. They lead down to the village aqueduct, which is about fifteen feet below the surface of the ground. They are used to enable a man to go down into the aqueduct and clean it out. The villagers told me that every now and then an animal, or a part of him, falls into one of these pits, and once a child fell into one, and was rescued with some difficulty. Similar shafts are found in the neighbourhood of Qaryetein and Palmyra, and will be described in their place in this narrative. This system of water supply is widely known throughout Asia, and has been treated at length by Mr. Simpson in the *Quarterly Statement* for January, 1890.

Ma'arrâh is five and a-half hours, mule time, from Damascus. At 7 p.m. the barometers were W. 25.7, B. 25.85; height by W., 4,200 feet above the sea. The sky was clear, and the air bracing and cool. We obtained two good rooms in the Syrian priest's house, and after a hearty supper, were not loath to compose ourselves to rest.

*Friday, April 4, Ma'arrâh.*—Barometers, 7 a.m., W. 25.7, B. 25.85, as at evening.

The village and convent fortress of Sidnâyah are picturesquely situated on the eastern flank of the ring-finger range. A fine view of both is obtained about twenty minutes after leaving Ma'arrâh. High above Sidnâyah, near the crest of the ridge, is the flat-topped and unpicturesque convent

of Mar Tūma. The road to Ma'lūlah lay along the base of the mountain range of Qalamūn, gradually rising all the way. Half-an-hour before arriving at Ma'lūlah, the direct road to Yebrūd, breaks through the range by a gorge, down which a rill of fresh cool water was running. In the clefts of the rocks by this rill we found *Aubrietia Libanotica*, a beautiful purple-flowered crucifer, hitherto not seen in Antilebanon. Mr. Bliss has described the Qalamūn range graphically in his article on Ma'lūlah in the *Quarterly Statement* for April, 1890. He has also given an exhaustive description of the village, its caves, inscriptions, and interesting dialect, leaving little for me to add. We found the rough ladder leading to the principal cave on the southern cliff still more ruinous than it was at the time of his visit.

At the village fountain we saw women washing. They sprinkled over the clothes a powder which we ascertained to be the *Ushnān*. It consists of the pulverised stalks and roots of *Salicornia fruticosa*, L., the Soda plant, which is also called *Hashishat-el-Qali*. This plant is reduced to an ash, from which soda is extracted by lixiviation, and used in the manufacture of hard soap. Our English word *alkali* consists of the Arabic definite article *al*, and the name of this plant *Qali*. The fathers of modern chemistry Latinised *Qali* to *Kalium*, and applied it to *Potassa* instead of to *Soda*. The people of Jarrūd, in whose neighbourhood the *Salicornia* grows abundantly, prepare the dried plant itself as a washing powder, by pounding it in a stone mortar.

We attempted to cross the range behind the town by the cañon. I succeeded in leading my horse through the cleft, which is at places only a yard wide, and reminds one, on a small scale, of the Gorges du Trient at Vernayaz. The horse of another of us fell in the water at the throat of the pass, and had to be pulled out backward. The third could not be induced even to attempt the passage. These two were led around the pass by a circuitous path up the rocks, near the convent of Mar Taqla, and we re-united our forces at the upper end of the gorge.

Barometer at top of pass, 2 p.m., W. 26·5, which gives height, 5,500 feet. Ma'lūlah is six hours, mule time, from Mu'arrāh.

Our road from Ma'lūlah to Yebrūd lay over the rolling table land at the top of the ring-finger of the mountain system. This land is bounded toward the west by the Jebel-esh-Shurqi, the middle finger of the series. Yebrūd is four hours farther on. We passed numerous wild almond trees on our way, and in a field by the roadside met with the pigmy, cream-coloured *Viola ebracteolata*, the smallest of the genus in Syria.

Just before entering Yebrūd through the pass which separates the plateau over which we had come from that of Nebk and Deir 'Atiyeh, we saw numerous rock-hewn tombs, none of them, however, of any special interest in this land of sepulchres. A copious stream of limpid, cold, mountain water arises at the gateway of the pass, and flows through the village and out among the extensive gardens to the north.

We spent the night at the hospitable home of ———. We arrived

just in time to escape a drizzling rain. There was, however, little wind. Barometer, 6.30 p.m., W. 25.35, B. 25.45.

*Saturday, April 5.*—6 a.m., Yebrûd. Barometer, W., 25.25, B., 25.4. Height above sea, W., 4,550 feet.

A little incident, illustrating Oriental customs, occurred in parting. M., being a stranger, felt that he had no claim for lodging and the items of commissariat which he had received, and on giving his hand to the host at parting pressed a medjeedie into his palm. The good man refused, warmly protesting in broken English that it would be a disgrace to a Syrian to receive money from a guest, and folded M.'s hand around the silver piece. M. said that it would be equally a disgrace for an American not to pay something. The host insisted, and the guest persisted in plying arguments, until the weight of proof and the subtle influence of the concealed coin gradually caused the host's hand to relax, when by a dexterous movement M. slid the coin out of his into the other's palm, and they bade good-bye to their mutual satisfaction.

On leaving Yebrûd, while still passing through the irrigated gardens, the village of en-Nebk loomed up imposingly an hour and a half to the northward. Being the last postal and telegraph station, we wished to send letters and a despatch to our friends, but we were told that, although it was already nearly 8 o'clock, the office would not be open for at least two hours.

Another hour and a half over the rolling prairie brought us to Deir-'Atiyeh, where we rested for an hour in the hospitable house of Mr. Rahil, the teacher of the Protestant school. We availed ourselves of the interval before the arrival of our train to write a letter to be sent by the teacher to Damascus. Barometer at 10 a.m., W. 25.7; B., 25.82; Height, W., 4,000 feet.

On leaving Deir-'Atiyeh we entered the broad plain which merges on the left into the "entering in of Hamath," and on the other into the Syrian Desert. During the first hours of our way we met with large fields of *Chorispora Syriaca*, a pretty, pink-flowered crucifer, strongly resembling in general effect *Silene Atocion*, which is so abundant in the maritime plains, and the western water-shed of Lebanon and Palestine.

The range of Qalamûn, over which we had passed in coming from Ma'lûlah to Yebrûd, now bore away to the right, while the main chain of the Jebel-esh-Shurqi trended to the left, and gradually descended toward the plain of Hems. On a chalky hill-side we met with *Mathiola Damascena*, not heretofore seen so far north. A little further on *Iris Sari*, so common in Moab, and also found far out in the Syrian Desert. Also the white-flowered *Tulipa biflora*, then a blue-flowered variety of *Iris Palæstina*. Little by little the ground began to assume the characteristics of desert, probably more from want of cultivation than from absolute sterility. As we rode farther to the northward, the peculiar conformation of the Hems Plain, which gave it the name of the "entering in of Hamath," began to unfold itself. Soon we passed the northernmost

spur of Antilebanon, and began to see Lebanon and the valley of Cœle-syria. To the north of Lebanon, separated from it by a broad plain, we could see the Nusairy range, while to the north of Antilebanon, and separated from it by the plain eastward of Hems, loomed up the range of hills which shuts in the Orontes Valley to the east. Hems is situated at the junction of the four arms of a cross, formed by the continuous valley of Cœle-syria and Hamath, running south and north, and the east and west valleys, which bisects both mountain chains, crossing the other at a right angle.

At 5 p.m. we reached the Muhammedan village of el-Mahîn. Having to wait for our train before pressing on to Qaryetein, we called for some bread and lebben. The bread was dark-coloured, and by no means clean, and the lebben was full of dust and goat's hairs. Nevertheless, we ate with the keen appetites of travellers, and, at 5.30 p.m., mounted and faced eastward towards the desert. Notwithstanding the brigandish look of our hosts they refused backshish for the provisions furnished, and bade us God-speed on our way.

We had been gradually descending all the way from Yebrûd, and still our path lay downward by a gentle grade over a rolling plain to Qaryetein, three hours from el-Mahîn. We left the last ploughed fields on turning our backs on this village, and passed no more arable land or water until we reached Qaryetein. Half an hour from el-Mahîn I collected quantities of *Silene coniflora*, characterised by its pink-purple flowers and the prominent white crown at the throat of the corolla. The moon rose full over the range of mountains to our right. By its brilliant light we saw a carriage track, which we followed all the way to Qaryetein.

The streets of Qaryetein were turned into a putrid marsh by late rains. We passed through the silent town, and at 9 o'clock p.m. knocked at the outer gate of the teacher's house. There was no response, and the gate being locked, we had no resource but to wait until one of the muleteers hunted up the proprietor, and brought him from the other end of the town. When he returned, however, he gave us a most hospitable reception. His wife immediately cleared out two of the three rooms of which the house is composed, and placed them at our service. The room which we occupied was large and clean, and contributed not a little to our comfort for the two nights and the day which we spent there.

Qaryetein owes its importance to the fact that it is the border town of the desert proper, and a necessary stopping place for all who go from Damascus to Palmyra. There are two sources of water in the town, one the wells which are found in the open court of each house, and the other the fountain at some distance from the walls. A supply of water for irrigation has been obtained by extensive trenches about twenty minutes east of the town, and a more meagre one at Mar Liân by similar means. The trench of Mar Liân runs back to an underground aqueduct, which is tapped every few yards by shafts similar to those noted at Ma'arrâh.

Qaryetein is governed by Fayyad Agha, the chief of a family, which has ruled this district in a feudal way for many generations. He has the reputation of being an arbitrary governor. We, however, experienced nothing but politeness at his hands. He called on us, and gave us all the information we desired in regard to the desert, among other things giving us an itinerary which made it unnecessary for us to carry water, as is usual on this journey. When we returned his call he showed us a number of interesting pieces of sculpture, with Palmyrene inscriptions on them. He told us that he proposed to form a small museum of such objects. He called the Palmyrene character *Serankili*, by which he probably meant *Estrangelo*.

*Sunday, April 6.*—9 a.m. Barometer, W., 27.18, B., 27.4; height, W., 2,660, B., 2,600; mean, 2,630 feet. We held divine service in the house of Mr. Yusuf Shahin, the teacher, and after that a clinique for the sick folk of the village who chose to come for treatment.

During our stay in Qaryetein a pretty piece of sculpture was brought to us, and offered for sale. It consisted of a slab of argillaceous limestone, 24 inches long, and 18 broad. Most of the Palmyrene busts are cut out of this stone. The accompanying sketch will give an idea of the style of the sculpture, which was far superior to any others which I saw. The drapery is graceful, the tiara and jewellery are carved with care, and the attitude is easy and natural. The face of the original must have been one of rare beauty (p. 27).

The accompanying copies of squeezes taken from the inscriptions show the kind of legend which is found on all the busts and statues of Palmyra.

On my second journey to Palmyra, in July of this year, I was fortunate enough to obtain the bust itself. There are manifest faults in the sculpture, but the general effect is pleasing.

*Monday, April 6.*—6 a.m. We started in the cool of the morning for the desert. Our road lay at first through the walled gardens, and then through open irrigated fields. In these fields I found *Astragalus conduplicatus*, *Salvia controversa*, and *S. Verbenaca*, *L. var. vernalis*; all new for this region. Twenty minutes from the town we came to the series of trenches above alluded to, about 15 feet deep, and at the bottom there was a small stream of water. The labour with which these deep trenches are excavated shows the value attached to even small quantities of water in this thirsty land.

The part of the Syrian Desert on which we were entering consists of a series of mountain chains, trending nearly east and west, and separated by broad, almost level plains. The mountain masses are composed of the Lebanon cretaceous limestone, and the plains of mud and clay, with here and there an island of sand. The whole district seems to be underlaid by a layer of asphaltic shale. The well at 'Ain-el-Bieda is strongly impregnated with sulphur. The surface spring at el-Jebâh is also sulphurous. The fountains at Palmyra are very strongly so.

The highest peaks of the mountain chains are not less than fifteen

hundred feet above the surface of the plains. The chains begin at the longitude of Qaryetein, and end at that of Palmyra. Their length is therefore about 50 miles. The southernmost is wholly denuded of trees, and, with the exception of a few scattered specimens of *Rhamnus Palastina*, I found no shrubs growing in the crevices of the rocks. The plains, notwithstanding their level appearance, fall gradually to the east-



ward. By one of our barometers Palmyra is 1,300 feet and by the other 1,180 feet lower than Qaryetein. The water which falls on them, and flows into them from the adjacent mountains, sinks into their surface. Not a single torrent flows out of them, even during the heaviest rains.

The soil is a greyish marl, with occasional out-croppings of glaring white chalk. Flint chips and nodules abound in many places over its

surface. There are, however, many levels, where for miles there is not a pebble on the ground.

In comparing these plains with those of the maritime districts of Sinai and the plateau of et-Tih, I was struck with the absence of the broad and deep torrent beds which characterise the southern deserts. While crossing the space between Palmyra and the military post of 'Ain-el-Beida, a violent thunderstorm broke over the line of our march, about an hour ahead of us. When we arrived there an hour later we found an area of ten miles square, over which we had passed dryshod two nights before, a vast morass, in the mud of which our horses' hoofs sank to the fetlock joint at every step. The Wadi-el-Bârîdi, which we crossed during our first day's journey, and in which we encamped, was the deepest water-bed that we encountered. It was only a few feet below the level of the plain.

The vegetation of these plains differs widely from that of the Sinaitic valleys and of the plateau of the Tih. I met with only one species of *Tamarix*, *T. tetragyna*, and that, not growing as in Sinai and the Tih to the height of a small tree, but forming little clumps of shrubs scarcely a yard high on low sandy hummocks. On similar hummocks grows also *Lyceum Barbarum*, but does not rise above two or three feet. Not an *Acacia* diversifies the landscape; not a *Retem* offers even its light shade to the sunburnt traveller. Only one *Zygophyllum*, *Z. eurypterum*, reminds one of the numerous species of that genus in the southern deserts. There is not a solitary *Caper*, nor any other of the numerous shrubs and trees which give so decided and peculiar a character to the landscape of the Sinaitic valleys and the Tih. Only in the Wadi-el-Bârîdi did I see anything approaching a tree. Near our camp in that wadi were a few stunted trees of *Pistacia tatica*, a tree which we afterwards found in great abundance in the mountains of Jebel-el-Abiad and Bil'âs. There is every reason to believe that these mountains would support forests of *Quercus coccifera*, or other of the trees that flourish in regions equally dry, but if they formerly existed they have disappeared. There is not even a tall herbaceous vegetation on the plains. The low desert grass, *Poa bulbosa* (and its congener or variety *P. Sinaïca*), forms, for miles together, almost the sole vegetation, and when it has dried up in summer, it leaves those portions of the desert dreary indeed.

At the season when we travelled there was much grass and a considerable number of flowers, some of them beautiful. *Iris Sari* is abundant on the western half of the plain, between Qaryetein and el-Beida. On the slope of Jebel-'Ain-el-Wu'ûl, I found a new variety, *var. amblyophylla*, of *Tulipa montana*. The divisions of the perianth are obovate-oblong, obtuse. A pretty *Erysimum*, with purple flowers half an inch broad, is found everywhere, appressed to the ground. It is the species named by Boissier, in his "Supplement to the Flora Orientalis," *E. Blancheanum*. It had been named by Blanche himself *E. hamosum*, on account of its hooked pods. I have seen his type specimens in his herbarium at Beirût. But I am satisfied, by an exhaustive study of the species in the Anti-



lebanon plateaus, throughout which it abounds, and in the whole desert region through which we passed, where it is one of the most characteristic plants, that it is a variety of the polymorphic *E. purpureum*. I propose for it the name *var. Blancheanum*, of the above species, in memory of the lamented M. Blanche, to whom M. Boissier dedicated the new, but indefensible species.

Among the showy flowers of the desert at this season are *Ornithogalum montanum*, *var. platyphyllum*, a fine species, with inch-and-a-half broad flowers. *Sisymbrium grandiflorum*, Post, is a species with orange-coloured to pale yellow flowers, as large as the common *Stock*. This plant is general through the western part of the plain. I have it also from Aintâb *Brassica deflora*, also an orange-flowered crucifer, is found sparingly in rocky places near the western limits of the plain.

Where the desert grass, *Poa bulbosa*, and *P. Sinaitica*, grows in quantity, it gives large tracts of the plain the appearance of greenness and fertility. Tufts of *Artemisia Herba-alba* cover also large tracts, and give an olive-green tint to the surface.

Characteristic of the region, although less abundant and showy, are *Alyssum aureum* *A. meniocoides*, *Valerianella Kotschyi*, *Malcolmia crenulata*, *M. torulosa*, *Peganum Harmala*, the latter not yet in flower when we passed. Everywhere we saw young plants of *Ferula Blanchei*, Boiss., which is also met with between en-Nebk and el-Mahîn.

Of great botanical interest are certain plants with a limited range. For example, in the green meadows surrounding the wells of Abul-Fawâris, half an hour west of Palmyra, was a great abundance of *Hutchinsia petraea*, a new plant for Syria. In the swampy district, a hundred square miles of territory were covered with *Spinacia tetrandra*. In the same swamps were found *Cynomorium coccineum*, and *Phelipæa lutea*. In the middle region of glaring white clay I found the new and showy *Muscari albicaule*, Post.

It is my conviction that artesian wells would convert the whole of the plain into a fruitful field. Many portions of it need only to be ploughed and sown to produce fair harvests, even with the scanty rainfall there enjoyed.

The Fauna of the desert is limited. The fox, jackal, hyæna, hare, jerboa, and a few species of snakes and lizards, were all the animals we saw. The birds are mostly clad in sober grey, like the soil. Except vultures and hawks, and the ħubarab, we met with no birds of any size during this journey. We afterwards found abundance of partridges and other game birds in the Bil-'âs chain.

To return to our journey. As soon as we had passed the trenches east of Qaryetein we struck at once the dry plain, and bade good-bye to cultivation until we reached the irrigated gardens and fields of Palmyra. We carried no water with us, as we were to encamp by the Arabs at el-Bârîdi the first night, and at 'Ain-el-Beïda the second. Usually, the first night is spent at el-Qaşr, where there is no well, and water must be carried for man and beast.

Presently, after leaving the trenches, we crossed a shallow wadi, in which a considerable stream must flow during the rains, and rode about east across the plain. In this wadi we found *Æthionema cristatum*. On the plain *Ornithogalum tenuifolium*. After a couple of hours we crossed a low ridge, and came into another broad plain between it and the main chain of Jebel-el-Bâridi. In this plain we met with a new species of *Borraginaceæ*, yet unnamed. We also found *Allium Rothii*, which is general throughout the desert.

At 3 p.m. we arrived at the Wadi-el-Bâridi. In numerous basins of white chalk along its bed we found water, which was drinkable, though warm. Along the sides of this wadi was a considerable number of Arab encampments, and their black tents dotted the base of the mountains of Jebel 'Ain-el-Wu'ûl for several miles to the eastward. We pitched our tents by that of Sheikh Ramaḍan, the chief of the Fawâ'irah, a tribe of tributary Arabs.

As soon as our train began to unload R. and myself rode southward for an hour and a half to the mountain range. The ground became more and more broken by wadies as we approached its foot. On a rocky hillside we collected *Zygophyllum eurypterum*, a species thus far found only in the Syrian desert. Just before commencing the ascent of the mountain we passed a second encampment of the Fawâ'irah. Our guide Khalid remained with these Arabs while we rode up the hill. Halfway up we encountered the *var. amblyophylla* of *Talipa montana*, with a most brilliant crimson perianth. At the top, in crevices of the rocks, *Umbilicus Libanoticus*, and everywhere *Erysimum purpureum, var. Blancheanum*. A few bushes of *Rhamnus Palestina* were scattered over the hillside. The soil was still quite moist from the recent showers. I believe that it would ripen a crop of wheat or barley.

The part of the ridge which we ascended is 200 or 300 feet lower than the highest peaks. The barometers stood W. 26·23, B. 26·42, giving the height by W. 3,650 and B. 3,600 feet above the sea. The difference of level between our camp in the plain and the top of the ridge at the point where we took our observations was by W. 910 feet.

The view from this mountain top was very grand. Wave after wave of mountain ridges rolled away over the desert plain, which at this season still appeared green. The plain in which our camp lay is not less than 30 miles broad at its western end, and gradually narrows to the throat of the gorge at the entrance to the street of tombs at Palmyra. From our position we could make out quite clearly the castle on the hill west of Palmyra. El-Qasr loomed up in sharp outlines in the middle of the plain, two hours north of our encampment.

On the slope of this mountain, a little north of our line of ascent, is the perennial fountain of 'Ain-el-Wu'ûl. The marauding parties of Arabs avail themselves of it during the whole year.

After enjoying, as long as our time would allow, the extensive prospect and the cool breeze, we descended to the plain. While leading my horse down the steepest part of the hill, my overcoat slipped off the

saddle. I offered a reward for its return, but either the Arabs did not find it, or thought the coat worth more than the reward, and I never saw it again. Such a loss is no trifling one in a journey where there is no way of replacing the lost article. Fortunately, however, our journey was not in the season of the bitter cold winds which often sweep over these deserts, and no ill consequences followed the loss.

We galloped over the plain, and just before sunset reached our tent. The barometers read as follows :—

7 p.m.,	W. 27·12 ;	next morning,	at 6 a.m.,	27·2.
	B. 27·72.	”	”	27·8.
	Height, W. 2,740 ;		B. 2,300.	

I am unable to offer an explanation of the discrepancy between the relative readings at the top and on the plain, nor in fact for the idiosyncracies of aneroids in general.

*Tuesday, April 8.*—At 6 a.m., we started across the plain in an oblique direction toward 'Ain-el-Beïḍa. The roll of the plain is very gentle, and yet very decided. The soil is for the most part white, free from stones, and barren. Nevertheless, during the day we found *Zizyphora tennior*, *Lallemantia Royleana*, *Wall* (quite new for this region), *Arnebia cornuta*, and *Muscari albicaule*, *Post*, a new species, notable for its white stems and long peduncles. Seven hours of this prairie brought us to 'Ain-el-Beïḍa.

This military post was established by the Turkish Government a few years since for the protection of the road from Qaryetein to Palmyra, a road travelled by large caravans of merchants and travellers. The well seems ancient. It is over 80 feet in depth, and the curb and lining stones are deeply grooved by the ropes used to let down the leathern buckets. These buckets are composed of the untanned skins of cattle and goats. They are of the shape of an ordinary fleshpot, the mouth being a loop of wood or iron, around which the skin is rolled and sewed. The thong by which the bucket is held is of raw hide. The advantage of such a bucket over one of wood is made clear to anyone who watches how it sways to and fro, and strikes the uneven side of the well on its way up and down. A wooden bucket would soon be broken to pieces by such usage. The skin bucket, moreover, can be packed away in a very small space, and carried conveniently on a mule or ass. The water of this well is brackish, but seems wholesome. It is quite cool.

The building, which serves as a barracks for the small garrison of soldiers, consists of a lower storey about 50 feet square, and a single, small room upstairs. The gateway is on the south side, opposite the well. There open into the central court, several vaulted chambers, which are used as stables and storerooms. A rude stairway leads to the roof. Over the doorway is the small upper room above-mentioned. It is occupied by the soldiers as a sleeping room, and a watch-tower from which to observe the adjacent desert. There is a wall breast high around the roof, loopholed for musketry.

The five men of the garrison, by virtue of the authority which they represent, rather than the impregnability of their position, constitute a guard sufficiently strong to overawe the hordes which occasionally sweep through this plain on their lawless raids. I took down their names; they are as follows: 'Abd-el-'Assâf (Servant of the Autocrat); Hamod-es-Şâliḥ (Praise of the Righteous One); 'Abd-el-Aghla (Servant of the Most Precious); Şâliḥ-el-'Ali (Righteous of the Lofty); 'Abd-Maḥmûd (Commended Servant). One of these was a negro, but there seemed to be no race prejudice among them. Another was a Bedawi, and from him I obtained much valuable information, which I hope to lay before the readers of the *Quarterly* hereafter.

At Qaryetein we had made the acquaintance of an assistant of the Attorney-General of Bagdad, who had been in Damascus, and was travelling overland to Bagdad in a palanquin, borne by two mules. It was so arranged that he could lie stretched out at full length on the bed, or sit up and look out of the windows on all sides. It was painted with scarlet, and formed a very conspicuous object in passing along the plain. This official had started at the same time as ourselves from Qaryetein, but had gone by way of el-Qaşr, where he rested during the afternoon and evening hours, and then came on by night to el-Beida. This mode of travelling is adopted for the double purpose of safety from the Bedawin and escape from the fervid heat of the day. We found him at the station on our arrival at 1 p.m. We arranged to join forces at sunset, and make a night march to Palmyra. Our two caravans made the imposing array of sixteen animals and fourteen men. To encourage our muleteers and attendants to undertake this night march we gave them a bowl of strong tea all around, and promised them a lamb the next day at Palmyra. Accordingly, after resting through the afternoon, we formed in close order of march, and started at dusk. As yet the moon had not risen, and even the stars were obscured by clouds. Our only guide was the dark outlines of the converging ranges of mountains to the right and left. Palmyra lies at their meeting point. By keeping our faces toward the castle, which looms up over the Palmyra notch, we were able to hold our way over the level plain. Not infrequently our horses recoiled from the edge of some little pool of water, often not over a yard broad, and a few inches deep, which had been left by some recent shower. On our return over the same route by day, we saw many such pools, and large districts wholly under water, but a few inches however in depth.

As we approached the throat of the valley of tombs the tall towers of the dead loomed up on either side of the way. The moon, which had risen at half-past eight o'clock, now guided us over the rocky road, and caused the sepulchral monuments to stand out in bold relief. Presently we turned a corner in the path, and the wonderful panorama of Palmyra unrolled itself before us in the misty moonlight. It was one o'clock in the morning when we reached the street of columns. Silently as we had ridden in, the Sheikh was soon with us, and invited us to lodge with him. We preferred our freedom, and pitched our tent just within the

eastern gateway of the street of columns, and by half-past two we were sound asleep.

*Wednesday, April 9, Palmyra.*—Barometer, 7 a.m., W. 28.2 B. 28.6 giving the height by W. 1,680, and by B. 1,300 feet above the sea. The morning was bright, and our first thought was naturally the survey of the ruins. Although less massive than those of Baalbek, the general effect is more striking and impressive. No street of columns like this exists elsewhere, not even in Gerash, and the effect when the row was unbroken, and the monumental building at the western end was perfect, must have been extremely imposing, from whatever point seen. Not less so was the grand Temple of the Sun, which for general impression well rivals that of Baalbek.

The most striking view of the ruins is that obtained from the castle on the hill west of the city. The castle itself is a most picturesque ruin, and is visible to a distance of twelve to fifteen hours on the western plain, and as far as the eye can reach on the eastern. The ascent to the castle is from the south, along the old road. A horse can easily go up from this side.

In the foreground of the view from the castle is a line of pits, from which have been dug out many sculptures and other antiques. Beyond these are the remains of the several buildings, with well-preserved pillars, then the great double row of columns, beginning with the edifice usually considered as a tomb, and ending at the beautiful gateway where our tent was pitched. Branching from the main street near its centre is the side street of columns, the so-called market-place. Beyond the street of columns is the majestic Temple of the Sun, and far away behind it the glittering waters of the Sebkhah (the salt lake of Palmyra), and behind that the boundless plain of the Syrian desert.

On either side of the street of columns are the ruins of the numerous temples and mausoleums of the city. Around the whole may be traced the remains of the wall of Justinian. To the southward, along the flanks of the hills, and in the valley of tombs are the sepulchral towers, which are so peculiar in this land of wonders. No ruined city in Syria and Palestine, except Jerusalem, has such a point of view from which to take in a complete idea of its grandeur.

The immediate site of Palmyra is sandy. Many of the fallen columns are embedded in white sand, and the Flora of the ruins takes its character from this circumstance. I collected among the fallen columns *Leptaleum filifolium*, *Silene coniflora*, *Holosteum umbellatum*, *Spergularia diandra*, *Malva parviflora*, *Erodium laciniatum*, *E. glaucophyllum*, *Medicago tribuloides*, *Trigonella azurea*, *T. filipes*, *T. Arabica*, *Astragalus cruciatus*, var. *brachylobus*, *Post* (a variety with tubercled hairs on the short pods), *A. callichrois*, *A. Forskahlei*, *Aizoon Hispanicum*, *Matricaria aurea*, *Carduus pycnocephalus*, *Kalpinia linearis*, *Statice spicata*, *Anchusa Milleri* (?), *Lithospermum tenuiflorum*, *L. arvense*, *Linaria Ascalonica*, var. *brachyloba*, *Post L. albifrons*, *Plantago albicans*, *Muscari racemosum*, *Belle valiafleruaosa*, *Gasea foliosa*, *Vulpia pectinella*, *Scleropoa Memphitica*, *Nardurus tenuiflorus*, *Bromus Matritensis*, *Aegilops crassa*.

At an early hour in the morning Sheikh Asaad came to pay us a visit, and bring me a lamb as a thankoffering. Eleven years ago he was shot by a Palmyrene, during an armed contest over the election of the present Sheikh of Palmyra, Mohammed Abdallah. The ball passed through the pleura and injured one of his ribs. When he arrived at the Johanner Hospital at Beirût he was in a pitiable condition. A native quack had introduced into the wound bits of rags as tents for drainage. These had slipped one by one into the chest, and, by their increasing fetor, had brought about an irritative cough and fever, which had nearly worn out his strength. When the wound was laid open to remove these, the fissure between the lobes of the lung could be seen back to the roots of the lung, and the mechanism of expansion and contraction of the organ clearly made out. He was entirely cured at the hospital, and returned with a profound sense of gratitude to the friends whom he had found so far away. He showed his gratitude, not only by bringing the lamb, but by remaining as a guard of honour at our tent during our stay, and by giving us much information about the people and the homeward route.

In the afternoon I took a comprehensive ride about the city, outside the cultivated fields. Beside gaining many interesting views of the city, I found at the edge of the wheatfields. *Malcolmia Bungei*, var. *glabrescens* (new for Syria), *M. Africana*, var. *squarrosa*, *Cleome glaucescens*, *Helianthemum Niloticum*, *Silene Olivieri*, *Onobrychis Olivieri*, *Asperugo procumbens*, *Veronica triphyllus*, *Lythirion montanum*, *Muscari racemosum*, *Bellevalia flexuosa*.

The fields and orchards are irrigated by water from four different aqueducts. The largest stream is that flowing from the great fountain, south-west of the ruins. The next is that which runs along the south wall of Justinian, and turns northward near the bend in the street of columns, and runs beyond the northern limits of the ruins. At two points on this aqueduct the owners have constructed staircases leading down to the water for the convenience of the villagers, who draw most of their water supply from this source. The owners, the Sheikhs Mohammed Abdallah, Abdallah Salim, and As'ad el-Faris, bought this aqueduct of the government for fifty Turkish liras, and cleaned it out at an expense of two hundred more. Until this was done, two years since, all the village supply of water was drawn from the great aqueduct, outside the walls. It is interesting to watch the erect carriage of the women as they walk along, spinning or swinging their arms, and often turning their necks and heads as they chat with one another, while they carry a jar with sixty pounds of water on their heads, never so much as touching it with a finger, however violent the wind may be. I asked one of the Arabs how they learned to do this. He replied that it is a matter of coquetry with them to carry a jar gracefully, and that they practise with much care from childhood to acquire a knack which commends them to the favourable notice of admirers of the other sex.

There are two other canals which have been cleaned out, and supply water for irrigation. The Sheikh of the village assured me that there

were several more to the north of these. They are all ancient conduits, and indicate a copious water supply for the city. Sheikh Mohammed assured me that the wells of Abul-Fawâris, half an hour west of the city, are also on the line of another aqueduct, large sections of which are to be seen along the valley of tombs.

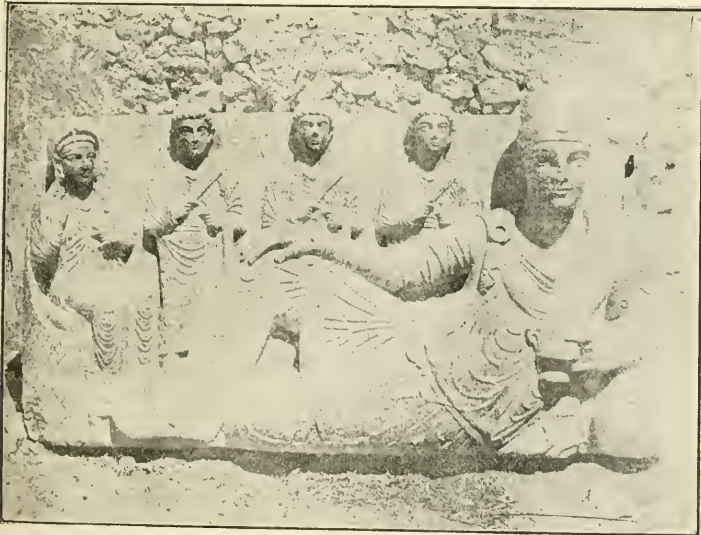
To regulate the apportionment of water, a man stands at one of the street crossings in the Temple of the Sun, with an hour-glass in his hand, and takes the time allotted to each proprietor along the line of the public canal. The tidings of the expiration of the time are communicated by a call from the roofs of the houses.

The large canal, which is public property, is open from the point of its emergence from the natural tunnel out of which it flows. The others are covered, and lie at a depth of from ten to twenty feet below the surface.

During the day we bathed in the great spring. It was a strange sensation to swim away into the darkness and find the water growing deeper and deeper the farther we penetrated, until it was far above our heads. We did not dare to swim very far into the heart of the mountain, lest the sulphurous vapours might cause asphyxia when beyond the reach of help.

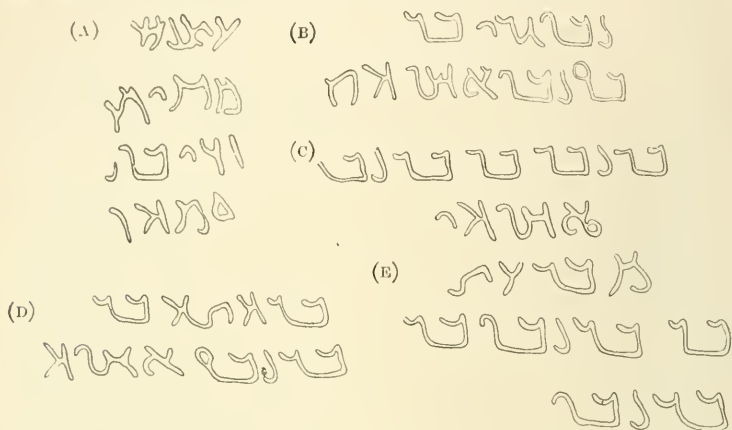
A horde of people pressed about us with copper coins, mostly of the Turkish and Cufic mintings, with a few of Greek and Roman date. All

A B C D E

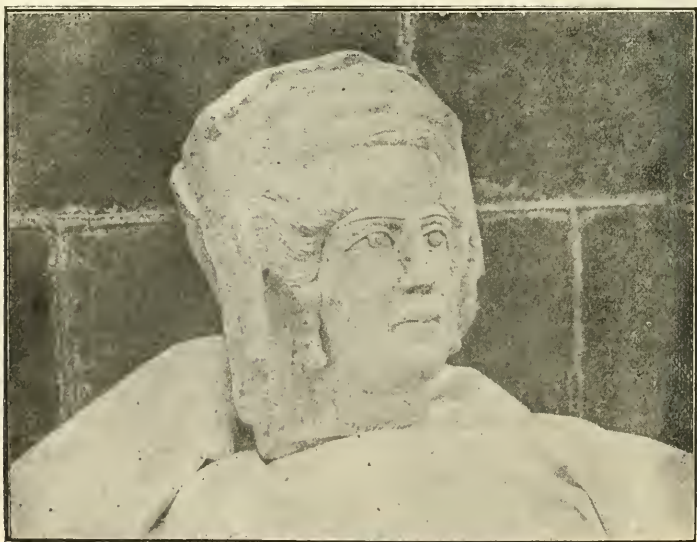


were in the state of defacement so often noted in Palmyrene coins, attributable to the sulphurous emanations from the soil. They also brought us a few clay scarabei and seals, and many squares of clay, about the size of one and two drachm weights. These are supposed to have been used as money. The impressions taken from two varieties may serve as

illustrations of the smaller kinds. One of a larger size and different shape was brought to me. An imperfect scarabæus, apparently Assyrian, was also brought. It has a winged lion with a female head.



The Mudir has a small collection of busts of rather inferior workmanship. He had, however, a large stone in front of the school-house, which he ordered to be turned face upward for our benefit (p. 35). It seems to be the father and mother of a family of three children. I took squeezes of the inscriptions, which are between the heads of the figures, copies of which are given above. The photograph was





obtained at a subsequent visit. The stone is about 5 feet long by 3 broad. The mother is represented smaller than the boys, following the conventional ideas of Oriental artists.

I secured a head in a sufficiently good state of preservation to show the headdress and coiffure, and the Palmyrene type of features, as also the



earrings and necklace, as seen in the accompanying cut taken from a photograph.

I also sketched a male bust, which gives the characteristic cut of the hair, and the arrangement of the drapery, as found in all the male



figures I saw. The characters of the inscription differ by their simplicity from those of the other tablets.

The workmanship is coarse, and the stone soft, and unsuitable for statuary. The greatest misfortune of Palmyrene architecture and art was the want of a suitable stone, in which to express the ideas of their time. The building stone is a limestone, full of veins and cleavages, so that it was almost impossible to carve a perfect Corinthian capital out of it, and the influence of the wind and sun and rain is seen in the defacement and almost destruction of a large number of elaborate details, which were undertaken in spite of the discouraging material. The statuary is chiselled out of a soft argillaceous limestone, easily cut, but as easily defaced, and incapable, like marble, of taking the finer expression which Greek and Italian marbles are so well adapted to receive and retain.

In the middle of the afternoon the clouds rolled up heavily from the west, and a few drops of rain fell. It, however, cleared up enough to enable me to complete my study of the environs of the city. At night we piled our collections in the middle of the tent, and covered them with all our available sacks and the tent carpet. It was well that we did so, as we had a series of smart showers in the night, and the rain sifted in more or less through the tent. None of our plants were injured, thanks to the precautions taken.

The chains of *Jebel 'Ain-el-Wu'ûl*, and *Jebel-'Antar*, and the other mountain ranges parallel to them, or forming angles with them, terminate, at the longitude of Palmyra, in a somewhat continuous chain, trending somewhat east of north. From the foot of this chain the great plain of the Euphrates stretches away to the east, with scarcely a knoll to break the vast expanse. An hour's distance from Palmyra is the *Sebka*, which we explored during our subsequent visit. At the time of the present visit it was a lake several miles in length and breadth.

*Thursday, April 10, Palmyra.*—After a rainy night, the clouds rolled off, and the sun came out at about 10 a.m., with promise of a fair day. We immediately broke camp and started on our westward journey at 11 a.m. We took in the picturesque Turkish castle on the hill, and the tombs in the valley on our way. The view from the edge of the moat over the city is very fine. Doubtless that from the top of the castle is finer, but we did not think it worth the trouble of clambering up the rocks to the foot of the wall to obtain it.

After lunching in the shadow of the aqueduct near the western end of the valley of tombs, we visited the wells of *Abul-Fawâris*, half an hour west of the town. We found the water sweet and cool. It flows from one well to another by an aqueduct, about twenty feet below the surface. Although we did not take the level by barometer, there is no reason to doubt the correctness of *Sheikh Mohammed's* opinion, that this aqueduct was continuous with that in the street of tombs. As before mentioned, it is intended to re-establish the connection with the part of the aqueduct in the street of tombs, and lead the water again to the town. The ground about these wells was moist, and bore at the time an abundant crop of green forage, on which a herd of cows was feeding as

we passed. Among the plants growing in this meadow were *Hutchinsia petraea* (new for our district), *Onobrychis Olivieri*, *Tetradiclis Salsa*, and a species of *Astragalus* allied to *A. bombycinus*, perhaps a variety of it.

Three-quarters of an hour farther on we passed a hill fifteen minutes north of the road, on which we saw ruins. I rode up the hill and found the pedestal and capital of a column, but no shaft anywhere in sight. There were no other ruins. It is interesting to speculate whether the shaft was ever brought to the spot. It could not be easily hidden on a conspicuous hill like that on which the base is erected. There would be no motive to remove a shaft elsewhere. Unfinished monuments are very common in the East. There was no inscription to give any hint as to the date or purpose of these remains.

Immediately after passing this hill, we saw a heavy, black cloud gather an hour ahead on our path, and the play of lightning and rolling of thunder made us sure that there must be almost a waterspout at the theatre of the storm. The cloud, however, soon rolled away over the range of *Jebel 'Ain-el-Wu'ûl*, and two hours later we were wading in a suddenly-formed swamp, in water in some places 3 inches deep, where two days before we had passed over a desert baked and cracked by the fierce sunshine. This great salt marsh, covering about a hundred square miles, was overgrown with *Spinacea tetrandu* (not before noted in Syria), with here and there mounds, on which grew clumps of *Tamarix tetragyna* and *Lycium Barbarum*. In the most swampy places we met with the curious spike of *Cynomorium coccineum* and *Phelepea lutea*.

In the middle of the swamp we met with three bases of columns, or altars. Two were entire, the third had only the sub-base. At a distance of a hundred yards to the west was a portion of a pillar, half buried in the soil. As we photographed these bases at a subsequent visit, and copied the inscriptions, I will reserve further comment on them for the narrative of that journey.

We arrived at el-Beïda at 6 p.m., after a ride of five hours from the street of tombs at Palmyra.

*Friday, April 11th, 'Ain-el-Beïda.*—At our previous visit, three days before, our barometers had read W. 27·8, B. 28·2. They now read W. 27·87, B. 28·45. The mean will give by W. 1,970 and by B. 1,700 feet above the sea.

*Heights above Mediterranean Sea.*

			Watson.		Browning.
Damascus	....	....	2,325	....	2,325
Maarca	...	....	4,200	....	4,200
"	....	....	4,200	....	4,200
Ridge ab. Ma'lula	...	....	5,500	....	—
Yebrûd	....	....	4,550	....	4,600
"	....	....	4,525	....	4,525
Deir Atiyah	....	....	4,000	....	4,025
Qaryetein	....	....	2,660	....	2,600

*Heights above Mediterranean Sea—cont.*

			Watson.		Browning.
'Ain el-Wu'ûl....	....	....	2,740	....	2,300
Top of Mount near Wu'al ...			3,650	....	3,600
'Ain-el-Beïda	....	....	1,940	....	1,800
"	....	....	2,000	....	1,600
Palmyra	....	...	1,480	....	1,300
El-Jebâh	....	....	2,550	....	2,285
Abu Dâli	....	....	2,070	...	2,170
Hems ....	....	...	1,625	....	1,770
Hadidah	....	....	1,500	....	1,525

These are given without any allowance for temperature, and on the assumption that the instrumental error of each was constant.

A cold and dense fog covered the plain when we arose. We could not see a hundred feet away. Nevertheless, our guides decided that we could march, and we made an early start. For two hours the mist continued without a sign of breaking but by 10 a.m. it had rolled entirely away. At 11 we began to see figures moving along the south-western edge of the plain. At first our guides were uneasy, suspecting that it might be a marauding party, but it soon became evident that it was a large tribe in motion, with all its flocks and herds, migrating in the direction of Hems and Hamath. A little before noon our line of march crossed theirs, and we had some conversation with those whom we met. This tribe migrates in this direction every spring, to pasture the broad fields of the Orontes Plain after the harvest is over.

During the middle of the day the most characteristic plant which we found was *Ferula Blanchei*, a low species of that genus, about 18 inches high, called by the natives Abu-eṭ-Ṭayyib. At the time of our journey the stalks were just coming into flower, and were quite tender and succulent. Our muleteers and guides stripped them of leaves, and ate freely of them. We tasted them, and found them not unlike celery. Doubtless they would make a very good salad, and also be palatable boiled, and served with a sauce, like asparagus. We also collected *Scorzonera lanata*, *Hyoscyamus muticus*, *Asphodeline brevicaulis*, beside other plants before mentioned.

For several hours in the middle of the day we were in sight of el-Qasr, which we passed a little after noon, two hours to the south of our route.

At about sunset we passed a small salt pool, among rugged hills, and at 7.30 p.m. reached el-Jebâh, where there is a perennial stream a foot or so in width, and 2 or 3 inches in depth. We had been told that there was a river at Jebâh. There is, in point of fact, a torrent bed by the hamlet, but it only runs during heavy showers. Great is the value of the tiniest rill in this parched land. It was quite dark before we had our tent pitched and our supper eaten, and we lay down to a rest earned by thirteen and a-half hours of hard work.

*Saturday, April 12th, El-Jebâh.*—6 a.m. Barometers, W. 27.3, B. 27.72;

height, W. 2,550, B. 2,285 feet—a little lower than Qaryetein, a fact verified subsequently.

Arriving as we had done the night before, at dusk, we obtained the impression of a village, an impression not borne out by the three or four miserable ruins of huts which we saw in the morning. We found, however, a field of wheat, of about 2 acres in extent, which is irrigated by the rill beside which we were encamped. Three old men live here to sow, tend, and reap this little Eden. And out of it they not only get their own support, but give half of the produce to Fayyad Agha of Qaryetein, who is the owner. We could not have had a more forcible commentary on the small value of human labour here than was furnished by this fact. In July, when we passed another night at el-Jebâh, we found these three old men threshing out the produce of the field, and irrigating some summer crops which they had planted.

The water at el-Jebâh has a decided odour and taste of sulphur, but much less pronounced than that of el-Beida and Palmyra.

At an early hour we broke camp, and rode for two hours to el-Ghundhur, a wretched village at the edge of the desert. A ruin of Roman or more ancient times exists here. Only the lower courses of stone, however, are in place. The other material seems to have been pretty well broken up to build the village. Two copious springs of good water serve not only for drinking places, but to irrigate a considerable area of cultivated ground.

As we had now cleared the desert, we dismissed Khalid and Mohammed, our guards and guides through the wilderness. They returned to Qaryetein, three hours away, while we pursued our journey to es-Saït, six hours to the north-east of el-Ghundhur. Our path lay over rolling, barren hills, which were not at that time utilised even for grazing. We passed a number of dolmens by the way, but all of rude construction and apparently modern.

At es-Saït we came upon the first traces of grain growing without any irrigation, a fact which indicated that we had come within the sphere of regular and reliable rains. On our way from el-Ghundhur we had occasional floral evidence that we were passing from the desert to the fertile regions. *Allium Orientale*, *Astragalus Mitchellii* Post (a new species with pretty violet flowers, growing in great abundance), and *Camelina lasiocarpus* introduced us, and after passing es-Saït we rapidly came one by one to the familiar plants of Coele-syria and the Hems tableland; *Onobrychis Sativa*, *L. var Montana*, *Alkanna strigosa*, *Veronica Orientalis*, *Salvia acetabulosa*, and, above all, *Asphodelus microcarpa*, the universal plant of the upland prairies as well as of the coast.

From es-Saït to Abu-Dâli we passed for three hours over a rolling park-like country, more and more cultivated with broad and fertile wheat fields. We reached Abu Dâli at 9 p.m., after a fourteen hours' ride, and were glad to look forward to the rest of the coming Sabbath, and the end of our desert journey.

On Monday we passed through Hems, and on Tuesday afternoon reached Tripoli, whence we returned by steamer to Beirût.

The following is a list of the plants collected during this journey. The italicised words are the names of plants new to this region. Those in small capitals of new species:—

## I.—RANUNCULACEÆ.

1. *Adonis dentata*, Del. Syrian desert, common.
2. *Ranunculus Damascenus*, Boiss. et Gaill. Damascus.
3. *Ceratocephalus falcatus*, Pers., var. *vulgaris*, Boiss. Common on the Damascus plateau and in the desert.
4.        "        "        var. *exscapus*, Boiss. Damascus plateau.

## II.—PAPAVERACEÆ.

5. *Gloucium Arabicum*, Fres. Qaryetein to Wadi el Bâridi.
6. *Rœmeria hybrida*, Sib. Desert.
7. *Hypœcoum grandiflorum*, Boiss. Common in the desert.

## III.—FUMARIACEÆ.

8. *Fumaria micrantha*, Lag. Damascus.

## IV.—CRUCIFERÆ.

9. *Matthiola Damascena*, Boiss. Yebrûd to el-Mahîn.
10. *Arabis albidâ*, Stev. var. *umbrosa*, Boiss. Ma'arrâh to Yebrûd.
11. *Aubrietia Libanotica*, Boiss. Rocks near Yebrûd.
12. *Alyssum montanum*, L. Yebrûd.
13.        "        *campestre*, L. Common everywhere.
14.        "        *calycinum*, L. Jebel Qalamûn.
15.        "        *dasycarpum*, Steph. Nebk to Qaryetein. Desert.
16.        "        *aureum*, Fenzl. Qaryetein to el-Bâridi.
17.        "        *meniocoides*, Boiss. Nebk to Qaryetein. Desert, common.
18. *Chrysochamæla velutina*, D. C. Desert.
19. *Erophila minima*, C. A. M. Yebrûd. Desert.
20.        "        *præcox*, Stev. Desert.
21. *Malcolmia Bungei*, Boiss. var. *glabrescens*, Boiss. Palmyra.
22.        "        *Africana*, L. type. Palmyra to 'Ain el Beida.
23.        "        "        var. *squarrosa*, Post. Palmyra.
24.        "        *torulosa*, Desf., var. *contortuplicata*, Boiss. Desert.
25.        "        *crenulata*, D. C. Antilebanon and Desert. Common.
26. *Sisymbrium pumilum*, Steph. Yebrûd.
27.        "        *Sophia*, L. Common throughout.
28.        "        *runcinatum*, Lag. Wadi el Bâridi.
29.        "        *GRANDIFLORUM*, Post, Sp. nov. Syrian desert.

30. *Erysimum purpureum*, Auch, var. *Blancheanum*, Post (E. *Blancheanum*, Boiss.). Plateau of Antilebanon and Syrian Desert.
31. *Leptaleum filifolium*, D. C. Syrian Desert. Palmyra
32. *Camelina lasiocarpa*, Boiss et Bl. Es-Saït.
33. *Brassica Tournefortii*, Gouan. En-Nebk to el-Mahîn.
34. „ *deflexa*, Boiss. Qaryetein to el-Bâridi.
35. *Diplotaxis erucoides*, L. Damascus.
36. *Lepidium perfoliatum*, L. Damascus.
37. *Thlaspi perfoliatum*, L. Yebrûd plateau.
38. *Iberis odorata*, L. Damascus plain.
39. *Æthionema cristatum*, D. C. Qaryetein to el-Bâridi.
40. *Hutchinsia petraea*, L. Wells of Abul-Fawâris, Palmyra.
41. *Clypeola jonthlaspi*, L. Qaryetein to el-Bâridi.
42. *Isotis Aleppica*, Scop. Qaryetein to el-Bâridi.
43. *Teviera glutifolia*, D. C. En-Nebk to el-Mahîn.
44. *Chorispora Syriaca*, Boiss. Damascus to el Mahîn.

## V.—CAPPARIDÆÆ.

45. *Cleome glaucescens*, D.C. Palmyra.

## VI.—CISTACEÆ.

46. *Helianthomum Niloticum*, L. Palmyra. Desert everywhere.
47. „ *vesicarium*, Boiss. Qaryetein to el-Bâridi.

## VII.—VIOLARIÆÆ.

48. *Viola ebracteolata*, Fenzl. Near Yebrûd.

## VIII.—SILENÆÆ.

49. *Silene coniflora*, Otth. Common throughout plateaux.
50. „ *bipartita*, Desf. var. *Olivieri*. Palmyra.

## IX.—ALSINÆÆ.

51. *Holosteum umbellatum*, L. Damascus. Desert. Palmyra.
52. *Alsine picta*, S et S. Damascus to Palmyra.
53. *Spergularia diandra*, Guss. Palmyra.

## X.—TAMARISCINÆÆ.

54. *Tamarix tetragyna*, Ehr. Ain-el-Beïda to Palmyra.

## XI.—MALVACEÆ.

55. *Malva* *Ægyptia*, L. Desert.  
 56. „ *parviflora*, L. Palmyra.

## XII.—ZYGOPHYLLÆ.

57. *Zygophyllum* *eurypterum*, Boiss et Buhse. Wadi-el-Bâridi.  
 58. *Tetradiclis* *salsa*, Stev. Palmyra to 'Ain-el-Beïda.

## XIII.—GERANIACEÆ.

59. *Erodium* *cicutarium*, L. Qaryetein.  
 60. „ *cichonium*, L. Desert.  
 61. „ *laciniatum*, Cav. Palmyra.  
 62. „ *malacoides*, L. Palmyra.  
 63. „ *glaucophyllum*, Ait. Palmyra.  
 64. „ *Gaillardoti*, Boiss. Yebrûd to Qaryetein.

## XIV.—RHAMNACEÆ.

65. *Rhamnus* *Palæstina*, Boiss. Jebel-'Ain-el-Wu'ûl.

## XV.—ANACARDIACEÆ.

66. *Pistacia* *mutica*, F. and M. Wadi-el-Bâridi.

## XVI.—LEGUMINOSÆ.

67. *Medicago* *tribuloides*, Dess. Palmyra.  
 68. *Trigonella* *micrantha*, C. A. M. Damascus.  
 69. „ *azurea*, C. A. M. Palmyra.  
 70. „ *filipes*, Boiss. Palmyra.  
 71. „ *Arabica*, Del. Palmyra.  
 72. *Astragalus* *cruciatus*, Link VAR *BRACHYLOBUS*, Post. Palmyra.  
 73. „ *callichroüs*, Boiss. Palmyra.  
 74. „ *conduplicatus*, Bertol. Desert.  
 75. „ *tuberculosis*, D. C. Borders of desert.  
 76. „ *PALMYRENSIS*, Post. Near Wells of Abul-Fawâris.<sup>1</sup>  
 77. „ *cretaceus*, Boiss. et Ky. Borders of desert.  
 78. „ *mollis*, M. B. En-Nebk to el-Mahîn.  
 79. „ *Aleppicus* Boiss. Damascus plain.  
 80. „ *Forskahlei*, Boiss. Desert. Palmyra.

<sup>1</sup> Perhaps a variety of *A. bombycinus*, Boiss.



81. *Astragalus MITCHELLII*, Post. Sp. nov. El-Jebâh to el-Ghundur ;  
Es-Saït.  
82. „ *ancistrocarpus*, Boiss et Haussk. Desert.  
83. „ *angulosus*, D. C. Chalk hills north of Damascus.  
84. „ *Trachoniticus*, Post. Syrian Desert.  
85. *Onobrychis sativa*, L. var. *montana*, Boiss. Border of desert.  
86. „ *Olivieri*, Boiss. Palmyra.  
87. *Vicia Noëana*, Reut. Hems to Hadidah.

## XVII.—ROSACEÆ.

88. *Cerasus microcarpa*, C. A. M. Wadi-el-Harîr.  
89. „ *UMBELLATA*, Post. Sp. nov. Wadi-el-Harîr.  
90. *Prunus versini*, Ky. Ma'arah to Yebrûd.  
91. „ *monticola*, C. Koch Wadi-el-Harîr.  
92. *Amygdalus communis*, L. Antilebanon. Ma'arah plateau.  
93. *Rosa canina*, L. Yebrûd.

## XVIII.—CRASSULACEÆ.

94. *Umbilicus Libanoticus*, Boiss. Jebel-'Aim-el-Wu'âl.

## XIX.—MESEMBRYANTHEMACEÆ.

95. *Aizoon Hispanicum*, L. Palmyra.

## XX.—UMBELLIFERÆ.

96. *Ferula Blanchei*, Boiss. Desert.

## XXI.—

97. *Valerianella truncata*, Rehb. Qaryetein.  
98. „ *Kotschyi*, Boiss. Desert.

## XXII.—CONYOSITÆ.

99. *Bellis perennis*, L. Ma'arah to Yebrûd.  
100. *Chamæmelum grandiflorum*, Boiss et Haussk. Ma'arah to Yebrûd.  
101. „ *auriculatum*, Boiss. El-Beïda to el-Jebâh.  
102. *Matricaria aurea*, L. Palmyra.  
103. *Achillæa* „ var. *discoidea*, Boiss. Damascus.  
104. *Artemisia Herba-alba*, L. Desert and contiguous regions.  
105. *Senecio coronopifolius*, Desr. Desert.  
106. *Carduus pycnocephalus*, Jacq. Palmyra.  
107. *Centaurea*, sp. Palmyra.

108. *Kœlpinia linearis*, Pall. Palmyra.  
 109. *Lagoseris bifida*, Vis. Desert.  
 110. *Taraxacum officinale*, L. Ma'arrâh to Yebrûd.  
 111. *Zollikoferia*, sp. Desert.  
 112. *Tragopogon buphtalmoides*, Boiss. var. *stenophyllum*, Boiss. Qaryetein to 'Ain-el-Beïda.  
 113. *Scorzonera lanata*, M. B. Table lands. Desert.  
 114. „ *papposa*, D. C. Desert.

## XXIII.—PRIMULACEÆ.

115. *Androsace maxima*, L. Damascus plain

## XXIV.—PLUMBAGINACEÆ.

116. *Statice spicata*, Willd. Palmyra.

## XXV.—APOCYNACEÆ.

117. *Vinca Libanotica*, Zucc. Yebrûd.

## XXVI.—BORAGINEÆ.

118. *Asperugo procumbens*, L. Palmyra.  
 119. An undetermined species of Boraginea, genus uncertain Western half of desert.  
 120. *Anchusa Milleri*, Willd? Desert. Palmyra.  
 121. *Lithospermum tenuiflorum*, L. Palmyra.  
 122. „ *arvense*, L. Palmyra.  
 123. *Arnebia cornuta*, Ledeb. Palmyra. Desert.  
 124. *Alkanna strigosa*, Boiss. Es-Saiṭ to Abu-Dâli.

## XXVII.—SOLANACEÆ.

125. *Lycium Barbarum*, L. Clumps in desert.  
 126. *Hypochaeris reticulatus*, L. Qaryetein.  
 127. „ *muticus*, L. El-Beïda to el-Jebâh.

## XXVIII.—SCROPHULARIACEÆ.

128. *Verbascum Galilæum*, Boiss. Hems to Tripoli.  
 129. „ *Damascenum*, Boiss? Palmyra.  
 130. *Linaria Ascalonica*, Boiss., var. *BRACHYLOBA*, POST. Palmyra.  
 131. „ *albifrons*, S. and S. Palmyra.

132. *Scrophularia zanthoglossa*, Boiss. Hems to Tel-Kelakh.  
 133. „ *variegata*, M. B., var. *Libanotica*, Boiss. Damascus to  
 Ma'arrat.  
 134. *Veronica Orientalis*, Mill. Es-Saiṭ to Abu Dâli.  
 135. „ *triphyllos*, L. Palmyra. Nebk to Qaryetein.

## XXIX.—OROBANCHACEÆ.

136. *Phelipea lutea*, Desf. Desert in salt marshes.

## XXX.—LABIATÆ.

137. *Salvia acetabulosa*, Vahl. Es-Saiṭ to Abu-Dâli.  
 138. „ *verbascifolia*, M. B. En-Nebk to el Mahin.  
 139. „ *controversa*, Ten. Qaryetein.  
 140. „ *Verbenaca*, L., var. *vernalis*, Boiss. Qaryetein.  
 141. *Nepeta cryptantha*, Boiss. et Haussk. Hems to Tel Kelakh.  
 142. *Lallemantia Royleana*, Wall. El-Bârîdi to 'Ain-el-Beïḍa.  
 143. *Zizyphora tenuior*, L. Desert.  
 144. *Stachys Arabica*, Horn. Hems to el-Ḥadîdah.

## XXXI.—PLANTAGINÆÆ.

145. *Plantago albicans*, L. Palmyra.

## XXXII.—CHENOPODIACEÆ.

146. *Spinacia tetrandra*, Stev. Palmyra to 'Ain-el-Beïḍa.

## XXXIII.—SALSOLACEÆ.

147. *Kochia* sp. Desert.  
 148. *Atriplex Palæstinum*, Boiss. Palmyra.  
 149. *Chenolea Arabica*, Boiss. Desert.

## XXXIV.—MYROBALANACEÆ.

150. *Cynomorium coccineum*, L. Palmyra to 'Ain-el-Beïḍa.

## XXXV.—EUPHORBIACEÆ.

151. *Euphorbia Apios*, L. Desert.

## XXXVI.—ORCHIDACEÆ.

152. *Orchis incarnata*, L. Hems.

## XXXVII.—IRIDACEÆ.

153. *Iris Germanica*, L. Hems to Tripoli.  
 154. „ *Sari*, Baker. Desert.  
 155. „ *Palestina*, Baker var. CERULEA, POST. Desert.  
 156. *Triolirion montanum*, Lab. Palmyra.

## XXXVIII.—LILIACEÆ.

157. *Asphodelus microcarpa*, Viv. Es-Saït to Abu-Dâli  
 158. *Asphodeline lutea*, L. Hems.  
 159. „ *brevicaulis*, Bert. El-Beïda to el-Jebâh.  
 160. *Allium Rothii*, Zucc. Desert.  
 161. „ *Oriente*, Boiss. El-Ghundhur to Es-Saït  
 162. MUSCARI ALBICAULE, POST, Sp. nov. El-Bârîdi to Ain-el-Beïda.  
 163. „ *racemosum* L. Palmyra. Table lands  
 164. „ *neglectum*, Guss. En-Nebk to El Mahîn  
 165. *Bellevalia ciliata*, Cyr. Desert.  
 166. „ *flexuosa*, Boiss. Antilebanon. Palmyra  
 167. „ *densiflora*, Boiss var. LONGIPES, POST Hems.  
 168. *Ornithogalum lanceolatum*, Lab. Yebrûd.  
 169. „ *montanum*, Cyr. Jebel Qalamûn.  
 170. „ „ var. *platyphyllum*, Boiss Deser  
 171. „ *tenuifolium*, Guss. Desert.  
 172. *Tulipa montana*, Lindl. var. AMBLYOPHYLLA POST. Jebe Ain-el-  
 Wu'ûl.  
 173. „ *biflora*, L. En-Nebk to Qaryetein.  
 174. *Gagea reticulata*, Pull. Jebel Qalamûn.  
 175. „ *foliosa*, Presl. Yebrûd. Palmyra.  
 176. *Lloydia rubro-viridis*, Baker. Jebel Qalamûn.

## XXXIX.—CYPERACEÆ.

177. *Carex stenophylla*, Vahl. Ma'arrâh to Zebrûd Desert

## XL.—GRAMINEÆ.

178. *Sphenopus divaricatus*, Rehb. Desert.  
 179. *Poa bulbosa*, L. Everywhere in the desert.  
 180. „ *Sinaica*, Boiss. En-Nebk to Qaryetein. Desert  
 181. „ *Timoleontis*, Held. El-Beïda to el-Jebâh.  
 182. *Vulpia pectinella*, D. C. Palmyra.  
 183. *Festuca inops*, Del. Wadi el Bârîdi.  
 184. *Sclerochloa dura*, Beauv. Qaryetein.  
 185. *Scleropoa Menophitica*, Spr. Palmyra

186. *Nardurus tenuiflorus*, Boiss. Palmyra.  
 187. *Orientalis*, Boiss. Qaryetein to el Bâridi.  
 188. *Bromus matritensis*, L. Palmyra.  
 189. *Aegilops crassa*, Boiss. Palmyra.  
 190. *Rhizocephalus Orientalis*, Boiss. Desert.

## XLI.—NAIADACEÆ.

191. *Potamogeton crispus*, L. Canal ; Damascus.

## XLII.—CHARACEÆ.

192. *Chara*, sp. Great fountain ; Palmyra.

## XLIII.—LICHENES.

193. *Lecanora lentigera*, Web. Incrustation in salty ground.

COMPARISON OF THE ATMOSPHERIC PRESSURE IN  
 PALESTINE AND IN ENGLAND IN THE TEN  
 YEARS ENDING 1889.

By JAMES GLAISHER, F.R.S.

In the quarterly reports of the Palestine Exploration Fund, beginning July, 1888, and ending October, 1890, the results of observations taken at Sarona in the ten years ending 1889 have been published.

The observations at Sarona were taken a little north of the great orange groves of Jaffa, at a place one mile and a half from the sea shore, and about 50 feet above the sea level, in lat. 32° 4' N. and long. 34° 34' E., by Herr J. Dreher.

The observations at Blackheath were taken during the same ten years, at about 150 feet above the sea level, in lat. 51° 29' and long. 0° 1' E., by myself.

The observations at Sarona have been reduced to 32° Fah., and those at Blackheath have been corrected for the difference of elevation of 100 feet and reduced to 32° Fah.

TABLE I. shows the Highest Reading of the Barometer at *Sarona* in each month.

Months.	Years.										Means of 10 Years.
	1880.	1881.	1882.	1883.	1884.	1885.	1886.	1887.	1888.	1889.	
January ..	in. 30·269	in. 30·235	in. 30·220	in. 30·088	in. 30·262	in. 30·151	in. 30·128	in. 30·285	in. 30·166	in. 30·073	in. 30·188
February..	30·155	30·007	30·249	30·099	30·230	30·097	30·065	30·239	30·137	33·090	30·137
March ..	30·166	30·175	30·132	30·060	30·133	30·199	30·115	30·063	30·144	30·059	30·116
April ..	30·051	30·035	30·114	30·042	30·013	29·995	30·034	29·993	29·992	30·051	30·032
May ..	29·947	29·957	30·017	29·953	29·946	29·905	30·007	30·061	29·939	29·918	29·965
June ..	29·953	29·957	29·995	29·805	29·930	29·886	29·845	29·865	29·874	29·942	29·905
July ..	29·791	29·860	29·798	29·771	29·899	29·793	29·795	29·893	29·809	29·823	29·823
August ..	29·827	29·871	29·801	29·803	29·849	29·825	29·754	29·766	29·767	29·788	29·805
September	29·925	29·940	29·949	29·901	30·015	30·073	29·893	29·966	29·943	29·882	29·979
October ..	30·018	29·994	29·983	29·977	30·002	29·970	29·939	29·964	30·048	30·019	29·991
November	30·091	30·076	30·073	30·020	30·063	30·088	30·109	30·099	30·139	30·136	30·089
December	30·180	30·232	30·153	30·106	30·143	30·162	30·164	30·087	30·272	30·185	30·168
Means ..	30·031	30·028	30·040	29·969	30·040	30·030	29·987	30·023	30·019	29·997	30·017

In this table, the fact of the reading of the barometer in the six months from May to October so seldom reaching 30 inches is the first to notice. The reading exceeds 30 inches in every January, February, March, November, and December; in seven Aprils out of the ten; in three Mays, in two Septembers; in four Octobers; and there is no instance in the months of June, July, and August of a reading so high as 30 inches.

The maximum for the year has occurred in—

	The maximum was
	Ins.
January, 4 times, viz., in 1880, 1881, 1884, and 1887 ....	30·285 in 1887
February, once ....	30·249 ,, 1882
December, 5 times, in 1883, 1885, 1886, 1888, and 1889 ....	30·272 ,, 1888

The lowest of the monthly maximum readings has occurred five times in July and five times in August, viz. :—

	The lowest was
	Ins.
July, in 1880, 1881, 1882, 1883 and 1885 ....	29·771 in 1883
August, in 1884, 1886, 1887, 1888, and 1889	29·754 ,, 1886

The numbers at the foot of the columns give the mean of each year; the largest, 30·04, was in 1882 and 1884, and the smallest, 29·969, in 1883.

In the last column is shown the mean of the ten highest readings in each month. The highest, 30·188 is in January; the next in order is 30·168 in December. The lowest is 29·805 in August; the next in order is 29·823 in July.

The mean of all is 30·017 inches.

TABLE II. shows the Highest Reading of the Barometer at *Blackheath* in each month.

Months.	Years.										Means of 10 years.
	1880.	1881.	1882.	1883.	1884.	1885.	1886.	1887.	1888.	1889.	
January ..	in. 30·006	in. 30·515	in. 30·890	in. 30·597	in. 30·568	in. 30·354	in. 30·064	in. 30·622	in. 30·647	in. 30·056	in. 30·552
February..	30·406	30·195	30·771	30·765	30·411	30·132	30·659	30·664	30·280	30·342	30·462
March ..	30·428	30·469	30·577	30·660	30·204	30·561	30·349	30·564	30·266	30·517	30·460
April ..	30·376	30·193	30·293	30·592	30·031	30·251	30·209	30·639	30·175	30·168	30·293
May ..	30·408	30·592	30·414	30·331	30·375	30·091	30·433	30·340	30·422	30·010	30·342
June ..	30·167	30·255	30·266	30·332	30·268	30·346	30·226	30·388	30·175	30·358	30·280
July ..	30·114	30·271	30·409	30·105	30·155	30·381	30·275	30·271	30·029	30·301	30·231
August ..	30·194	30·265	30·215	30·240	30·246	30·283	30·176	30·289	30·207	30·210	30·233
September	30·436	30·364	30·314	30·208	30·307	30·295	30·361	30·421	30·402	30·387	30·350
October ..	30·353	30·414	30·464	30·470	30·584	30·094	30·307	30·546	30·406	30·116	30·375
November	30·396	30·379	30·066	30·357	30·490	30·361	30·658	30·259	30·140	30·609	30·372
December	30·599	30·558	30·356	30·520	30·170	30·511	30·525	30·442	30·425	30·514	30·465
Means ..	30·374	30·372	30·420	30·431	30·401	30·305	30·353	30·454	30·298	30·352	30·368



A very marked difference is shown in this table from the corresponding one at Saronæ, the reading being above 30 inches in every month.

The maximum for the year has occurred in—

						The highest was		
						Ins.		
January, 4 times, in 1880, 1882, 1888, and 1889	....	....	....	....	....	30·890	in	1882
February, 3 times, in 1883, 1886, and 1887	....	....	....	....	....	30·765	„	1886
March, once	....	....	....	....	....	30·561	„	1885
May, once	....	....	....	....	....	30·592	„	1881
October, once	....	....	....	....	....	30·584	„	1884

Thus a very marked difference, excepting in the case of January, is shown from the times of maximum pressure at Saronæ.

The lowest maximums for the year has occurred in—

						The lowest was		
						Ins.		
January, once	....	....	....	....	....	30·064	in	1880
February, once	....	....	....	....	....	30·195	„	1881
April, once	....	....	....	....	....	30·031	„	1884
May, twice, in 1885 and 1889	....	....	....	....	....	30·010	„	1889
July, 3 times, in 1880, 1883 and 1888	....	....	....	....	....	30·029	„	1888
November, twice, in 1882 and 1887	....	....	....	....	....	30·066	„	1882

The numbers at the foot of the columns give the mean of each year ; the largest, 30·454 inches, in 1887, and the smallest, 30·298 inches, in 1888.

The number in the last column shows the mean of the ten readings.

The highest, 30·552, is in January ; and the next in order, 30·465, in December. The lowest is 30·231 in July, and the next in order is 30·233 in August. These months are in agreement with those at Saronæ, and thus, though at Blackheath there was no absolute maximum in December, yet its general high pressure has the second place on the mean as at Saronæ. The mean of all is 30·368 inches.

If we compare the numbers in Tables I and II together month by month, we shall see that at Blackheath the maximum atmospheric pressure has been greater in every month but two, viz., in November, 1882, and in January, 1887, when the pressure at Saronæ rose higher by 0·007 inch and 0·064 inch respectively than at Blackheath. Again, in November, 1888, the difference was only 0·001 inch. In every other month the atmospheric pressure at Saronæ was less than at Blackheath, and in some months by as much as six-tenths of an inch, viz., in May, 1881 ; January and July in 1882 ; February, March, and May, 1883 ; and April, 1887. By taking the difference between the number in the last column of the two preceding tables, the mean excess of maximum atmospheric pressure at Blackheath over that at Saronæ is :—

In.				In.	
January	.... 0·364	May	.... 0·377	September	.... 0·371
February	.... 0·325	June	.... 0·375	October	.... 0·384
March	.... 0·344	July	.... 0·408	November	.... 0·283
April	.... 0·261	August	.... 0·428	December	.... 0·297

## METEOROLOGICAL OBSERVATIONS.

TABLE III. shows the Lowest Reading of the Barometer at *Sarona* in each month.

Month.	Years.										Means of 10 years.
	1880.	1881.	1882.	1883.	1884.	1885.	1886.	1887.	1888.	1889.	
January ..	in. 29·873	in. 29·751	in. 29·855	in. 29·527	in. 29·678	in. 29·616	in. 29·682	in. 29·442	in. 29·709	in. 29·748	in. 29·688
February..	29·635	29·524	29·706	29·624	29·700	29·716	29·620	29·724	29·529	29·656	29·643
March ..	29·615	29·579	29·631	29·631	29·597	29·500	29·584	29·743	29·592	29·571	29·604
April ..	29·489	29·545	29·581	29·533	29·505	29·482	29·543	29·522	29·550	29·679	29·543
May ..	29·640	29·637	29·609	29·635	29·670	29·687	29·686	29·704	29·690	29·559	29·652
June ..	29·609	29·697	29·684	29·666	29·703	29·630	29·609	29·654	29·645	29·583	29·648
July ..	29·556	29·563	29·545	29·597	29·600	29·509	29·567	29·573	29·574	29·494	29·558
August ..	29·584	29·570	29·630	29·563	29·582	29·535	29·622	29·567	29·599	29·587	29·584
September	29·720	29·663	29·712	29·607	29·665	29·663	29·674	29·670	29·664	29·622	29·666
October ..	29·819	29·823	29·729	29·751	29·783	29·778	29·734	29·860	29·720	29·790	29·779
November	29·780	29·747	29·773	29·687	29·832	29·822	29·814	29·713	29·553	29·800	29·752
December	29·748	29·784	29·722	29·705	29·846	29·780	29·674	29·776	29·547	29·643	29·723
Means ..	29·672	29·657	29·681	29·627	29·680	29·643	29·651	29·662	29·614	29·644	29·662

The numbers in this table show very small differences from each other, and there is not one reading so small as 29·4 inches, differing in this respect very much from our experience in England.

The minimum at Sarona for the year has occurred in—

		The lowest was	
		Ins.	
January, twice, in 1883 and 1887	....	29·442	in 1887
February, twice, in 1881 and 1888	....	29·524	„ 1881
April, 4 times, in 1880, 1884, 1885, and 1886	....	29·482	„ 1885
July, twice, in 1882 and 1889	....	29·494	„ 1889

The highest minimum for the year has occurred in—

		The highest was	
		Ins.	
January, twice, in 1880 and 1882	....	29·873	in 1880
October, 4 times, in 1881, 1883, 1887, and 1888	....	29·860	„ 1887
November, 3 times, in 1885, 1886, and 1889	....	29·822	„ 1885
December, once....	....	29·846	„ 1884

The numbers at the foot of the columns give the mean for each year the largest was 29·681 in 1882 and the smallest 29·614 in 1888.

The numbers in the last column show the mean of the ten readings. The lowest is in April, 29·543 inches, and the next in order is July, 29·553 inches. The highest, 29·779 inches, is in October, and the next in order, 29·752 inches, is in November. The mean of all is 29·662 inches.

TABLE IV. shows the Lowest Readings of the Barometer at *Blackheath* in each Month.

Months.	Years.										Means of 10 years.
	1880.	1881.	1882.	1883.	1884.	1885.	1886.	1887.	1888.	1889.	
January ..	in. 29·874	in. 28·816	in. 29·196	in. 29·150	in. 28·460	in. 28·838	in. 28·964	in. 28·736	in. 29·165	in. 29·339	in. 29·054
February..	28·913	28·851	28·912	28·890	29·316	28·975	29·183	29·608	29·381	29·101	29·176
March ..	29·226	29·167	28·915	29·176	29·175	29·193	29·236	28·999	28·646	28·908	29·064
April ..	29·231	29·604	28·801	29·347	29·269	29·177	29·145	29·245	29·514	29·133	29·247
May ..	29·603	29·396	29·281	29·458	29·287	29·069	29·027	29·338	29·323	29·456	29·324
June ..	29·566	29·344	29·384	29·691	29·474	29·453	29·664	29·585	29·470	29·579	29·521
July ..	29·418	29·441	29·319	29·479	29·544	29·795	29·431	29·581	29·375	29·473	29·486
August ..	29·191	29·384	29·206	29·531	29·576	29·593	29·457	29·403	29·571	29·168	29·408
September.	29·166	29·383	29·166	28·748	29·355	29·392	29·587	29·206	29·605	29·391	29·300
October ..	28·716	29·008	28·719	29·349	29·316	28·875	28·548	29·228	29·210	29·099	29·007
November	28·651	28·959	29·050	28·900	29·635	29·194	28·900	28·751	29·136	29·447	29·062
December .	29·102	28·864	28·965	29·445	28·801	29·445	28·254	29·214	29·033	29·223	29·035
Means ..	29·221	29·185	29·076	29·264	29·268	29·250	29·118	29·241	29·286	29·276	29·224

Very remarkable indeed are the numbers in this table as compared with those in the corresponding table at Saroua. In every year the atmospheric pressure has been less than 29 inches, and with few exceptions the readings have been lower than those at Saroua, and in some months by an inch or more, viz., October and November, 1880; October, 1882; January and December, 1884; October, 1886; with numerous instances of 0·7 inch, 0·8 inch, and 0·9 inch. There are, however, a few instances in which the minimum at Saroua was lower than at Blackheath, viz., January, 1880; April, 1881; June, 1883; July and August, 1885; June, 1886; and July, 1887; that in July, 1885 by the large amount of 0·286 inch.

The minimum at Blackeath for the year has occurred in—

	The lowest was					
	Ins.					
January, 4 times, in 1881, 1884, 1885, and 1887	....	....	....	....	....	28·460 in 1884
March, twice, in 1888 and 1889	....	....	....	....	....	28·646 „ 1888
September, once	....	....	....	....	....	28·748 „ 1883
October, once	....	....	....	....	....	28·719 „ 1882
November, once	....	....	....	....	....	28·651 „ 1880
December, once....	....	....	....	....	....	28·254 „ 1886

The highest minimum for the year has occurred in—

	The highest was					
	Ins.					
January, once	....	....	....	....	....	29·874 in 1880
February, once	....	....	....	....	....	29·608 „ 1887
April, once	....	....	....	....	....	29·604 „ 1881
June, 4 times, in 1882, 1883, 1886, and 1889	....	....	....	....	....	29·691 „ 1883
July, once	....	....	....	....	....	29·795 „ 1885
September, once	....	....	....	....	....	29·605 „ 1888
November, once	....	....	....	....	....	29·635 „ 1884

The numbers at the foot of the columns give the mean for each year; the largest was 29·286 inches, in 1888, and the smallest 29·076 inches, in 1882.

The numbers in last column show the mean of the ten minimum readings:—The lowest, 29·007 inches, in October, and the next in order, 29·035 inches, in December. The highest, 29·521 inches, in June, and the next in order, 29·486 inches, in July.

By taking the difference between the number in the last column of Tables III. and IV. the average lower barometer readings in England below those in Palestine will be shown, viz. :—

	In.		In.		In.
January	.... 0·634	May	.... 0·328	September....	0·366
February	.... 0·467	June	.... 0·127	October	.... 0·772
March	.... 0·540	July	.... 0·072	November....	0·690
April	.... 0·296	August	.... 0·176	December	.... 0·688

The mean of all is 0·438 inch.

TABLE V. shows the Range of Barometer Reading at *Savona* in each month.

Years.

Months.	Years.										Means of 10 Years.
	1880.	1881.	1882.	1883.	1884.	1885.	1886.	1887.	1888.	1889.	
January ..	in. 0·396	in. 0·384	in. 0·365	in. 0·561	in. 0·584	in. 0·535	in. 0·446	in. 0·843	in. 0·457	in. 0·325	in. 0·490
February..	0·520	0·583	0·543	0·475	0·530	0·381	0·445	0·515	0·608	0·434	0·503
March ..	0·551	0·596	0·501	0·429	0·536	0·609	0·531	0·320	0·552	0·488	0·511
April ..	0·562	0·490	0·533	0·509	0·508	0·513	0·491	0·471	0·442	0·372	0·489
May ..	0·307	0·320	0·408	0·318	0·276	0·218	0·321	0·357	0·249	0·359	0·313
June ..	0·344	0·260	0·311	0·139	0·227	0·256	0·236	0·211	0·229	0·359	0·257
July ..	0·235	0·297	0·253	0·174	0·299	0·284	0·228	0·320	0·235	0·329	0·265
August ..	0·243	0·301	0·171	0·240	0·267	0·290	0·132	0·199	0·168	0·201	0·201
September	0·205	0·277	0·237	0·294	0·350	0·710	0·219	0·296	0·279	0·260	0·292
October ..	0·199	0·171	0·254	0·226	0·219	0·192	0·205	0·158	0·328	0·229	0·248
November	0·311	0·309	0·300	0·333	0·231	0·266	0·295	0·386	0·586	0·336	0·335
December	0·432	0·448	0·431	0·401	0·297	0·382	0·490	0·311	0·725	0·542	0·446
Means ..	0·359	0·371	0·359	0·312	0·360	0·386	0·337	0·366	0·405	0·353	0·362

The greatest ranges appear in the winter and spring months, and the smallest in the summer and autumn months.

The greatest monthly range in the year has occurred in—

		The largest was Ins.		
January, 3 times, in 1883, 1884 and 1887	....	0·843	in	1887
February, once	....	0·543	,,	1882
March, twice, in 1881 and 1886	....	0·596	,,	1881
April, once	....	0·562	,,	1880
September, once	....	0·710	,,	1885
December, twice, in 1888 and 1889	....	0·725	,,	1888

The least monthly range in the year has occurred in—

		The smallest was Ins.		
June, once	....	0·139	in	1883
August, 4 times, in 1882, 1886, 1888, and 1889	....	0·132	,,	1886
October, 5 times, in 1880, 1881, 1884, 1885, and 1887	....	0·158	,,	1887

These small ranges are remarkable.

The mean monthly range in each year is shown at the foot of each column. The largest is 0·405 inch, in 1888, and the smallest, 0·337 inch in 1886. The mean monthly range is 0·362 inch.

The numbers in the last column show the mean range in each month. The largest, 0·511 inch, is in March, and the next in order, 0·503 inch is in February. The smallest, 0·201 inch, is in August, and the next in order, 0·248 inch, is in October.

TABLE VI. shows the Range of Barometer Reading at *Blackheath* in each month.

Month.	Years.										Means of 10 years.
	1880.	1881.	1882.	1883.	1884.	1885.	1886.	1887.	1888.	1889.	
January ..	in. 0·732	in. 1·699	in. 1·694	in. 1·447	in. 2·108	in. 1·516	in. 1·100	in. 1·886	in. 1·482	in. 1·317	in. 1·498
February..	1·493	1·344	1·859	1·875	1·095	1·157	1·476	1·056	0·899	1·241	1·349
March ..	1·202	1·302	1·662	1·484	1·029	1·368	1·113	1·565	1·620	1·609	1·395
April ..	1·145	0·589	1·492	1·245	0·762	1·074	1·064	1·394	0·661	1·035	1·146
May ..	0·805	1·196	1·133	0·873	1·088	1·022	1·406	1·002	1·099	0·554	1·018
June ..	0·601	0·911	0·882	0·641	0·794	0·893	0·562	0·803	0·705	0·779	0·757
July ..	0·696	0·830	1·090	0·626	0·611	0·586	0·844	0·690	0·654	0·828	0·746
August ..	0·996	0·881	1·009	0·709	0·670	0·690	0·718	0·886	0·636	1·042	0·824
September	1·270	0·981	1·139	1·460	0·952	0·903	0·774	1·215	0·797	0·996	1·049
October ..	1·637	1·406	1·745	1·121	1·268	1·269	1·759	1·318	1·196	1·017	1·374
November	1·745	1·420	1·016	1·457	0·855	1·167	1·758	1·508	1·004	1·162	1·409
December	1·497	1·693	1·391	1·075	1·366	1·066	2·271	1·228	1·392	1·321	1·330
Means ..	1·152	1·188	1·351	1·168	1·050	1·059	1·237	1·213	1·112	1·075	1·158



These ranges differ very greatly from those in the preceding table, as at Sarona the greatest appear in the months of Winter and Spring, and frequently exceeding an inch, and in two instances, viz., in January, 1885, and December, 1886, exceeding 2 inches. The smallest appear in June, July, and August.

The largest monthly range in the year has occurred in—

	The largest was	
	Ins.	
January, 4 times, in 1881, 1884, 1885, and 1887	2.108 ins.	in 1884
February, twice, in 1882 and 1883	1.875 in.	„ 1883
March, twice, in 1888 and 1889	1.620 „	„ 1888
November, once	1.745 „	„ 1880
December, once....	2.271 ins.	„ 1886

Agreeing generally in the months with those at Sarona.

The smallest monthly range at Blackheath in the year has occurred in—

	The smallest was	
	Ins.	
April, once	0.589 in	1881
May, once	0.554 „	1889
June, 3 times, in 1880, 1882 and 1886	0.562 „	1886
July, 4 times, in 1883, 1884, 1885, and 1887....	0.586 „	1885
August, once	0.636 „	1888

Differing generally in the months with those at Sarona.

The mean monthly range in each year is shown at the foot of each column. The largest, 1.351 inch, in 1882, and the smallest, 1.075 inch, in 1889. The mean monthly range is 1.158 inch.

The numbers in the last column show the mean range in each month. The largest, 1.498 inch, in January, the next in order, 1.409 inch, is in November. The smallest, 0.746 inch, in July, and the next in order, 0.757 inch, in June.

By comparing the numbers in the Tables V. and VI. it will be seen that the range in every month was larger at Blackheath than at Sarona; the least difference was about a quarter of an inch in the months of June, 1880 and April, 1884; there are many instances exceeding 1 inch, and three exceeding  $1\frac{1}{2}$  inches in the months of January, 1884, and October and December, 1886.

By taking the difference between the numbers in the last column of Tables V. and VI., the greater range of atmospheric pressure in England over that in Palestine is shown in every month, and are—

	In.		In.		In.
January ....	1·008	May ....	0·705	September....	0·757
February ....	0·846	June ....	0·500	October ....	1·126
March ....	0·884	July ....	0·480	November....	1·074
April ....	0·657	August ....	0·623	December ....	0·884

By dividing the mean range in each month at Blackheath by the mean range at Sarona, it will be found that the range at Blackheath in—

April ....	is about $2\frac{1}{4}$ times larger than at Sarona.
February, March and July	„ $2\frac{3}{4}$ „ „
January, June and December	„ 3 „ „
May ....	„ $3\frac{1}{4}$ „ „
September ....	„ $3\frac{1}{2}$ „ „
November ....	„ $4\frac{1}{4}$ „ „
October ....	„ $5\frac{1}{2}$ „ „

The mean annual range was at—

	In.
Blackheath ....	1·985
Sarona ....	0·711

The highest reading during the 10 years, at—

	Was Ins.	January
Blackheath ....	30·890	in 1882
Sarona ....	30·285	„ 1887

The lowest reading during the 10 years, at—

	Was Ins.	January
Blackheath ....	28·254	in 1886
Sarona ....	29·442	„ 1887

The extreme range was at—

Blackheath ....	2·436 ins.
Sarona ....	0·843 m.

so that the range at Sarona was about  $\frac{1}{3}$  of that in England.

TABLE VII. shows the Mean Monthly Reading of the Barometer at *Sarona* in each month.

Months.	Years.												Means of 10 Years.
	1880.	1881.	1882.	1883.	1884.	1885.	1886.	1887.	1888.	1889.			
January ..	in. 30·046	in. 29·997	in. 30·060	in. 29·898	in. 30·010	in. 29·919	in. 29·946	in. 29·866	in. 29·958	in. 29·921	in. 29·962		
February..	29·942	29·838	30·000	29·924	29·945	29·929	29·874	29·958	29·870	29·930	29·922		
March ..	29·882	29·917	29·930	29·838	29·892	29·861	29·879	29·900	29·878	29·872	29·885		
April ..	29·814	29·828	29·797	29·775	29·723	29·706	29·858	29·781	29·795	29·859	29·794		
May ..	29·776	29·821	29·840	29·801	29·841	29·813	29·845	29·844	29·817	29·752	29·815		
June ..	29·741	29·816	29·806	29·735	29·828	29·776	29·746	29·744	29·768	29·770	29·773		
July	29·679	29·705	29·689	29·689	29·717	29·679	29·677	29·671	29·672	29·648	29·683		
August ..	29·716	29·675	29·705	29·697	29·707	29·657	29·685	29·653	29·636	29·665	29·686		
September	29·808	29·792	29·803	29·748	29·817	29·798	29·790	29·802	29·802	29·770	29·793		
October ..	29·916	29·902	29·771	29·886	29·900	29·904	29·840	29·875	29·855	29·893	29·874		
November .	30·019	29·919	29·919	29·895	29·952	29·921	29·948	29·930	29·922	29·967	29·939		
December .	29·944	29·975	29·953	29·924	29·980	29·950	29·979	29·919	29·977	29·953	29·958		
Means ..	29·857	29·857	29·856	29·818	29·859	29·826	29·839	29·822	29·834	29·834	29·849		

The mean monthly readings are highest in the winter months, but very seldom so high as 30 inches ; the lowest are in the summer months, but none so low as 29·6 inches, so that the mean monthly atmospheric pressure is very uniform.

The highest monthly mean reading of the barometer at Sarona, in the year, has occurred in—

	The highest was
January, 4 times, in 1880, 1881, 1882, and 1884	Ins. 30·060 in 1882
February, twice in 1883 and 1887	29·958 „ 1887
November, once	29·967 „ 1889
December, 3 times, in 1885, 1886, and 1888	29·979 „ 1886

so that the months of highest mean pressure are January, February, November, and December.

The lowest monthly mean reading of the barometer at Sarona, in the year has occurred in—

	The lowest was
July, 6 times, in 1880, 1882, 1883, 1886, 1888, and 1889	Ins. 29·648 in 1889
August, 4 times, in 1881, 1884, 1885, and 1887	29·653 „ 1887

so that the months of lowest mean atmospheric pressure are July and August.

The numbers at the foot of each column show the mean yearly pressure ; the highest, 29·859, was in 1884, and the lowest, 29·818, was in 1883.

The numbers in the last column show the mean of the ten monthly mean readings. The highest, 29·962 inches, is in January, and the next in order, 29·958 inches, is in December. The lowest, 29·683 inches, is in July, and the next in order, 29·686, is in August. The general mean pressure is 29·849 inches.

## METEOROLOGICAL OBSERVATIONS.

TABLE VIII. shows the Mean Monthly Reading of the Barometer at *Blackheath* in each month.

Months.	Years.										Means of 10 Years.
	1880.	1881.	1882.	1883.	1884.	1885.	1886.	1887.	1888.	1889.	
January ..	in. 30·309	in. 29·814	in. 30·288	in. 29·842	in. 30·025	in. 29·829	in. 29·584	in. 29·953	in. 30·158	in. 30·101	in. 29·990
February..	29·737	29·753	30·054	30·019	29·855	29·617	30·054	30·248	29·888	29·824	29·918
March ..	30·034	29·819	29·847	29·856	29·871	30·006	29·918	29·988	29·530	29·891	29·886
April ..	29·811	29·867	29·713	29·934	29·755	29·721	29·844	29·928	29·811	29·661	29·805
May ..	30·013	30·037	29·988	29·897	29·932	29·731	29·856	29·941	29·979	29·758	29·913
June ..	29·840	29·910	29·852	29·906	29·970	29·955	29·905	30·127	29·861	29·949	29·928
July ..	29·830	29·929	29·814	29·801	29·804	30·104	29·850	29·979	29·711	29·860	29·877
August ..	29·906	29·792	29·852	29·948	29·934	29·907	29·934	29·915	29·944	29·712	29·894
September	29·905	29·908	29·796	29·769	29·956	29·826	29·981	29·868	30·074	29·974	29·906
October ..	29·804	29·936	29·770	29·912	30·005	29·632	29·729	30·017	29·985	29·627	29·842
November	29·891	29·895	29·538	29·749	30·087	29·835	29·855	29·631	29·730	30·135	29·845
December	29·854	29·932	29·621	30·086	29·808	30·144	29·635	29·783	29·906	30·169	29·888
Means ..	29·911	29·816	29·869	29·893	29·924	29·861	29·847	29·948	29·882	29·892	29·891

The mean monthly readings are highest in the winter months, as at Saroná, the readings often exceeding 30 inches, excepting in the months of April and August, in which months, in none of the years, the reading reached 30 inches. The lowest reading was in January, 1886.

The highest monthly reading of the barometer at Blackheath, in the year, has occurred in—

		The highest was Ins.	
January, 3 times, in 1880, 1882 and 1888	....	30·309	in 1880
February, twice, 1886 and 1887	....	30·248	„ 1887
May, once	....	30·037	„ 1881
November, twice, in 1884 and 1889	....	30·135	„ 1889
December, twice, in 1883 and 1885	....	30·144	„ 1885

The months agreeing, with the exception of the one instance in May, with those at Saroná.

The lowest monthly mean reading of the barometer at Blackheath, in the year, has occurred in—

		The lowest was Ins.	
January, once	....	29·584	in 1886
February, twice, in 1880 and 1881	....	29·737	„ 1880
March, once	....	29·530	„ 1888
April, once	....	29·755	„ 1884
October, twice, in 1885 and 1889	....	29·627	„ 1889
November, twice, in 1883 and 1887	....	29·631	„ 1887
December, once	....	29·621	„ 1882

These months differ entirely from those at Saroná. The numbers at the foot of each column show the mean yearly pressure, the greatest as 29·948 in 1887, and the least 29·816 in 1881.

The numbers in the last column show the mean of the ten monthly mean readings. The highest, 29·990 inches, is in January, and the next in order is 29·928 inches, in June. The lowest, 29·805 inches, is in April, and the next in order, 29·842 inches, in October.

The average pressure of the ten years is 29·891 inches, whilst that at Saroná is 29·849 inches, so that the air over the two places is nearly the same in volume.

By comparing the results in Tables VII. and VIII. together we find that with the exception of three months, June, July and August, the mean pressure of the atmosphere at Blackheath has been in some years above, and in others below, that at Saroná; for instance the mean pressure at Blackheath was greater than at Saroná in—

	In.			In.
January, 1880 ....	by 0·263	and smaller in	1886	by 0·362
February, 1887 ...	„ 0·290	„	1885	„ 0·282
March, 1880 ....	„ 0·152	„	1888	„ 0·348
April, 1883 ....	„ 0·159	„	1889	„ 0·198
October, 1889	„ 0·266	„	1885	„ 0·272
November, 1889....	„ 0·168	„	1882	„ 0·381
December, 1885 ....	„ 0·194	„	1886	„ 0·344

In the months of May and September there was only one instance in each of these months, in the 10 years, of the pressure being less at Blackheath than at Sarona. It was greater than at Sarona in—

	In.			In.
May, 1880 ....	by 0·237	and smaller in	1885	„ 0·082
September, 1888....	„ 0·272	„	1882	„ 0·007

and in the remaining months the pressure at Blackheath was always greater. The excess varied in—

	In.			In.
June ....	from 0·046	in 1882	to 0·383	in 1887
July ....	„ 0·039	„ 1888	„ 0·425	„ 1885
August ....	„ 0·047	„ 1889	„ 0·262	„ 1887

By taking the differences between the numbers in the last column of Tables VII and VIII, we find that the mean reading of the barometer at Blackheath was higher than at Sarona, in—

	In.		In.		In.
January	by 0·028	May	by 0·098	August	by 0·208
March	„ 0·001	June	„ 0·155	September	„ 0·113
April	„ 0·011	July	„ 0·194		

and lower in the months of—

	In.		In.		In.
February	by 0·004	October	by 0·032	November	by 0·094
		December	„ 0·070		

## CHRONOLOGY OF POTTERY.

By W. M. FLINDERS PETRIE.

I AM sorry to see an assertion in the last *Quarterly Statement* (p. 329) that "deductions from pottery" "are apt to mislead." This is a serious thing to say, as a knowledge of pottery is really the essential key to all archaeological research.

I have never found it mislead; and I think no person has tested and tried it more completely. Whenever digging is going on I look at every scrap of pottery that is found, for each man has orders to heap up for my inspection every sherd he finds in his work. Then I recognise the style of each piece, and consider if it accords or disagrees with the conclusions that I have already formed as to the age of the deposits.

Last spring I estimated that the marks of potters and owners, found on potsherds, occurred on one piece in 5,000 to 10,000, both in Egypt and Syria; this estimate was made by the number of baskets of potsherds searched, or the number of sherds looked at on the ground in a minute, before a marked piece is found. Thus the number of marks found serves as a rough tally of the whole number of pieces seen. At Lachish I must have looked over about 50,000 or more pieces. In Egypt in the last two years about 3,000,000 pieces have been clearly looked at by me.

If after such searching during the last nine years I have never yet seen any distinctive pottery of any age which I could mistake for that of any other known period, though I was always searching and looking for exceptions—or anything which disagreed with the conclusions which I was forming—I think it is justifiable to say that deductions from pottery are not misleading.

Of course, the subject needs to be learned before it can be used, like any other study. But no excavations can yield their proper fruits without using this main key to understanding them.

I may say that eight periods can already be distinguished as entirely different in their pottery in Palestine; and more detailed research, with the aid of dated monuments, would greatly subdivide this chronological scale.

25th October, 1890.

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## NOTES BY MAJOR CONDER.

## I.

## CHRONOLOGY OF POTTERY.

THAT the chronology of pottery is more likely to give good results in the hands of Mr. Petrie than of most antiquarians, I feel convinced, on account of his experience. The distinctions between early pottery, and that of Byzantine or Roman times, is also well marked; but, as Mr. Petrie has himself noted, the old black pottery is still made in Palestine.

The question is, whether the results as to date agree with those which may be deduced, with greater certainty, from other data. No scholar acquainted with the history of letters can doubt that the Lachish text, found by Mr. Petrie, dates about 7-800 B.C., and I think the date of the capital is also fairly certain. Yet Mr. Petrie has suggested much earlier dates for Lachish ruins, being guided I understand by the pottery. I do not know that any data exist whereby to judge of the age of "Amorite" pottery, or how it is known to be "Amorite," especially as the Amorites lived in the Hebron mountains, and not in the Philistine plains.

I had seven years' experience of pottery of every age in Palestine, and always examined that found at the ruins. But I consider that the character of lettering on texts, the character of the tombs found at a ruin, and of the masonry and architecture, form together much safer data for determining date than can be ever expected to result from study of the uninscribed pottery.

## II.

## THE HEBREW WEIGHTS.

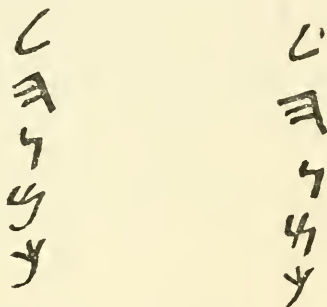
THE weights published in the last *Quarterly Statement* weigh 80 grains and represent the quarter of a weight of 320 grains—that is to say, a quarter of a shekel. As my father, the late F. R. Conder, M. Inst. C.E., pointed out more than ten years ago, the old Hebrew shekel had this weight (*see* "Conder's Handbook to the Bible," p. 63). Maimonides ("Constit de Siclis," 1-2) says that, under the Hebrew Kings, the shekel weighed 320 grains of barley, and this would weigh close upon 320 grains Troy. Moreover (p. 64), this determination my father checked by the Assyrian weights from Nineveh, and got the same result. In a later time (*see* p. 63) the values were changed, but the old Hebrew shekel was worth 3s. 4d. of our money.

This being, therefore, so fully confirmed by the recent discovery, the reading of שֶׁל should be regarded as a contraction from שֶׁקֶל, *shekel*, and it has nothing to do with Israel. The word נִינֵן probably comes from יִנֵּן, "to establish," as Dr. Neubauer has suggested, and would mean "standard." There is no known notice of a weight so called, as far as my reading goes, nor is it necessary to drag in the "Hittites," concerning whose weights we know nothing. It appears that in the Greek town of Naucratis the same standard of weight was used, that was common to Assyrians, Phœnicians, and Hebrews.

### III.

#### THE LACHISH INSCRIPTION.<sup>1</sup>

THIS may, I think, very clearly be read לַהֲנוּךְ, and the forms of the letters resemble those in use about 700 B.C., as shown opposite, the second column being from certain gems of that date.



The translation is in this case very clear. In Aramaic we find the root הֲנֵא, "profit," "health," "wholesomeness," and in Arabic, حَنَا has the same meaning. When a guest drinks water at dinner, his host says *Henean*, as I well remember, and as Lane remarks ("Modern Egyptians," I, p. 183), the meaning of which is, "may it profit you," or "may you digest." Here we find, on the old water pot made about 700 B.C., the same wish expressed, "to your digestion," or "health," but it is remarkable that I cannot find the root in Hebrew, but in Buxtooff's Chaldee Dictionary. This indicates an Aramaic rather than a Hebrew population in Lachish, and we must remember that in 700 B.C. the first transportation of Aramaic tribes into Palestine took place, with the fall of Samaria.

<sup>1</sup> *Quarterly Statement* p. 230, 1890.

## IV.

## THE LACHISH PILLAR.

AFTER inspecting the cast of this pillar it becomes more possible to obtain some idea of its date. The dressing is compared by Mr. Petrie to that of the masonry of Herod's Temple. Professor Hayter Lewis has noticed the same dressing on Carthaginian monuments, which are equally of late date, and it has recently been pointed out that the Greek sculptors used the same sort of tool, in finishing the less polished parts of their statues. As far, therefore, as the dressing is an indication, the pillar should belong to the Greek period in Palestine.

Mr. Petrie also compares this pillar to that found by Sir C. Warren west of Herod's Temple enclosure. The site where it was found is that where the Jews of the second century B.C. erected the Nystus, in imitation of Greek custom. The general style of the Palace of Hyrcanus, built in the same century east of Jordan, agrees also with this attribution.

Capitals have also been found in Cyprus, at Athieno, which present a close resemblance, in general idea, to that discovered by Mr. Petrie; and this Cypriote style is accompanied, in at least one instance, by a text in Greek language and character.

These various considerations lead me to suppose that the Lachish capital is not older than 300 B.C., and belongs to the time when a rude art grew up in Syria and in Cyprus, based on Greek influence—an influence which was so strong as to lead to the revolt of Judas Maccabæus in whose time Greek manners, architecture, and even Greek rites, were adopted by the Jews. The text on the pot and the capital together, seem to indicate that at Lachish we have to deal with ruins extending from 700 to 200 B.C., and perhaps later. When the site is more fully explored we may discover yet older remains; but alphabetic texts older than about 1,000 B.C. are hardly to be expected.

## V.

## QUOTATIONS OF PSALMS.

IN reply to the question asked in the last *Quarterly Statement*, it may be noted that quotations from Psalms were very commonly placed on the walls of houses in Palestine in the fifth and sixth centuries B.C. Many are known in the Hauran and in Northern Syria. I discovered one in Southern Palestine. They are many centuries older than the earliest known MS. of the LXX. (see "Scottish Review," July, 1890).

## VI.

## THE KHABIRI OR ABIRI.

PROFESSOR SAYCE informs me that German scholars were inclined at first to suppose that the Khabiri or Abiri were Hebrews, but abandoned the idea because the sign in Assyrian does not represent 'a, but only the letters which in Arabic are ح and ع.

This objection does not, however, seem to be a strong one. As mentioned before, the name of Gaza 𐤆𐤀𐤁 is spelt *Khazati* in the same letter. The distinction of ح and ع is not found in the early Semetic alphabets, both letters being represented by the same sign 𐤆, although the same alphabets carefully distinguish א from א and ש, as also ק from ב, and ו from ת. We do not, perhaps, know the exact sound of the Hebrew name, which the Greeks rendered by 'Εβραίος; but we know it was written with the letter 𐤆, whatever may have been the exact sound given to that letter, and that it was therefore written with the same letter used in the name of Gaza.

In this connection it is to be observed that the Fellahin still confuse, in their dialect, the gutturals ح ع and ع; and it is very remarkable that the Phœnicians should not distinguish the ح and ع, even as late as 200 B.C.

It appears, therefore, that the objection is hypercritical, especially in dealing with a period as early as 1450 B.C. It has been suggested that the *Khabiri* were "Hittite" allied tribes, but this would conflict both with Biblical and also with monumental history. There were Hittites in Hebron in Abraham's time, according to Genesis; but their power was much shaken by Thothmes III in 1600 B.C., and in 1350 B.C. we only read of them in the north of Syria, where also they appear in the Tell Amarna texts. The conditions which prevailed in Palestine in 2000 B.C., did not, apparently, prevail 500 years later, after the first Egyptian conquest.

## VII.

## THE SCULPTURED TOMB AT SIEFA 'AMR.

THIS tomb I measured in 1875. A view of the façade is given in "Tent Work" (Frontispiece, Vol. II), and an account in the "Memoirs" (I p. 340), where, however, I have only ventured to give those letters of the inscription which appear clearest. Herr Schumacher gives an imperfect sketch of the same (*Quarterly Statement*, October, 1889, p. 189), but does not mention the inscription. In the "Memoirs" it is described as a Christian tomb.

I think there is little doubt that Mr. J. P. Van Kasteren ("Geboorteplaats der Boanerges," Amsterdam, 1890), has correctly restored the text which agrees with my MS. copy, and is as follows:—

ΚΕΧΡΕΒ  
ΟΗΘΙΚΑΛ

LEFT OF DOOR.

... ΕΛΕ  
ΗΧΟΝ ΜΕ  
(ΚΑΙ) ΤΕΚΝ(ΟΝ)

RIGHT OF DOOR.

Κ(υρι)ε Χρ(ιστ)ε βοηθ(ε)ι Σαλ . . . Ελεησον με (και) τεκνον.

"Lord Christ, help Sal. . . . Have mercy on me and on my offspring."

This agrees with the ascription of the tomb to Christian times, being the family tomb of a certain Sal. . . (Saleh or Salmon), whose name is evidently that of a native of Palestine.

## VIII.

### NOTES ON THE "QUARTERLY STATEMENT."

P. 220. *Amarin*.—Mr. Flinders Petrie connects this name (as did Professor Palmer) with the Amorites. But it is written with the Guttural  $\epsilon$  while the Hebrew word is written with  $\aleph$ . It only means, apparently, "Omar's tribe."

P. 221. *Modern Pottery*.—The fact (mentioned in the "Memoirs") of the black pottery being still made at Gaza shows—as do many others—how difficult it is to date pottery, as the old methods continue to survive even now.

P. 232. *Horns of the Altar*.—The account given by Maimonides should not be ignored. It does not agree with the new theory.

P. 242.—There seems no reason for regarding the Beit el Khulil masonry as Pre-Herodian. I have inspected the dressing several times, and it is much the same used by the Romans, 2nd to 6th century, A.D. The place, as described in the "Memoirs," was a market-place in the Christian age. The seats are still visible, and the remains of a chapel. This agrees with the date of the inscription, which I sought in vain, and which Mr. Flinders Petrie has at length found and attributed to 3rd century, A.D.

P. 245.—The tinkers whom he saw near Jaffa were no doubt gypsies. The Palestine gypsies are mentioned in "Tent Work in Palestine."

P. 332.—The reason why the Malula words resemble Hindi is clear. Hindi is a very mixed language, and contains a number of Arabic and Aramaic words which came into it through the Persian. Persian itself

is full of such words, as is also modern Turkish. But every word compared is a true Semitic word, and it would be vain to attempt to build a theory on this basis as to Hindi, which is a degraded mixture of several languages on an Aryan basis. The sounds of the Malula vowels are probably indefinite, like those of Fellah dialects, and to apply to them the rules of book Arabic would be hypercritical.

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## NOTES BY DR. SELAH MERRILL.

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### PITS IN THE SHITTIM PLAIN.

As public attention has recently been called anew to these singular remains, I will quote my original description of them from the "Fourth Statement of the Palestine Exploration Society," 1877, pp. 97-99 (*see also* "East of the Jordan," pp. 225-227).

"About one hour north of Wady Nimrin, there is a series of pits running in a straight line across the plain from east to west. This series meets another running from north-east to south-west, the line of which is not exactly straight. The pit where these two lines intersect is larger than any of the others. At the extreme eastern end of the longest line, and just behind the end pit, there is a single pit which is very curious on account of its position. Each pit is 30 feet in diameter and perfectly round; while at present the depth of the pits varies from 3 to 6 feet. The distance from one pit to another is in general about equal to the diameter, although in exceptional cases it is increased to 50 or 60 feet. There are 31 pits in the longest line, and 20 in the other. The line probably extended somewhat further towards the Jordan, but the pits in that direction have been obliterated in some way. . . . Further south, and near what is now the bank of Wady Nimrin, there are the remains of another series of pits of which I counted about a dozen."

In the *Quarterly Statement* for April, 1890, p. 130, Mr. Neil describes these pits "as three rows of basin-like circular mounds, about 5 or 6 feet high and some 30 feet in diameter. . . . In the longest row there are no less than 31 of these hollow basins. They are generally 30 feet apart, but in some instances 50 to 60 feet."

I have read Mr. Neil's "Palestine Re-peopled" and "Palestine Explored," the only works of his accessible to me, and I find no mention

of these pits. He states that he "was on a journey to the highlands of Moab in 1873," and to have visited these pits must have gone far out of his way. It is remarkable that he should have carried in his memory for seventeen years details of these pits, which tally almost word for word with my own measurements.

Mr. Neil says, that within the edge or rim "the actual pits themselves once yawned deep and wide." Can this be true? If the basins are 4 feet in depth (for an average) and the edge is still perfect, where did the material come from that has filled them, for a considerable amount of earth would be required? Dust, rain, and the winter grass are the only means by which the pits could have been filled. Had the edges of the pits been washed for the required filling material, they would not be perfect in shape as they now are. Again, had there been piles of earth about the pits and this earth been washed in, the rims would not be in perfect shape. No, friend Niel, these pits never "yawned deep and wide." I doubt if they were ever much deeper than they are at present.

Were they used for irrigation, or were they connected in anyway with a water supply? This I doubt. They are 30 feet apart; while those on the Damascus Plain are said to be (p. 131) "50 or 60 yards apart." Moreover, they are close to Wady Nimrin, a large living stream. Canals to-day carry water south of the stream, and were water ever wanted north of it why would it not be carried thither in the same way? The cost of leading water by means of canals from this stream to the region where the pits are found, would be trifling compared with that of digging a large number of pits that "yawned deep and wide," to say nothing of the underground connecting tunnels.

At the time of my examination, my impression was that these pits were used for military purposes, and since then I have learned that similar pits are sometimes used in such a way.

#### CASTLE AND ROCK-CUT CHANNEL AT KHAN MINIEH.

On p. 178, *Quarterly Statement*, July, 1890, Mr. Brass speaks of "exploring" near the Sea of Galilee, and the inference is that what he mentions immediately, *i.e.*, "the remains of a fortification," is a *new discovery*. But these remains have been familiar to Palestinian scholars for many years past, for upwards of thirty years at least.

#### VISITS TO M'SHITA.

The reference by Mr. Hill, on p. 174, is probably to the exploration of the Dead Sea by Lieutenant Lynch. As a matter of history, I will state that we visited M'Shita twice (1875, 1876), and both times under the

escort of the Adwan. On the first of these visits we took several fine photographs, and on the second I brought away specimens of bricks, of which I noticed three different sizes.

#### WAS CHOSROES II EVER IN PALESTINE?

Many English writers refer to Chosroes (meaning Chosroes II) in such a way as to lead one to think that he was in Palestine. Such references are not of infrequent occurrence, and there are two in the *July Quarterly Statement*, pp. 173, 179. I shall be grateful to anyone who will indicate the work which contains the evidence that Chosroes II was ever in the Holy Land. My impression has been that he was never in that country, and that the Persian army was there but a very few years. To me it is very doubtful if Chosroes II, Shahr Barz, his greatest General, or any other Persian of that period had anything to do with the building of the M'Shita Palace.

#### NATURAL BRIDGE, HOT SPRING, AND ROMAN ROAD AT PELLA.

On p. 182, Conder states that "the Hot Bath of Pella" mentioned in the Jerusalem Talmud, "is evidently the springs at Tell Hamma." It is not clear what place he means by "Tell Hamma." Tell el Hammam is on the Shittim Plain. El Hamma is the name of the hot springs at Gadara on the Menadireh (Yarmuk). Thirty-five minutes from Tubakhat Fah'l (Pella) I discovered a fine natural bridge, and beside it a hot spring. This is on Wady Hammet Abu Dhableh, and is the spring to which I suppose reference to be made in the Jerusalem Talmud. In "East of the Jordan" (Bentleys, London), p. 183, *et seq.*, will be found a sketch of both the bridge and hot spring.

The Roman road leading from Pella to Gerasa past Jabesh Gilead, I traced and made a sketch of the ground.

#### INHABITANTS OF BASHAN.

On p. 188, Conder says that the inscriptions from the Hauran, "show that as late as the time of Agrippa I the inhabitants of Bashan were living in underground caves, and had not begun to build houses." This statement, nearly identical with that of Waddington, Inscriptions No. 2,329, appears to me to rest on a very slight basis. Of this Inscription (No. 2,322), De Vogüé has given a translation found in his Essay on the Hauran in the "Recovery of Jerusalem," p. 324. I will reproduce this translation, placing in brackets the parts which he has supplied:—

"[King Ag]rippa, friend of Cæsar, [and friend of the Ro]mans, says . . . of a life like that of wild beasts. . . I am ignorant how, up to the present time, [in many] parts of the [coun]try dwelling in caves . . . nor altogether."



In my judgment there is nothing here on which to base any statement respecting the inhabitants of that country, and I would not be so rash as to attempt to read history into these fragments of sentences. To me it is much more likely that the inscription refers to robbers. It is well known that Bashan has had its full share of periods of prosperity. Fourteen and a half centuries B.C. a single section of this country had "threescore cities, all of which were fenced with high walls, gates, and bars; besides unwall'd towns a great many" (Deut. iii, 4, 5). Eight and a half centuries B.C., Shalmanezar II invaded Bashan and "pulled down their houses without number." Would a great Assyrian King with a powerful army have gone into this region to hunt out people who lived in caves? We have also the Nabathean and the Roman periods. My view has been that the Bashan country has from the remotest times been occupied by strong and wealthy people, that the building material was always of stone, and that in the case of Shalmanezar II *pulling down houses* implied *stone houses*. The statement quoted from Conder I regard as without historical foundation, and furthermore, as actually contrary to history.

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## PHENICIANS IN DEVONSHIRE.

By H. B. S. W.

THE occurrence in various parts of Palestine of clusters of Dolmens, or Cromlechs, and the survival of a few examples of these erections in Devon and Cornwall, leads to the enquiry as to the identity of the race by which these stones were erected in such far distant places.

There has recently, however, been published in the "Western Morning News" an article entitled "Phenicians in Dart Vale," a copy of which I append, which, as it appeals to the experience of the Palestine Exploration Committee, should, I think, be laid before readers of the *Quarterly Statement*.

I should certainly like to know whether such scholars as Professor Sayce, Dr. Ginsburg, Herr Khitrovo, Major Conder, &c., have really accepted the statements respecting the Ballhatchet of Ipplepen?

That the name is not confined to that locality I am quite certain; there is now, and has been for many years past, a family of that name resident in Plymouth.

What connection there may have been with those residing in the neighbourhood of the Dart in former times of course I do not know, but I never heard of the Plymouth family being noticeable for any peculiarity of their physiognomy:—

## "PHŒNICIANS IN DART VALE.

" (SPECIAL).

" Much interest, not only local but world-wide, was aroused a few months back by the announcement of a Phœnician survival at Ipplepen, in the person of Mr. Thomas Ballhatchet, descendant of the priest of the Sun Temple there, and until lately owner of the plot of land called Baal ford, under Baal Tor, a priestly patrimony, which had come down to him through some 18 or 20 centuries, together with his name, and *his marked Levantine features* and characteristics.

" Such survivals are not infrequent among Orientals, as, for instance, the Cohens, Aaron's family, the Bengal Brahmins, the Rechabites, &c. Ballhatchet's sole peculiarity is his holding on to the land, in which, however, he is kept in countenance in England by the Purkises, who drew the body of Rufus to its grave in Winchester Cathedral on 2nd August, 1,100 and the Chertsey Wapshots, who had held their land, father to son, from the days of King Alfred, both families existing until within 40 years. *Widely spread as was the announcement, no Semitic scholar, of whatever rank, either challenged or contradicted it.* Many, indeed, accepted it frankly, while others considered it as 'fairly tenable.'

" Further quiet research makes it clear beyond all manner of doubt that the Phœnician tin colony, domiciled at Totnes, and whose sun temple was located on their eastern sky-line at Ipplepen, have left extensive traces of their presence all the way down the Dart in the identical and unaltered names of places, a test of which the *Palestine Exploration Committee* record the priceless value. To give but one instance :—The beautiful light-refracting diadem which makes Belliver the most striking of all her sister tors, received from the Semite its consecration as 'Baal-livyah,' Baal, crown of beauty or glory. The word itself occurs in Proverbs 1-9 and 4-9, and as both Septuagint and Vulgate so render it, it must have borne that meaning in the third century B.C. and in the third century A.D., and, of course, in the interval. There are many other instances quite as close, and any student of the new and fascinating science of Assyriology will continually add to them. A portrait of Ballhatchet, with some notes by an eminent and well-known Semitic scholar, may probably appear in the 'Graphic'; in the meantime it may be pointed out that his name is typically Babylonian. Not only is there at Pantellaria the gravestone of one Baal-yachi (Baal's beloved), but no less than three clay tablets from the Sun Temple of Sippara (the Bible Sepharvaim) bear the names of Baal-achi-iddin, Baal-achi-utsur, and Baal-achi-irriba. This last, which bears date 22 Sivan (in the 11th year of Nabonidus, B.C. 540), just two years before the catastrophe which followed on Belshazzar's feast, is in the possession of Mr. W. G. Thorpe, F.S.A. It is in beautiful condition, and records a loan by one Dinkiya to Baal-achi-irriba (Baal will protect his brother), on the security of some slaves."

## ACOUSTICS AT MOUNTS EBAL AND GERIZIM.

From WM. C. WINSLOW, D.D., LL.D., D.C.L., Vice-President for the United States of the Egypt Exploration Fund.

THE recent cablegram to a Boston (U.S.A.), daily journal of "A Singular Experiment" that a party at Mounts Gerizim and Ebal in Palestine had successfully tested the ability to hear the blessings and curses proclaimed at that spot or site (*see* Deut. xxvii, and Josh. viii), is interesting as another bit of essential confirmation of the narratives of the Pentateuch and other biblical history; but the experiment is not a "singular" one, having been previously made, I am certain, and at all events by myself, in 1880, while engaged in scientific and archaeological work in the Holy Land. On a perfectly clear and windless day in spring (like our late May) I stationed two persons on Mount Ebal, myself and an attendant on Mount Gerizim, and several persons in the valley between the mountains. We who read were some 700 feet above our little audience. We had arranged visual signals to indicate when one party was to begin and end in reading, lest the other party should not know when to "take up the tale," or even the audience when to say the amens. But no signal was needed. Not only did the audience hear our words distinctly and we their amens, but each speaker heard the words of the other speaker shot across a distance of nearly half a mile. We pronounced the blessings and the curses with Websterian deliberation, on, however, a high key, and not with a Phillips Brooks-like rapidity of utterance.

In all probability Joshua delivered the sentences midway between the two mountains, and the Levites re-echoed them for some distance up and down the valley, so that from the mountain sides on either hand the million or two of hearers intelligently replied with their amens. Jotham, we remember, used Gerizim as a pulpit from which to speak his parable to the Shechemites. With the hills for a sounding-board the spot is wonderfully acoustic. The sense of hearing in Joshua's day was particularly acute, as the Israelites were accustomed to listen to out-door services and sermons. Nor does the record state literally that every man, woman, and child heard the words, but that Joshua read the words before them.

Boston, *November 2*, 1890.

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## GIHON.

By REV. W. F. BIRCH.

DR. CHAPLIN'S two papers in *Quarterly Statement*, 1890 (pp. 124, 331) touch on five points that require notice.

1. He is inclined to attribute "the short side tunnel and Warren's shaft" (i.e. my gutter) to Hezekiah, and refers 2 Chron. xxxii, 30, to this work.

2. While he is disposed to attribute the Siloam tunnel also to Hezekiah, he objects to its having been made "in haste."

3. He would derive the name Gihon from the word "*gahan*, to bow down," implying the crouching or grovelling position of one passing through the low passage of the Siloam tunnel.

4. He takes the mention of Gihon in 1 Kings i, 33-45, to be a prolepsis such as is repeatedly met with in the Old Testament.

I am always glad to see objections urged against my "gutter and Araunah" theory, though love for the truth brings me the trouble of exposing their hollowness.

1. Dr. Chaplin's first point, if true, would entirely sweep away my theory, for if Hezekiah made my so-called gutter, Joab could not have got up through it 300 years previously. Captain Warren (1885-64) considered that the short tunnel was *older* than that to Siloam; while Dr. Chaplin practically admits in (1) that the hill (Ophel) above Gihon (Virgin's Fount) was the site of the city of David. Now we have been repeatedly assured (1885, 107; 1887, 106) that this Ophel site is naturally so weak that it never could have been occupied by the stronghold of Zion. Yet the hard fact remains (as I have often shown) that it was actually so occupied. Accordingly, once again I ask, without any expectation of an answer, "What in the world ever led the Jebusites to make their fortress on Ophel, but the insuperable fact that by means of the gutter they would have an inexhaustible supply of water"? This obviously was the only secret of their 400 years' successful resistance, without chariots, and in the mountains. More fortunate than Zion, my theory need not fear any treacherous Araunah.

2. The fact that the tunnel was made from both ends at once, and the unfinished state at the point of junction seems to me to show that it was made "in haste," though I do not say in a short time.

Major Conder (1882, 128) says: "The two narrowest parts of the tunnel occur, one on either side of the point of junction. In fact, the excavators must be accused of scamping their work with the object of showing a greater total length than their rivals, and for this purpose they reduced the size of the excavation to a minimum in which it seems almost impossible that a man could have worked."

Of course it is possible that the excavators at the head of the tunnel

all along made it of the least width practicable, and that it was widened by others working in the rear. The above, however, is evidence enough of "haste."

3. Let it be assumed that Gihon is derived from *gahan*. Then, until the depth of the silt at the lowest parts of the Siloam tunnel has been ascertained, there is nothing to show that "bowing down" was originally more required in the Siloam tunnel than in "my gutter." As, therefore, the latter existed in David's time, so equally might the name of Gihon; and a prolepsis would be utterly unnecessary.

4. But let it be further assumed that no "bowing down" was required in my westward gutter, although Sir C. Warren stated (letters 25) that in clearing out the passage the men seldom had "much more than their heads above water." then I must expose the error in (4) above.

I stated (1890, 200) that "it would be *most unsatisfactory* to have to take 1 Kings i, 33, 45, as speaking proleptically, when Gihon is named by David and Jonathan." In reply to Dr. Chaplin (p. 331) let me point out that his examples (Bethel and Ebenezer) do not meet the case. Gihon is mentioned thrice in 1 Kings i. Now, if I had quoted v. 38, where *the historian* simply records an action, these examples would clearly have proved that I was wrong; for it is certain that the Bible narrative often anticipates the name by which places were called, *e.g.*, Dan is mentioned in Gen. and Deut., before Israel crossed the Jordan, though the name was given after the crossing (Josh. xix, 47).

Accordingly, I did not refer to v. 38, but cited only 33, 45, where *David* and *Jonathan* speak, and not the historian. This alters the whole case. I shall be obliged to any one who will produce satisfactory instances from the Old Testament in which *old* speakers are really made to speak in *new* terms. The Bible contains many explanatory additions, but I cannot find an instance (that will bear investigation) of the *substitution* of one word for another, such as would support Dr. Chaplin's (331) treatment of Gihon as *proleptical*.

The following, no doubt, satisfy some, but not me :—

(a) Gen. xl, 15. "I was stolen away out of the land of the Hebrews." A writer in the *Guardian*, p. 721, asks: "How could Joseph be made to speak of *the land of the Hebrews* by any author before that settlement?" Patrick explained the difficulty 200 years ago. The patriarchs, though living in tents, overcame kings, made treaties, dug wells, and gained fame. Nomads still give their names to the districts they frequent, and did so of old. The land of the Hebrews meant the land frequented by Abraham, Isaac, and Jacob.

(b) 1 Kings xiii, 32. "The saying shall surely come to pass against all the houses of *the high places which are in Samaria*." These are *apparently* the words of the old prophet uttered years before Samaria was built. This, I admit, *seems* a strong instance, and the *Bible Comment.* observes: "The writer of Kings has substituted for the term used by him that whereby the country was known in his own day."

It seems vain for me to object to this explanation without producing a better. The reader, after noting that in v. 2 the expression is simply "high places," may suspend judgment until a third instance has been examined.

(c) Judg. xxi, 19, R.V. "A feast of the Lord from year to year in Shiloh, which is on the north of Bethel, on the east side of the highway that goeth up from Bethel to Shechem and on the south of Lebonah." These, again, are *apparently* the words of the elders to the Benjamites. Now, the land of Benjamin reached to within ten miles of Shiloh. It would, therefore, be superfluous to describe so minutely to the latter the position of Shiloh. The difficulty is met in the A. V. by the insertion of the words *in a place* before *which*. This, however, is inadmissible. Obviously the details about the position of Shiloh are an *explanatory addition* appended when the glory of Shiloh was over and its very site in danger of being forgotten. The words, "which is on," &c., were *not* spoken by the elders, and similarly in (b) the words, "which are in Samaria," are a later explanatory addition, and were *not* actually spoken by the old prophet at all, so that (b) is *not* an instance of substitution. If any critic, by producing sound instances, can drive me from this position, let him do so. I shall cheerfully retire on the one point in question—"that it is *most unsatisfactory* to have to take 1 Kings i, 33, 45 as speaking proleptically when Gihon is named by David and Jonathan." I state this deliberately, because, curiously enough, in 41, 45, Joab and Jonathan apply to Jerusalem (or rather, I believe, to a particular part of it, *i.e.*, the city of David) the "almost solely poetical" term *Kiriah*, whilst this term is never elsewhere in the historical books so applied, except by the Samaritans and in the Persian decree in Ezra iv.

In Ps. xlvi, 2, *Kiriah* is used of the *city* of the great King, *i.e.*, the city of David (1888, 44), and in Is. xxix, 1, of "Ariel, the *city* where David encamped."

If, therefore, the prose writer has substituted Gihon for the actual name used by David and Jonathan, why has he not also substituted the ordinary word *Ir* or *Ar* (city) for the unusual word *Kiriah* used by Joab and Jonathan in the same passage?

Probably this question needs no answer, since it seems to me most likely that the short tunnel is quite as low as the Siloam one, and, therefore, on the assumption that Gihon came from *gahan*, the name may have been in use in David's time quite as easily as in Hezekiah's.

November 6th, 1890.

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## NOTES BY MRS. FINN, M.R.A.S.

## I.

## THE DEAD SEA VISIBLE FROM JERUSALEM.

DURING the last four years of our residence in Jerusalem we lived in the Consulate house, at the north-west corner of Jerusalem, at the highest point by the "Goliath Tower," El Jalúd. From the upper windows we had a fine view of the Dead Sea, backed by the Moab Mountains, on the west of which the walls and towers of Kerek were distinctly visible. In certain lights the sky was reflected from the Dead Sea, as from a looking glass. At other times the reflection of the Moab cliffs in the water was so perfect that it was difficult to make out the water. Josephus probably refers to the Dead Sea as visible from Psephinus—at this same north-west side of Jerusalem. I also have seen the Dead Sea from the roof of Christ Church.

## II.

## ARAUNAH THE JEBUSITE.

THE quotation from 2 Sam. xxiv, 23, on p. 198 of the July *Quarterly* should read—"All these did Araunah *the* king המלך (not *a* king) give unto the king." Araunah was "the king."

The word "Tyropean" on the same and other pages should, of course, be Tyropæon.

## ON THE SITE OF THE HOLY SEPULCHRE.

By HENRY GILLMAN, Esq, U.S. Consul, Jerusalem.

I HAVE seen, from time to time, lately, statements to the effect that all recent discoveries have tended to establish the accuracy of the traditional site of the Holy Sepulchre. Nothing can be more contrary to the truth. The recently discovered Roman pavements, in connection with those uncovered two years ago or more, establish the position of Damascus gate as occupying an ancient site; and the discoveries in general all point to outside the gate as the place of crucifixion.

## STONE MASK FROM ER-RAM.

DR. CHAPLIN'S stone mask from Er-Râm is curious. I have seen several of somewhat similar make, but of pottery, found near Um-rit, in Northern Syria, one, I think, representing a bearded head, is in the Ashmolean Museum at Oxford. I have been disposed to regard these objects as Græco-Phœnician, and as being, perhaps, of votive character.

GREVILLE J. CHESTER.

## BIBLIOTHECA GEOGRAPHICA PALÆSTINÆ.

By PROFESSOR DR. REINHOLD RÖHRICHT. 1890.

EVERY student of the geography of Palestine must feel grateful to Prof. Röhricht for undertaking the very laborious task of compiling a bibliography and cartography of Palestine; and to the Berlin Geographical Society and Russian Palestine Society for enabling him to publish the result of his labours.

The Bibliography contains a reference to all works of any value on the geography and topography of Palestine from the fourth century to the present day; and to important articles in periodicals on the same subject. There are no less than 3,515 entries, representing as many different travellers or authors; and the catalogue of the MSS., translations, and printed editions of their works, and of the articles connected with them, occupies 597 closely printed pages.

It is interesting to notice the extraordinary growth of Palestine literature during the present century, and especially since Dr. Robinson first commenced a systematic examination of the geography of the Holy Land. Thus, for the 16th century there are 321 entries; for the 17th, 401; for the 18th, 318; for the 19th, 1,920, of which 1,629 are later than Dr. Robinson's first visit to Palestine in 1838.

The system adopted by Prof. Röhricht is to give in each case (1) a reference to all known MSS. of the work; (2) the titles of all printed editions; (3) a reference to translations; and (4) references to articles in magazines and newspapers which relate to the author or his subject.

The Bibliography has been prepared with great care; but, as is only natural in a work of such magnitude, there are many typographical errors. These are more numerous in the English references than in those in other languages, and it is much to be regretted that Prof. Röhricht did not get some Englishman acquainted with Palestine literature to revise



his proofs. These are, however, minor blemishes, and do not detract from the great value of the work as a whole.

The *Cartography* is the first real attempt that has been made to prepare a list of the maps and plans of Palestine, and, as such, though it is far from complete, it is of great interest and value.

Prof. Röhrich's book is not one for the general reader, but every one who wishes to study the geography and topography of the Holy Land, and to consult the original authorities, will find it invaluable as a work of reference.

It is very important that the bibliography of Palestine should be kept up to date. Articles of great interest appear from time to time in the monthly magazines, in the "Athenæum," in the "Academy," and in the daily papers, which, after the lapse of a few years, become difficult to trace when reference is necessary or desirable. I hope that, in future, it may be found possible to devote a page of each *Quarterly Statement* to the Palestine literature of the preceding Quarter. This should give the full titles of all published works, and references to all articles, published correspondence, &c., that have appeared in magazines or newspapers. The labour would not be great if subscribers sent a note of articles they have seen to the Secretary once a quarter. This Quarterly Bibliography would in time become extremely valuable, and it would greatly help Prof. Röhrich should he ever bring out a second edition of his great work.

C. W. W.



THE  
PALESTINE EXPLORATION FUND.

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NOTES AND NEWS.

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The Fund has sustained a great loss in the death of the late Archbishop of York. His Grace always took keen personal interest in the conduct of the Society, and for twenty-four years had been its President. His knowledge of Palestine subjects was extensive, as shown in his articles in Smith's "Dictionary of the Bible," and in the work which he edited, called "Aids to Faith." During the years 1869 and 1870 he attended the meetings of the Committee, and advised upon important matters in the beginning of the Society's operations in the Holy Land.

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The Archbishop of Canterbury has kindly consented to become the new President of the Fund. His Grace has written the following letter to the Chairman :—

“LAMBETH PALACE, S.E.

“My dear Sir,—I am greatly honoured by the request of yourself and the Committee that I should accept the Presidency of the Palestine Exploration Fund.

“It gives me very much pleasure to accept the position. I have always felt the greatest interest in the work of the Society, which has, with a steady progress, become so extensive and has so deepened our intelligence of the Bible History.

“I thank you much for the monograph on Lachish.

“Very truly yours,

“ (Signed) E. W. CANTUAR.

“JAMES GLAISHER, ESQ.”

We regret to announce the death of the Rev. Henry Geary, Vicar of St. Thomas's, Portman Square, who was for more than twenty years one of the lecturers for the Fund. Mr. Walter Besant writes respecting him:—

“I have known Henry Geary for many years, ever since we were students together in the same year at King's College, London. He was the classical scholar, I believe, of his year. He went to Cambridge the year after me, and I saw him little, but still occasionally, and always with the old *camaraderie* that exists between fellow-students.

“He was always intended for Holy Orders, and he always, from the first, concentrated his whole work and attention upon such branches as would prove most useful in after life. For instance, he saw that Greek and Latin would be more useful to him as a clergyman than science, and he chose Greek and Latin. Also, he very early understood what many, or most, clergymen fail to understand, that he who has the gift of speech and cultivates it, doubles and trebles his powers of usefulness as a clergyman. Therefore, with the object of developing his own gift of speech, which was very considerable, he spoke often at the Debating Society of King's and at the University, Cambridge.

“He began his life's work, I believe, at St. James' Piccadilly. From that church he went to Herne Bay, where he held a living for many years, being transferred about ten years ago to the church of Portman Square. Perhaps, had he lived, further advancement would have been given to him.

“His connection with the Fund sprung entirely out of his interest in the work. For some years he lectured a great deal for the Society, and he never ceased his interest in the work and his belief in the great importance of its results and discoveries. The Society has lost in Geary a true and tried friend.

“W.B.”

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The premises at 1, Adam Street, being now too small for the purposes of the Fund, the Committee, after long and careful enquiry and consideration, have taken rooms at 24, Hanover Square, W., which will afford space not only for the ordinary work of the office, but also for the exhibition of the most interesting of the objects which have been collected from time to time by the officers of the Fund.

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After spending a month in Egypt with Mr. Petrie, Mr. F. G. Bliss proceeded to Jaffa and Jerusalem, where he has been engaged in making preparations for the exploration work at Tell el Hesi. Mr. Petrie has advised that the first month should be spent in working over the low west town, which is Amorite, and must be explored and turned over before the hill is touched, so that earth can be then thrown down upon it from the hill. Mr. Bliss has arranged with the Governor of Jerusalem for the services of the Effendi who was with Mr. Petrie last year. The weather has been very severe, and this caused some delay. A Russian ship has been driven ashore at Jaffa, but all the passengers and crew, except two or three, were saved. Mr. Bliss is now at Tell el Hesi. His first reports will be found in the present number.

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We have received from the Foreign Office a copy of a letter from Mr. W. H. Kayat, reporting that, owing to his endeavours, the Siloam Inscription has been

recovered and handed over to the Turkish authorities. The Greek, in whose possession it was found (see *Quarterly Statement*, January, 1891, page 2) stated that he bought it for thirty-five napoleons, from a Fellah, whose name he could not remember. Unfortunately, the stone bearing the Inscription has been broken in removal.

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Mr. Henry Gillman, of Jerusalem, writes :—

“You will be interested in knowing that both the Siloam Inscriptions<sup>1</sup> have been recovered, and are now in the possession of the local Turkish authorities. I saw them recently in the *salon* of the Governor of Jerusalem in the wooden case in which they are to be shipped to the Museum at Constantinople, by order of the Government.”

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In examining the interior of the vaults known as “Solomon’s Stables,” in the Haram Area at Jerusalem, which have been partially cleared out by the Moslems, Mr. G. R. Lees has discovered the spring of an ancient arch similar to “Robinson’s Arch.” It is situated about 57 feet from the inside of the southern wall and about 175 feet from the inside of the eastern wall of the enclosure. Close to this spring of an arch a subterranean passage was found by the Rev. J. E. Hanauer running in a south-easterly direction. These discoveries having been reported by Mr. Lees and Mr. Hanauer to Herr Schick, he has made a plan and section showing them, which will be published in the next *Quarterly Statement*, together with a photograph by Mr. Lees, and an article on the subject by Thomas Wrightson, Esq., M.I.C.E.

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Mr. G. R. Lees reports that some tombs situated 350 yards north of the Damascus Gate having been opened, a number of *ossuaires* were discovered, some ornamented, some plain, and two bearing inscriptions. Squeezes of these inscriptions have reached us as we are going to press, but too late for reproduction in the present number.

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A Committee which has been formed to consider how Jerusalem may be provided with a plentiful supply of water, met on March 4th, at the house of Sir Edmund Lechmere, Bart., M.P. A subscription was opened for defrayment of preliminary expenses, and a Sub-Committee chosen for carrying out the object in view. An important feature of this movement [is that several leading members of the London Jewish Community have joined the Committee.

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Dr. Post’s second essay on “The Sects and Nationalities of Palestine,” is published in the present number. The first of this important series of papers appeared in the *Quarterly Statement* for April, 1890.

<sup>1</sup> One of these appears to be the forgery alluded to in the *Quarterly Statement* for January, 1891, page 3. A copy of it is in the office of the Fund.  
—[Ed.]

Mr. F. J. Bliss has furnished an elaborate paper on "The Maronites," which will shortly be published.

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Mr. W. H. Kayat, who was Acting British Consul at Jerusalem at the time Mr. Flinders Petrie was robbed (see *Quarterly Statement*, 1890, page 237) has written to say that he made a strong representation to the Governor of Jerusalem on the subject, and also communicated with the Kaimakam of Hebron, who caused three Sheikhs from Dawaimch to be imprisoned for six weeks, but with no result, so far as the detection of the robbers was concerned. The guide engaged by Mr. Petrie from Dawaimch was also imprisoned, but refused to disclose the names of the offenders. Mr. Petrie writes (from Egypt) that he has no doubt "Mr. Kayat acted with the best good will in his representations," and that the want of success "was not due to lack of action on his part."

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The returns of the meteorological observations made by Dr. Torrance at Tiberias during the past two years have been received. These will be of quite exceptional interest, owing to the position of that place, 682 feet below the level of the Mediterranean.

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Last year some meteorological instruments were entrusted by the Fund to Mr. Lethaby, the missionary of Kerak. Unfortunately the *maximum* and *minimum* thermometers having become damaged have been sent back to be repaired. The rain gauge and dry and wet bulb thermometers are, however, in working order, and in spite of all the difficulties of his position, Mr. Lethaby "hopes for success at last" in securing a reliable series of observations. Those who have read Mr. Gray Hill's recent experiences at Kerak will appreciate Mr. Lethaby's courage and determination.

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It may be well to mention that plans and photographs alluded to in the reports from Jerusalem and elsewhere cannot all be published, but all are preserved in the offices of the Fund, where they may be seen by subscribers.

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The first volume of the "Survey of Eastern Palestine," by Major Conder has been issued to subscribers. It is accompanied by a map of the portion of country surveyed, special plans, and upwards of 350 drawings of ruins, tombs, dolmens, stone circles, inscriptions, &c. The edition is limited to 500. The first 250 subscribers pay seven guineas for the three volumes; subscribers to the "Survey of Western Palestine" are privileged to have the volumes for this sum. The price will be raised, after 250 names are received, to twelve guineas. The Committee are pledged never to let any copies be subscribed under the sum of seven guineas. Mr. A. P. Watt, 2, Paternoster Square, is the Sole Agent. The attention of intending subscribers is directed to the announcement after Maps and before Contents of this number.

Mr. H. Chichester Hart's "Fauna and Flora of Sinai, Pétra, and the Wady 'Arabah" has been completed and sent out to subscribers.

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The following ladies and gentlemen have kindly consented to act as Honorary Local Secretaries :

Miss Mary Adelaide Lewis, The Deanery, Bangor.

Miss Garnons Williams, Abercamlais, Brecon.

Rev. Maurice Day, Killiney, Co. Dublin.

Rev. Arthur McCullagh, M.A., St. Hilda's Church, Hartlepool.

Benjamin Holgate, Esq., Regents House, Grosvenor Road, Headingley, Leeds,

Rev. J. Mitchell, 57, Parkgate Road, Chester.

Rev. E. Herbruck, Ph.D., Editor of the "Christian World," Dayton, Ohio.

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The Committee have to acknowledge with thanks the following donations to the Library of the Fund, viz. :—

"Les Antiquités Sémitiques," by M. Clermont-Ganneau, from the Author.

"De Bordeaux à Jerusalem," by Le Frère Meunier, from the Author.

Reports of the Smithsonian Institute, 1888.

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The Committee have added to their list of publications the new edition of the "History of Jerusalem," by Walter Besant and E. H. Palmer (Bentley & Son). It can be obtained by subscribers, carriage paid, for 5s. 6d., by application to the Head Office only. The "History of Jerusalem," which was originally published in 1871, and has long been completely out of print, covers a period and is compiled from materials not included in any other work, though some of the contents have been plundered by later works on the same subject. It begins with the siege by Titus and continues to the fourteenth century, including the Early Christian period, the Moslem invasion, the Mediæval pilgrims, the Mohammedan pilgrims, the Crusades, the Latin Kingdom, the victorious career of Saladin, the Crusade of Children, and many other little-known episodes in the history of the city and the country.

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The books now contained in the Society's publications comprise an amount of information on Palestine, and on the researches conducted in the country, which can be found in no other publications. It must never be forgotten that no single traveller, however well equipped by previous knowledge, can compete with a scientific body of explorers, instructed in the periods required, and provided with all the instruments necessary for carrying out their work. The books are the following (*the whole set can be obtained by application to Mr. George Armstrong, for £2, carriage paid to any part in the United Kingdom only*):—

By Major Conder, R.E.—

- (1) "Tent Work in Palestine."—A popular account of the Survey of Western Palestine, freely illustrated by drawings made by the author himself. This is not a dry record of the sepulchres, or a descriptive catalogue of ruins, springs, and valleys, but a continuous narrative full of observations upon the manners and customs of the people, the Biblical associations of the sites, the Holy City and its memories, and is based upon a six years' experience in the country itself. No other modern traveller has enjoyed the same advantages as Major Conder, or has used his opportunities to better purpose.
- (2) "Heth and Moab."—Under this title Major Conder provides a narrative, as bright and as full of interest as "Tent Work," of the expedition for the *Survey of Eastern Palestine*. How the party began by a flying visit to North Syria, in order to discover the Holy City—Kadesh—of the children of Heth; how they fared across the Jordan, and what discoveries they made there, will be found in this volume.
- (3) Major Conder's "Syrian Stone Lore."—This volume, the least known of Major Conder's works, is, perhaps, the most valuable. It attempts a task never before approached—the reconstruction of Palestine from its monuments. It shows what we should know of Syria if there were no Bible, and it illustrates the Bible from the monuments.
- (4) Major Conder's "Altaic Inscriptions."—This book is an attempt to read the Hittite Inscriptions. The author has seen no reason to change his views since the publication of the work.
- (5) Professor Hull's "Mount Seir."—This is a popular account of the Geological Expedition conducted by Professor Hull for the Committee of the Palestine Fund. The part which deals with the Valley of Arabah will be found entirely new and interesting.
- (6) Herr Schumacher's "Across the Jordan."
- (7) Herr Schumacher's "Jaulân."—These two books must be taken in continuation of Major Conder's works issued as instalments of the unpublished "Survey of Eastern Palestine." They are full of drawings, sketches, and plans, and contain many valuable remarks upon manners and customs.
- (8) "The Memoirs of Twenty-one Years' Work."—This work is a popular account of the researches conducted by the Society during the past twenty-one years of its existence. It will be found not only valuable in itself as an interesting work, but also as a book of reference, and especially useful in order to show what has been doing, and is still doing, by this Society.
- (9) Herr Schumacher's "Kh. Falil." The ancient Pella, the first retreat of the Christians; with map and illustrations.
- (10) Names and Places in the Old and New Testament and Apocrypha, with their modern identifications, with reference to Josephus, the Memoirs, and *Quarterly Statements*.



(11) Besant and Palmer's "History of Jerusalem," already described.

(12) Northern 'Ajlûn "Within the Decapolis," by Herr Schumacher.

To the above must now be added Mr. Henry A. Harper's "The Bible and Modern Discoveries," a cheap edition of which has recently been issued—price to the public, 7s. 6d.; to subscribers to the Fund, 5s. Mr. Guy le Strange's important work "Palestine under the Moslems," price to the public, 12s. 6d.; to subscribers to the Fund, 8s. 6d.; and Mr. Flinders Petrie's account of his excavations at Tell el Hesi (Lachish), price to the public 10s.; to subscribers to the Fund, 6s. 6d.

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The work of Mr. Guy le Strange on "Palestine under the Moslems" was published in April, 1890.

For a long time it had been desired by the Committee to present to the world some of the great hoards of information about Palestine which lie buried in the Arabic texts of the Moslem geographers and travellers of the Middle Ages. Some few of the works, or parts of the works, have been already translated into Latin, French, and German. Hardly anything has been done with them in English, and no attempt has ever been made to systematise, compare, and annotate them.

This has now been done for the Society by Mr. Guy le Strange. The work is divided into chapters on Syria, Palestine, Jerusalem, and Damascus, the provincial capitals and chief towns, and the legends related by the writers consulted. These writers begin with the ninth century and continue until the fifteenth. The volume contains maps and illustrations required for the elucidation of the text.

The Committee have great confidence that this work—so novel, so useful to students of mediæval history, and to all those interested in the continuous story of the Holy Land—will meet with the success which its learned author deserves. The price to subscribers to the Fund is 8s. 6d.; to the public, 12s. 6d.

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The new map of Palestine, so long in hand, is now ready. It embraces both sides of the Jordan, and extends from Baalbek in the north to Kadesh Barnea in the south. All the modern names are in black; over these are printed in red the Old Testament and Apocrypha names. The New Testament, Josephus, and Talmudic names are in blue, and the tribal possessions are tinted in colours, giving clearly all the identifications up to date. It is the most comprehensive map that has been published, and will be invaluable to universities, colleges, schools, &c.

It is published in 21 sheets, with paper cover; price to subscribers to the Fund, 24s., to the public, £2. It can be had mounted on cloth, rollers, and varnished for hanging. The size is 8 feet by 6 feet. The cost of mounting will be extra (*see Maps*).

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The third edition of Mr. Henry A. Harper's book, on "The Bible and Modern Discoveries," having been sold out, a new and cheap edition was

issued in February. The work is an endeavour to present in a simple but yet connected form the Biblical results of twenty-two years' work of the Palestine Exploration Fund. The writer has also availed himself of the discoveries made by the American Expeditions and the Egyptian Exploration Fund, as well as discoveries of interest made by independent travellers. The Bible story, from the call of Abraham to the Captivity, is taken, and details given of the light thrown by modern research on the sacred annals. Eastern customs and modes of thought are explained whenever the writer thought they illustrated the text. To the Clergy and Sunday School Teachers, as well as to all those who love the Bible, the writer hopes this work will prove useful. He is personally acquainted with the land, and nearly all the places spoken of he has visited, and most of them he has moreover sketched or painted. The work is illustrated with many plates, and a map showing the route of the Israelites and the sites of the principal places mentioned in the sacred narratives. It should be noted that the book is admirably adapted for the school or village library.

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Branch Associations of the Bible Society, all Sunday School unions within the Sunday School Institute, the Sunday School Union, and the Wesleyan Sunday School Institute, will please observe that by a special Resolution of the Committee they will henceforth be treated as subscribers and be allowed to purchase the books and maps (by application only to the Secretary) at reduced price.

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The income of the Society, from December 19th to March 21st, was—from annual subscriptions and donations, including Local Societies, £704 17s. 8d.; from all sources, £1,254 0s. 8d. The expenditure during the same period was £1,277 15s. 0d. On March 21st, the balance in the Bank was £754 4s. 2d.

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Subscribers are begged to note that the following can be had by application to the office, at 1s. each:—

1. Index to the *Quarterly Statement*, 1869–1880.
  2. Cases for Herr Schumacher's "Jaulân."
  3. Cases for the *Quarterly Statement*, in green or chocolate.
  4. Cases for "Abila," "Pella," and "'Ajlûn" in one volume.
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Early numbers of the *Quarterly Statement* are very rare. In order to make up complete sets, the Committee will be very glad to receive any of the following numbers:—

No. II, 1869; No. VII, 1870; No. III, 1871; January and April, 1872; January, 1883, and January, 1886.

It having again been reported to the Committee that certain book hawkers are representing themselves as agents of the Society, the Committee have to caution subscribers and the public that they have no book hawkers in their employ, and that none of their works are sold by itinerant agents.

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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.

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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.

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The only authorised lecturers for the Society are—

- (1) The Rev. Thomas Harrison, F.R.G.S., Member of the Society of Biblical Archaeology. Address: Rev. Thomas Harrison, 38, Melrose Gardens, West Kensington Park, W. His subjects are as follows:—

- (1) *Research and Discovery in the Holy Land.*
- (2) *In the Track of the Israelites from Egypt to Canaan.*
- (3) *Bible Scenes in the Light of Modern Science.*
- (4) *Eastern Palestine.*
- (5) *The Dead Sea and the Cities of the Plain.*

- (2) The Rev. Charles Chidlow, M.A., Caio Vicarage, Llandilo:—  
*Recent Discoveries in Bible Lands.*

Application for Lectures may be either addressed to the Secretary, 1, Adam Street, or sent to the address of the Lecturers.

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BALANCE SHEET FOR THE YEAR ENDING  
31ST DECEMBER, 1890.

RECEIPTS.		EXPENDITURE.	
	£ s. d.		£ s. d.
To Balance in Bank, 31st December, 1889 ..	375 6 5	By Exploration.. ..	550 17 6
Donations and Subscriptions .. ..	2,674 18 1	Printing and Binding, including <i>Quarterly Statement</i> .. ..	790 15 10
Proceeds of Lectures ..	26 14 8	Maps, Lithographs, Photographs, Illustrations, &c., including those for the <i>Quarterly Statement</i> .. ..	583 7 9
Sales of Memoirs of Western and Eastern Surveys, and Books published by the Society .. ..	619 17 4	Management, including Rent, Salaries, Wages, Advertising, Insurance, Stationery, &c. .. ..	587 6 5
Sale of Maps .. ..	278 16 10	Postage and Carriage of <i>Quarterly Statement</i> , Books and Maps .. ..	142 7 10
Sale of Photographs ..	25 9 7	Liabilities paid off ..	535 0 0
		Balance in Bank, 31st December, 1890 ..	811 7 7
	<u>£4,001 2 11</u>		<u>£4,001 2 11</u>

## CHAIRMAN'S STATEMENT.

In the absence of Mr. Morrison, it becomes my duty to make the following remarks on the balance sheet. The subscriptions and donations show a large increase on those of the year 1889. This is due to an appeal for funds for carrying on the excavations in Palestine, which brought in about £1,000.

The expenditure amounts to £3,189 15s. 4d. This sum is made up as follows:—

	£ s. d.
Exploration .. ..	550 17 6
Publications .. ..	1,374 3 7
Management .. ..	587 6 5
Postage of Books, Maps, and <i>Quarterly Statement</i>	142 7 10
Liabilities paid off .. ..	535 0 0

The Society is this day (March 17th) practically out of debt. There is a sum of about £350 due to the printers. This, however, is a liability which varies considerably from time to time. The apparent discrepancy between the amount received from the sale of publications and that expended upon them, is mainly due to the fact that the *Quarterly Statement* is given to all subscribers—an arrangement which gives stability to the Society, but costs between £300 and £400 a year. When allowance is made for this, it will be found that the difference is very slight; and indeed it disappears if the stock of maps and books in the hands of the Society be taken into account.

(Signed) JAMES GLAISHER,  
Chairman of the Executive Committee.

## REPORTS FROM MR. F. J. BLISS.

JAFFA,

*February 20th, 1891.*

I ARRIVED here on Monday 16th, and began at once the tedious labour of arranging a tram to facilitate the removal of earth from the excavations. The matter took me five days in Cairo. The Government people—Colonel Ross, Sir Colin Moncrieff, Mr. Perry, and others—were very kind, and I made thorough inquiries but found that though I could buy second-hand tram stuff, it would be very expensive. For example, I was offered a complete tram-line four or five times the needed length, with ten wagons, for 160*l.* This would then have to be transported from Suez. They would not divide the plant and sell me part. The people at the Barrage asked 20*l.* a truck to contain a cubic metre of earth. Finally I was directed to a foundry where I purchased 16 pairs of iron wheels (second-hand) with axles, and was advised to bring them to Jaffa and have trucks made here and also wooden rails with an iron cap.

I have spent a wearisome five days trying to get estimates from the German carpenter and wagon-builder here. The contract is at last signed, and he has agreed to make the hard wood rails with iron cap for a line of 60 metres, with ties, and to construct 8 trucks of wood and iron (to tip earth either side) upon the wheels and axles which are to come from Cairo, for the sum of 51*l.*

This, after two weeks' work, is the cheapest that I can do, though it seems a large price, for the iron bought in Cairo cost somewhat over 8*l.*, making the whole about 60*l.*

I have had to advance the wagon-builder 20*l.*, which he agrees in the contract to refund in case he does not keep to the terms. If the iron arrives in a fortnight he agrees to furnish the rails and trucks in six weeks from this time.

Mr. Petrie thinks that the first month should be spent in working over the low west town, which is Amorite, and must be explored and turned over before the hill is touched, so that earth can be then thrown down upon it from the hill. He thinks that this low west town may be as valuable a place to dig as anywhere else, and must be done and done first.

I had a profitable month in Egypt with Mr. Petrie. I came from Port Said by the Austrian steamer, but had fully intended taking the Russian a day later. She now lies a wreck off the shore here, and yesterday morning I saw the most thrilling sights. It is supposed that

all but two or three were saved. One of the directors of the French Railway Company has been very kind with advice, and I have had advice from others.

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*Tell-el-Hesy, March 9th, 1891.*

At last I write from this address. The Effendi and I left Jerusalem on Thursday the 5th, and the next day had a long day's ride from Ramleh.

Some of the ditches were quite bad, but the mules got over them all without serious accident. The country is simply charming, with its rolling greenness of grass and wheat and sweet scented beans. My own horse, brought from Beirût by my man Yusif, is delighted to graze all day near the tent. The Effendi is happy because no Arabs are near and the tribes are at peace. By the way the Effendi is really a very nice fellow; he boasts rightfully of his descent from the great Khalid, and his family is much honoured. He is very intelligent, kindly and accommodating.

Of course these first two or three days I have employed no workmen, but spent my time in tracing Petrie's work very carefully. On the whole, the heavy rains have rendered it easier to trace the brickwork, as the moisture brings out differences of earth colouring. Some of Petrie's points I cannot yet determine, but in general the brickwork is more clearly traceable than I expected. What astonishes me is that he did such an amount of work in so short a time. But then one must add to his six weeks actually spent here, the years of acquaintance with brick in Egypt.

The stone steps and guard-house at the south-east of the town have been removed by the villagers. My man Yusif will be a great help, as he has a keen scent for brick in its various stages of decay. Unfortunately the west town, where Petrie strongly advises me to begin work, is covered with crops as is the Tel. Buying these out will necessitate some outlay of cash. I am very sorry Major Watson was prevented from visiting me here.

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ESSAYS ON THE SECTS AND NATIONALITIES OF  
SYRIA AND PALESTINE.

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ESSAY 2, INTRODUCTION.

By REV. GEORGE E. POST, M.A., M.D., F.L.S.

*Land Tenure, Agriculture, Physical, Mental, and Moral Characteristics.*

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I.—LAND TENURE.

THERE exist in Syria and Palestine nearly all the forms of land tenure which prevail now, or have prevailed, in the world.

1. *Mulk.*

This corresponds accurately to *freehold property*. Perhaps the best illustration of this kind of property is to be obtained from the translation of the deed of the writer's own premises at Ras Beirût, next to the Syrian Protestant College.

It must be premised that, at the time the purchase was made, foreigners were not entitled by Turkish law to acquire or hold real property within the limits of the Empire. But long usage had established a mode of obtaining such property, which was respected by the Government, and quite safe before the Protocol by which foreigners were allowed to become proprietors of real estate. A native of the country appeared in court, and bought the property, as if for himself, and with his own money. He then went to the Consulate of the real purchaser, and executed a deed in which he declared that he had bought the property with the money, and for the behoof of the real purchaser, and that he, the ostensible buyer, had no right or claim whatever in the aforesaid transaction. The following is a translation of the original deed :—

[Name and seal of the Administrators.]

“Praise be to God Almighty.

“In the Court of the Honourable Law, and the Assembly of the noble Government, in the city of Beirût, in the presence of its ruler, our master, the Legal, *Hanafite*<sup>1</sup> Administrator, who has placed his able

<sup>1</sup> *Hanafite* refers to Abu-Hanîfah, whose name was en-Nu'mân, Ibn Thâbit, Ibn-en-Nu'mân, Ibn-Marzabân, the Persian, leader of the Hanafite sect, which is that of the Ottoman Sultans.

name and seal above, may his advantage last, and his exaltation increase, there presented himself *Nâsir-ed-dîn*, the son of Hassan, the son of Muḥammed of Shuweifât, and sold what he possessed, and was his by freehold right and usufruct, and what had become his by legal purchase and improvement, and was confirmed to him by a legal deed in his possession, to the one who has now drawn up this legal agreement, *Khawajah Michail, Ibn-Yunus-el-Gharzûze*, who has bought *with his own money, for himself*, the property [here follows the minute description of the boundaries of the property], with all the rights appertaining thereto, and its roads and belongings, and that by which it is known and legally specialized, from all sides and directions, *a true and legal, confirmed and permanent sale and purchase*, by the consent and acceptance and mutual agreement of both parties, free from all conditions of deceit, and from all reconsideration and reservation, and with a complete legal surrender. The foregoing sale was made in two parts, each as an independent act by itself, the first being three out of twenty-four qirâts,<sup>1</sup> for two hundred

<sup>1</sup> It is the custom of all Oriental lands to measure everything by a standard of twenty-four carats (Arabic *Qirat*). The qirât literally means an inch, or the twenty-fourth part of the dra', or Arabic Ell. Our English expression, eighteen-carats fine, for gold, is a survival of this usage. It signifies that the metal contains eighteen parts of gold in twenty-four of the alloy. Everything here is supposed to be made up of twenty-four carats, and its half of twelve carats, and the fourth of six carats, and so on. Thus a patient or his friends will ask a physician how many qirâts of hope there are in his case. A man will say that there are twenty-three carats of probability that such an occurrence will take place. A company divides its shares by carats. In this case the property was divided into twenty-four carats not in the sense that certain parts of it were set off from the other parts, but that a twenty-fourth part of the whole property was contained in each carat. Three carats were then sold for two hundred Turkish pounds. That is, one-eighth of the whole property, distributed through the whole, is sold for nearly half the total price, and this sale was completed before the other twenty-one carats were sold for a little more than the half of the total price. The object of this form of sale is to evade the prior rights of a neighbour or a partner to purchase the property over the head of an outside bidder at the price named. The law of *Shuf'ah*, which confers the above-mentioned right, is as follows:—

*Shuf'ah* consists of three kinds—(1) When the claimant is a partner in the ownership of the property to be sold. In that case his claim is per caput, not according to the value of his share. (2) When the claimant is a partner in certain rights in the property to be sold, such as the use of water privileges or right of way. (3) When the claimant is a neighbour, whose property is in immediate contact with that to be sold. If a sale is affected to a person not entitled to the claim of *Shuf'ah*, and any of those in either of the above three categories asserts his claim, he may compel the buyer to surrender the property at the price at which he bought it. If the claimant does not assert his claim until the transaction is completed he forfeits his rights, and the sale is valid and inalienable by *Shuf'ah*. If, however, the claimant, or any one of the claimants (for they may be numerous), be absent at the time of the sale, he may at any



Turkish pounds, and the second part of twenty-one qirâts of the whole for two hundred and thirty-five Turkish pounds, and both of the aforesaid sums from the money of the above-mentioned buyer were paid into the hand of the aforesaid seller exactly as confessed by the latter in the court, and all this after previous information and consideration, and legal agreement between the two contracting parties, according to the recognised method, by mutual consent and choice, without force or compulsion on either, each having put aside corrupt deceit and double-dealing toward the other, could such a thing be supposed of him.<sup>1</sup> Also the obligation of restitution belongs legally to the before-mentioned seller.<sup>2</sup> Then there appeared Haj Muhamonad,<sup>3</sup> Ibn-Haj-Muhammad-el-'Alâili,

time on his return, assert and obtain his claim, provided he do so immediately on his arrival. So important is it deemed in law that this claim should be pressed at once or not at all, that it is expressly provided that if, on arriving, the claimant goes first to a mosque or church to offer prayer before he has asserted his claim of Shuf'ah, he has forfeited his right. He may not even go to the bath, nor change his raiment, however travel-stained it may be, but must proceed at once to the government offices and lodge his claim without delay.

The danger of an unexpected claimant appearing and snatching away a property when it has been in the possession of a purchaser for years has led to the custom of selling in two parts, the first a small fraction of the property, distributed through the whole, for a proportion of the total sales price so large that a claimant would be unwilling to assert his claim. By the purchase of the second part after the first the purchaser is sure of that portion, as the neighbour or partner is only entitled to claim that which is, so to speak, contiguous to his pre-existing rights. Should he assert his claim to the first part, and take it away from the purchaser, his act, being subsequent to both sales, does not vitiate the right of Shuf'ah which the purchaser acquired over the second part by his temporary possession of the first. Furthermore, as his right to the second part is now confirmed, he thereby acquires a Shuf'ah of partnership with the owner of the first part, which will prevent him from selling to anyone but himself. So effectual is this subterfuge of the law that it has been adopted into all deeds.

<sup>1</sup> It is repugnant to Oriental ideas of courtesy and refinement to attribute to anyone ill conduct or unworthy motives, consequently the legal terms in which the possibility of deception and fraud are admitted, also provide for the exoneration of both parties from such an injurious suspicion.

<sup>2</sup> This clause refers to a custom, once in force, of exacting from the seller of a bond, that, in case there should be any flaw in the title, or for any cause the buyer should not get possession of his property, the seller should be obliged to repay the price of the purchase. This bond being no longer exacted, the clause here inserted is supposed to secure to the buyer the safety of his payment.

<sup>3</sup> The person who appeared here was a mortgagee of the property. He appears in Court and declares that his mortgage is satisfied, and that he has no further claim on the property. This is also a fiction of the law, as the seller usually has no money to pay until the sale is concluded, and the buyer will not pay the money until he has his deed. But the Court will not grant the deed

and witnessed the sale of the property, with its belongings, legal witness, by means of his plain utterance that the sale was genuine and legal, and that he had no property, or right, or case of any kind, and that although the property had been mortgaged to him for a certain sum, he had received the said sum entire from the seller, and that he had no right over him at all, and granted his permission to have his testimony to the above given freely and willingly.

“Written on the nine and twentieth of Jamâda the Second, in the year one and ninety and two hundred and a thousand.<sup>1</sup>”

“[Witnesses names.]”

Such a deed as the above is a sample of the more elaborate of the deeds of city property. It would seem, on the face of it, to give over forever the rights of the real purchaser to the supposititious one. To correct this the ostensible purchaser gave the following declaration in the Consulate of the real owner.

“The reason for this declaration.

“On the date mentioned at the foot, there personally appeared in this Consulate, Michail-Ibn-Yunus-el-Ghurzûzi, a resident of Beirût, and declared in the presence of the witnesses mentioned below, that the piece of ground and buildings which he had purchased of Nâsir-ed-dîn Ibn-Hassan, Ibn-Muhammed-esh Shuweifâti [here follows the description of the property as in the original deed] was not his property, and that he had no right of property in it, but that it was the property of Dr. George Post, the American, and his own possession, and that the price had been paid out of the money of the latter, and Mr. Michail Ghurzûzi further declared that his name in the before-mentioned deed was introduced only as a borrowed name, and a legal fiction, and to make the same clear, he wrote this deed, signed at the foot by the aforesaid witnesses, and caused it to be registered in the Consulate of the United States of North America in Beirut, on the twenty-first of August, 1874.

“[Witnesses.]”

Soon after the above property was acquired and transferred as above, the Protocol, which granted to foreigners the right to hold property, was signed, and a new deed of sale was made out in conformity with this Protocol, in which Mr. Ghurzûzi figured as the seller, and Dr. Post was the purchaser. The latter remains the permanent deed of the property.

In interior towns and country districts, deeds are somewhat simpler in their wording, but of similar import. The Government claimed, and perhaps with justice, that corrupt practices had crept in. In some cases persons had introduced a stranger, and two witnesses had sworn to his identity with the owner of the property, and then the court proceeded to give a deed in the name of the bogus owner, and this deed was afterwards recognised as genuine in the court, and so the owner was defrauded of his rights. To correct this abuse the Government devised the *Tâbu* until all the parties concerned admit the payment and receipt of the several sums due from them or to them.

<sup>1</sup> The order of the numerals is the usual one in all Mohammedan writings.

system, in which all old deeds are required to be replaced by new papers, called *Aurâq-et-Taṭwīb* (i.e., papers of the Ṭâbu). Such papers can only be obtained on application to the Governor-General of the province, who refers them to the several departments in which the registers of property are kept, and only after a thorough search into the particulars detailed are the papers issued. The advantage of this system is claimed by the Government to be on the side of the property holders, though it is generally believed by the latter to be in the interest of the Exchequer, which thus realises a heavy tax from all holders of real estate for another deed, which seems to them no better than the old. The following are the details of a Ṭâbu paper :—

<i>Turkish Original.</i>	<i>Translation.</i>
Liva ....	Province (the Governor, a Mutasarrif).
Quḍa ....	County (the Governor, a Qaimaqâm).
Qaşabah or Qura ....	City or village.
Maḥallah wa Mauḳa'â ....	The quarter of the town or county in which the property lies.
Roqm-abwâb wa Yakhûd-tahrîr ....	The number on the door of the house.
Amlâk-numerosi ....	The number in the Domesday Book.
Nau 'Musqafât wa maghrûsât ....	The kind of property, whether houses or land.
Nau' Arḍ ....	Whether improved or unimproved.
Ḥudûd-arba'ah ....	Boundaries of property.
Muqdar dhirâ' ....	Number of ells.
Dunem ....	Number of Dunems. The Dunem is 1,600 dhirâ's.
Muqâta'ah-sanawiyah ....	Yearly income.
Jehât-i'ṭâ sanad ....	The place where the Ṭâbu paper was issued.
Malik wa Malikah ....	Names of male and female owners.
Tamallak Abdan ....	Names of buyers.
Bai' ....	Names of sellers.
Intiqâl ....	Whether the property is from inheritance.
Maḥlûl Şarf ....	If the property be Crown land, by what authority was it sold.
Thaman ....	Price of sale.
Qîmat mukhammanât ....	Appraised value.
Kharj ....	Tax.
Kaghid biha....	Price of paper.
Badal muzâyadah ....	Auction price.

There follows a sentence of which the ensuing is a free translation :—

The Imperial Bureau of Real Estate gives for the aforesaid property

this certificate of possession, in order that the aforesaid person may have a certificate of possession recognised by the Imperial Government. This provisional paper has been given on the \_\_\_\_\_ day of \_\_\_\_\_ year

Hakim (Ruler).                      Muhasibji (Accountant).                      Deftar

Khaqâni (Imperial Register).                      şandaq Amîni (Treasurer.)

The two classes of deeds above illustrated exhibit the present state of Turkish law, and the tendency of the Turkish mind in the direction of making real estate a freehold property, with exact legal definitions. Still further to strengthen the rights of freeholders, a provision of the Tabu law allows a proprietor to send his Tabu deed to Constantinople to be registered, and returned to him with the seals of the Imperial bureaux attached.

On properties of this class a tax called *Wirku* is collected annually. If the property is of the dwelling-house kind  $\frac{8}{1000}$  of its appraised value are taken. If a house for rental, or a garden producing fruit, or a shop, or other property yielding income, 1 per cent. is taken. Beside this tax on garden or orchard property for the benefit of the Imperial revenue a heavy octroi tax is collected for municipal purposes.

## 2. *Farming Property, or Broad Acres.*

The gardens and orchards in the neighbourhood of the cities are held on the freehold principle, but often let to peasant tenants, on condition of a share in the produce. The lands of Lebanon are also to a large extent possessed, in small holdings, by the resident peasant population. The convents own large tracts of real estate, and work them on the partnership plan. A village or villages in the district plough, sow seed furnished by the convent, reap, thresh, and winnow, on condition of a share of the produce, which varies from a fourth to a half. These metayers, although they have no legal claim to the ground so cultivated, continue to cultivate it as a modified kind of serfs, and transmit the inheritance of the privilege to their descendants. Great secular landlords usually cultivate their lands on the same principle. The legal titles to all these lands are by deeds of *Mulk*, or by *Tâbu* papers, or both. The latter supersede the former.

In the *Buqa'*, and about *Hems*, *Hama*, *Damascus*, *Haurân*, and the other great plains, the property is partly owned by the freeholders of the villages, but more usually by large capitalists, who let the land to the cultivators of the villages on the metairial principle. Although the metayers are nominally engaged only by the season, and might be legally ejected at its end, in point of fact this is hardly ever done, and the villagers look

upon the lands they thus occupy as a permanent resource for themselves and their descendants. Of course they cannot give any legal transfer of their immunities, but they can share them with their children and relatives.

The peasant cultivators are a shiftless class, and seldom lay by anything in good seasons, and so are almost to a man in debt. Capitalists in the cities are always ready to lend their money at extravagant rates of interest, such as 2 to 3 per cent. a month. Such loans encumber the patrimony of the farmer with hopeless mortgages, and in the end the owner is forced to yield up his title, and become a *Sherik-el-Hawa*<sup>1</sup> (Partner of the Wind), where he and his ancestors were once proprietors. In this way, as individual capitalists favour certain villages, they gradually absorb all the property of the peasants, and the villagers become their metayers (in Arabic, *muzâri'in*), and enjoy for their work a variable proportion of the produce. If the seed is furnished by the proprietor, the peasant usually gets but a fourth of the net yield.

In some parts of the country, as, for example, in Southern Palestine, and in a few other districts, the land is held in common by all the inhabitants of a village, and apportioned at stated times to the individual cultivators according to their ability to cultivate, their standard being the number and power of the cattle used for ploughing. Such lands are known as, *mushâ'ah*. The principles on which the arable soil is apportioned by lot are minutely set forth by James Neil, M.A., in a paper read January 20, 1890, before the Victoria Institute in London. They are in substance as follows:—the persons proposing to work the ground divide into groups, and the chief of each group draws a section of the land proportioned to the number of persons in his group. Each section is composed of lands of various fertility and qualities. These sections are again subdivided by measurement with an ox-goad, or a line called *habaleh*, the counterpart of the measuring line of Scripture. The farmers, in such regions as possess this custom, prefer this method of communistic division to holding in fee simple.

Until 1277 of the Mohammedan era, 28 years ago, all the lands outside cities and their environs, and Mount Lebanon, were held on the communal principle, and apportioned to the cultivators as above. At that date the Government introduced the *tafwîb*, and has steadily pressed upon the peasants the necessity of dividing the lands, and taking out *tabu* deeds for them in severalty. In the Buqa', and around Damascus, and in many other parts of the country, there are no more lands held in common, and each proprietor holds his own real estate. But in Haurân, and in many of the outlying, and only partially organised districts, the land is still held in the old way by the communes. The Government, however, has recently laid its hand on the forest lands, and takes a tax of twenty paras the load on all wood cut for sale, but allows the peasants

<sup>1</sup> The *Sherik-el-Hawa* is a *tenant at will*. Yet such is the tendency of things to go on as they have begun, that such tenants usually remain in the ancestral house, and work the ancestral acres as if they were their own.

and proprietors to cut wood free for their own use. In the Buqa' this high-handed measure was adopted only three years since. In many of these districts the pasture lands are still held in common by the villagers.

The *Shekârah* is either a small portion of land in a garden or orchard, which the gardener cultivates for his own benefit, or the silkworms which a baker or other public servant rears from the mulberry trees of those who avail themselves of their services, or the portion of land set apart for the religious teacher, the carpenter, or the blacksmith and farrier.

Forest lands are often held in common, as also the bare goat pastures at the summits of the mountains, and in the neighbourhood of the villages. The fact that the higher mountains are pastures for goats, and that even the Government has not the right to replant them with forests, is a very serious one in its bearing on the rainfall and fertility of the country. The enlightened late Governor-General of Lebanon, Rustem Pacha, told the writer that, in the existing state of the Turkish law, it is quite impossible to prevent the herdsmen from pasturing their flocks on the higher mountains above the altitude of cultivation, and as the goats destroy all seedlings it is impossible to attempt to replant these districts with trees.

### 3.—*Crown Lands.*

There are large tracts of excellent arable soil, especially in the interior, which belong to the Government. Parts of these lands are settled, and in some cases the farmers are muzâri'in, or tenants of the Government, not liable to eviction, and competent to sell their tenant privileges, yet not owners in fee-simple of the land. Other tracts are not settled, but may be hired of the Government for farming purposes for a limited time, at a rental agreed upon by the authorities and the lessee. The general policy of the Government, however, is to sell these unoccupied lands as freeholds, or, in certain cases, like those of the Circassian immigrants, to give them as homesteads to such persons as the authorities may wish to provide for.

From all the produce of the farming lands of the empire a tithe is taken in kind. As, however, it would be a complicated and difficult process for the Government to collect these taxes directly, they are accustomed to let them out to tax-farmers (*multazamîn*), for a sum agreed upon by both parties. These *multazamîn* (who correspond to the *publicans* of the New Testament) having to indemnify themselves for their risk, resort to every form of intimidation and oppression to wrest from the poor producer much more than the tithe. As the Government supplies them with soldiers to assist them in the collection of the taxes, they are able to exercise a most effective and odious form of tyranny. As the crops cannot be measured until threshed out and winnowed in heaps on the threshing floors, the farmers are forced to leave their harvests exposed to the attacks of birds and insects, of rats and other vermin, and the depredation of thieves, and the damage of occasional showers, until the

multazim chooses to come and measure out the grain. Then he has the power (not *legal*, but none the less *real*) to quarter his horsemen and other animals without compensation on the poor villagers, who are glad to buy him off and get rid of him by paying two tenths or more.

In addition to the tithes there is a land-tax of from 20 to 60 paras the dunem (Turkish acre), according to the fertility of the soil.

#### 4.—*Awqâf, or Endowment Property.*

Land given to endow benevolent and educational institutions is free of Government tax. But buildings, on which rental is collected, even if on ground that is free from taxation, pay the usual *wîrku*, as in the cases of non-waqf property. Buildings used for convents, schools, and churches or mosques, may be exempted from the *wîrku*. The produce of endowment lands, however, is tithed as that of other lands.

Waqf-land is inalienable by sale. But it may be exchanged for other real property which is considered by the Court to be more advantageous to the institution. In this way the borders of a plot of waqf-ground may be rectified. Under certain circumstances portions of the public roads may be exchanged for private property. Here again the method of procedure may be illustrated by a deed of property belonging to the writer. This property is at the junction of the villages of 'Aleih and 'Ain-er-Rummâni in Lebanon. Adjoining it is a small plot of ground, in which grows an oak tree, held in great reverence by the Druzes. It is waqf-property belonging to the 'Aleih commune. The tree is called *Umm-esh-Shera'îf* (the mother of rags), because the people are in the habit of tying bits of rags to its lower branches on the occasion of the recovery of the sick, or the attainment of any special object. At the time of the acquisition of the property by the side of this tree, which may be two hundred years old, and is a fine feature of the landscape, there was an old road, a mere rocky bridle-path, which led up from the village of 'Ain-er-Rummâni to the tree, and past it to 'Aleih. This bridle-path cut off a corner of the property of the writer. As this path had ceased to be used as a road, owing to the making of a good carriage road a few feet away, and as it cut the property of the writer in two, he offered to the Government to make a good, well-graded path to the tree, in place of the portion of the old road which passed through his ground. The offer was accepted, and the exchange ratified in the following paragraphs endorsed on the deed. The first is a communication from the then Governor-General, Rustem Pacha, now Ottoman Ambassador to the Court of St. James:—

“To the Qaimaqâm of the district of Esh-Shûf.

“Honourable Governor,—Within is a petition from Dr. Post, in which he states that he has bought a plot of uncultivated ground from Ibrahim Haddâd and Ibrahim-el-Barûdi, for which he has a deed registered in the court of the district of esh-Shûf, and that there passes through it a portion of the old road, now impassable, owing to the construction of the new

carriage-road, which has destroyed the terminus of the old road. By our authority he has included this section of the old road within his wall, and has made at his own expense, from his own property, a road leading to the oak tree which belongs to the community, and he now asks that his exchange be endorsed on the deed of purchase, and inasmuch as it seemed proper that this should be done, and inasmuch as the transaction is a public benefit, owing to the useless state of the old road, and the usefulness of the new road which he has made at his own expense and in his own property, it was necessary to inform you, and to send the deed, in order that you might instruct the court to declare this exchange, and to legalise it in a proper way, that will prevent all complaint or lawsuit hereafter, and to return it to us. This was written on 17 Ramađân, 1293 (23 Ailûl, 1292)."

The note appended by the court is as follows :—

“ Praise be to God Almighty !

“ We have been honoured by reading your noble vizierial order, the copy of which is written above, and the purport of its contents has been duly attended to, and inasmuch as the right of dealing with the public highway is an appanage of the Imâm, who is our August and Mighty Master, the Sultan-Ibn-es-Sultân, the Puissant and Potent Sultan 'Abd-el-Hamid-Khân, the throne of whose lofty power may God Almighty preserve for ever, and of his honoured wakils, such as our Governor Rustem Pacha, the noble Mutassarif of Mt. Lebanon, and inasmuch as the order of the above-mentioned has been given that the public road which is included in the property of Dr. George Post, the American, as defined and registered within, a road leading to the oak tree, popularly known as Umm-esh-Sheraîf, a tree belonging to the waqf-property of the village of 'Aleih, be transferred to Dr. Post, and inasmuch as the aforesaid doctor has made a good road to the oak tree at his own expense, between the carriage-road and the circle around the afore-mentioned oak tree, as a compensation for the other road, and all is actually accomplished, and it has been found that the new road made at the expense and cost of the aforesaid doctor is better than the other, and easier for those passing over it, and that thus a public benefit has been conferred, therefore the transfer of the above-mentioned road is right in law, and regular, and no one has a right of way in the ground of the afore-mentioned doctor, which is described within, on account of this exchange of a road to lead to the oak tree belonging to the commune. For the above reason this document was issued by the Court of the district of esh-Shûf, and registered in accordance with the most honourable order above referred to, and with approved principles. Given on the 21 Ramadan, 1293 (27 Ailûl, 1292).

“ Judge of the  
District of esh-Shûf.

President of the  
District of esh-Shûf.”



5. *Forms of Rental of Land.*

Allusion has already been made to some of these, but it is convenient to group them all for the sake of comparison.

(1) *A rental for a fixed sum, irrespective of the yield.*—This never takes place in the case of farm lands, and seldom in that of orchards or gardens. It is almost wholly confined to house and shop property.

(2) *Partnerships in farm lands.*—The owner in some cases furnishes the seed, but if so he debits it in some form against the cultivator. The peasant ploughs, sows, reaps, threshes, winnows, and after the payment of the tithe takes from half to two-thirds or three-fourths of the net produce, according to the terms of the agreement, which again are conditional on the richness of the soil and the ease of cultivation.

In all cases the *mireh* or ground-tax is paid by the proprietor. The houses of the peasants are owned by the proprietor, but occupied by the cultivator rent free.

(3) *Partnership in vineyards, olive, fig, or mulberry orchards.*—This is of two kinds.

(a) *Partnership by work.*—This is where the peasant undertakes to do all the work necessary in an established and producing orchard or fruit farm, for the fourth part of the net produce, the manure being furnished by the owner or hirer as agreed. In the case of mulberry orchards the peasant often undertakes to raise the silk-worms, cutting the leaves from the trees to feed them, and gathering the cocoons when they are finished, but not attending to the mulberry orchard. For this service he receives a fourth of the price of the cocoons. He is called *Sherik-el-Hawa*.

(b) *Partnership by paying the estimated price of the produce (Sharakat-el-Musâqâh).*—In this form of partnership a mulberry or olive orchard is appraised as to the probable yield of leaves or olives, and the cultivator pays the owner in advance a certain agreed sum on each load of leaves or measure of olives. When the crop is realised, there is a second appraisal of the actual yield, and if it prove greater than was expected, the tenant pays in proportion to the increase. If, on the other hand, the yield is less than was paid for the proprietor refunds the difference. In this form of partnership the cultivator is obliged to do the work, and to pay half the price of the manure used.

## II.—AGRICULTURE.

1. *Measures of Land.*

There are few more perplexing topics of conversation with Arabs than those which relate to weights and measures. This arises from the diversity of standards in different places. The unit of measures of length, the *Dhira'*, the analogue of our *ell*, differs from two feet three inches to two

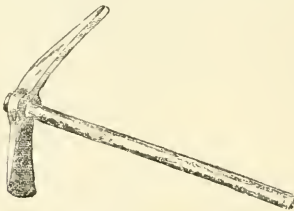
feet five and a half. The *Qasabah*, the analogue of our *rod*, *perch*, or *pole* is reckoned in Damascus, and those places which derive their usages from that capital, at seven and a half dhiras. In Egypt it was until recently twenty-four *qabdahs*, the *qabdah* being the measure of a man's fist with the thumb erect, making about six and a quarter inches. According to this standard the *qasabah* was about twelve and a half feet. According to some it was ten cubits, the cubit itself differing in length. The *qasabah* is said by some to be forty dhiras.

The *Feddân* is, roughly speaking, the amount of land which a yoke of oxen will plough in a day. The term *feddân* originally signified the bull, or the yoke of cattle, with which one ploughs, and corresponds to the *jugerum* and acre. But there is a great diversity of statement in regard to the extent of this measure. A Damascene informed the writer that it was 260 square gasabehs. Some even say 260 *qasabehs* square, which would amount to from five to six square miles, a statement palpably preposterous. Others say  $333\frac{1}{3}$  square *qasabahs*; others still 400 square *qasabahs*.

## 2. Agricultural Implements.

These are the *pick* (*ma'wat*), the *hoe* (*majrafeh*), the *spade* (*refsh*), the *rake* (*shaukah*), an implement seldom used by the Arabs, the *hatchet* (*fâs*), the *axe* (*farrâ'ah*), the *pruning hook*, (*manjal*), the *knife* (*sikkîn*), the *plough* (*mîhrath*), the *threshing-drag* (*nauraj*, in popular use *mauraj*), the *winnowing-fork* (*midhrâ'yeh*), the *basket* (*sabârî'yeh*), the *large basket* (*zen-bîleh*), the *sledge* (*mihaddah*), the *crowbar* (*mukhl*), the *wedge* (*isfîn*).

The *pick* is a mattock with one short blade, six to eight inches long, and about two inches broad at the tip, which is somewhat sharp, so that the farmer can cut up roots and small shrubs with it. The other blade is longer and stouter, and about three quarters of an inch broad at tip, and usually furnished with two slightly prominent teeth. This blade is used to pick the soil, pry out stones, and even to break friable stones and rocks. The handle of the pick is usually about two feet six inches long.



SIDE VIEW OF THE PICK. (المغوال)

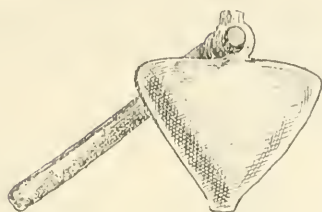


END VIEW.

Both blades are bent at an angle to the handle, suited to the habits of the Orientals, but seeming inconvenient to the Occidental.

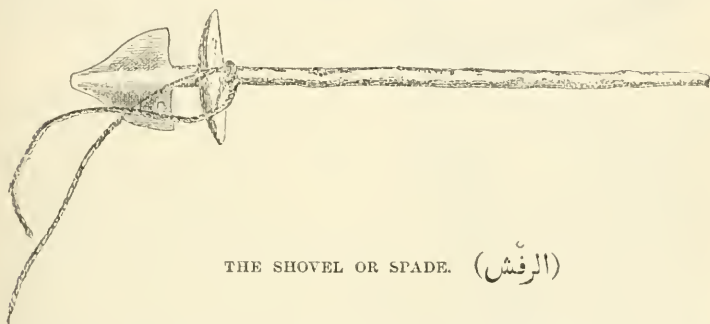
The *hoe* is triangular in shape, with rounded angles at the base, and a rectangular truncate tip: the handle is inserted near the base, in a

projection with a hammer-like tip. Sometimes the tip of the hoe is rounded.



HOE. (المسبحة)

The *spade* is rather a shovel, triangular in shape like the hoe, but with sharp basal angles, and a somewhat tapering truncate tip. The handle varies. Sometimes it is made with a crossbar at the upper end. Sometimes it is, as in the figure, a simple cylindrical stick, with a crossbar (*madrabeh*) at the bottom to facilitate pressure with the foot in digging.

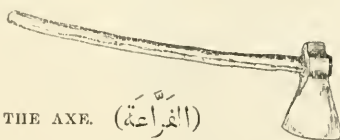


THE SHOVEL OR SPADE. (الرفش)

When soil is to be removed or turned over with this shovel, a rope is usually fastened to the lower end of the handle, and a labourer on each side takes hold of one end of the rope, and they pull the clod of earth to the desired position. Thus a shovel requires three labourers: one to thrust the blade into the soil, and two to pull the clod. It is impossible to convince the people of this country that this is not the most economical and easy way to do the work required.

The *rake* is rather a European innovation, and little used by the natives, except where they are in Frank employ.

The *hatchet* is a poor and clumsy blade, oblong in shape, and badly tempered.



THE AXE. (المراعبة)

The *axe* is a larger form of the same, with an oblong blade, usually of iron or untempered steel, the edge of which turns in using, and is

quite incapable of doing woodman's work according to western ideas. The helve of both axe and hatchet is usually straight.

The *pruning hook* is an iron instrument, with a blade of a semilunar shape, about ten inches long, and, like all iron implements in the East,



THE PRUNING HOOK.

(المجمل)

poorly if at all tempered. The handle is made hollow, to allow of a wooden helve if necessary.

The *knife* has two forms. One is a clasp knife of the rudest construction, falcate in shape, with a wooden or bone handle. The other is a sheath knife, usually about eight inches long, linear-lance shaped, and



THE SHEATH KNIFE AND SHEATH.

(العمد السكني)

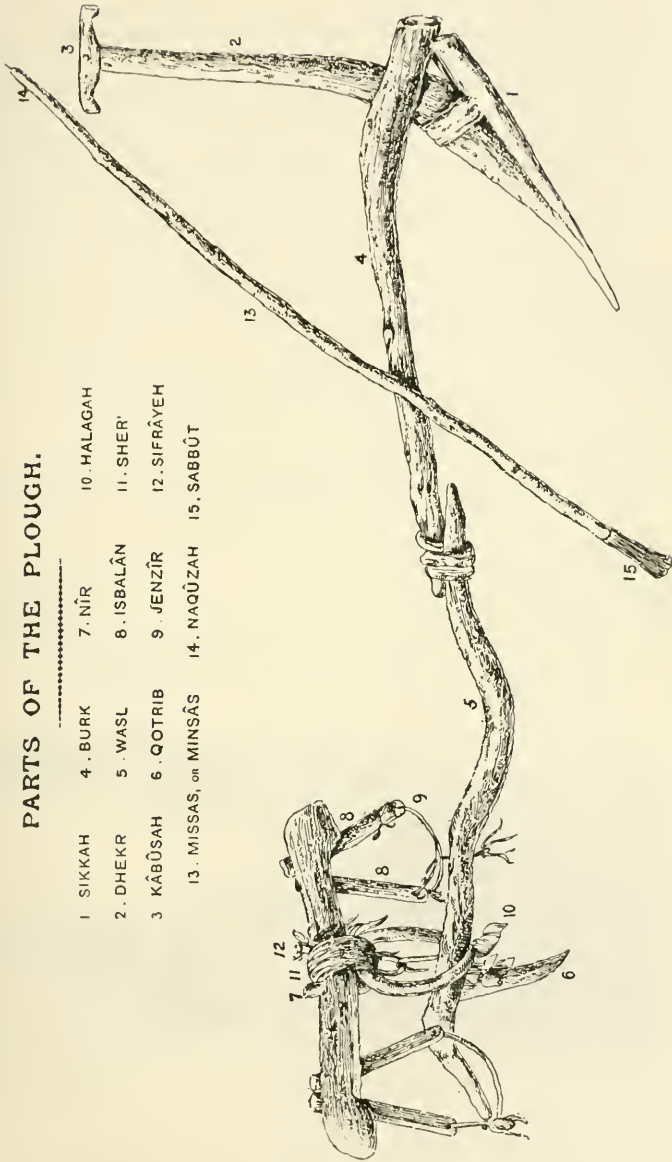
with one cutting edge. It is carried in a wooden sheath, stuck in the belt.

The *plough* is an exceedingly primitive implement. It consists of the following parts : (1) The share (*sikkah*), a conical, very acuminate shoe of iron, with no flaring portion as in our ploughshares, made hollow to receive the point of the (2) shank (*dhakr*), which is a piece of tough wood, usually oak, about two feet six inches long, bent forward below its middle, and sharpened to go into the *sikkah*. (3) The handle (*kábúсах*), a crossbar of the same tough wood, into which the shank is morticed, and fastened by a wooden pin. This handle is of a convenient height, to be held by the hand of the driver below his waist. (4) The pole (*bürk*), which is a hump-backed piece of the same tough wood, morticed at its joint with the shank. To lengthen this out in the proper shape there is attached by a cord to its free extremity (5) the (*wasl*), which is a pot-bellied pole, with a blunt end deflexed about six inches from the tip at an angle of about 130 degrees, to get it out of the way of the muzzles of the oxen. From two to three inches behind this angle is morticed into the *wasl*, at an angle of about 75 degrees (6) a pin (*qotrib*), about six inches long, to receive the ring of the yoke and prevent it from slipping.

(7) The yoke (*nîr*) is composed of a horizontal bar of wood, with knobbed extremities, but with no hollowed-out portion to receive the nape of the neck of the ox. In place of the *bow*, two pins (8) (*isbalân*) are let into holes in the *nîr*, at angle of about 30 degrees to each other, their upper extremities being about 3 inches apart, to receive the nape of the neck. When adjusted, these are fastened by a leather thong, or a chain (9) (*jenzîr*). (10) The ring (*halaqah*) is a tough branch bent in a rude elliptical form. It is tied to the *nîr* by (11) a leather thong (*sher'*), between (12) two pintles (*sifrâyah*), which keeps it in place.

PARTS OF THE PLOUGH.

- |                       |             |            |              |
|-----------------------|-------------|------------|--------------|
| 1. SIKKAH             | 4. BURK     | 7. NĪR     | 10. HALAGAH  |
| 2. DHEKR              | 5. WASL     | 8. ISBALĀN | 11. SHER'    |
| 3. KĀBŪSAH            | 6. QOTRIB   | 9. JENZĪR  | 12. SIFRĀYEH |
| 13. MISSAS, or MINSĀS | 14. NAQŪZAH | 15. SABBŪT |              |



The goad (*missás*, or *minsás*, 13) is a rod of stiff wood, about 7 to 8 feet long, with a sharp point (*naqázah*, 14) at one end, with which to prod the cattle, and a small shovel-shaped shoe (*sabbát*, 15) at the other, with which to clean the share of its clods.

Cows, steers, or bulls are most commonly used for ploughing. Sometimes an ox and an ass are yoked together; occasionally an ass and a camel are yoked fellows. In that case the disparity in strength and height is corrected by a difference in the length of the two sides of the yoke. Buffaloes, mules, and horses are occasionally used in ploughing.

The *nauraj*, or *threshing drag* (corrupted in common speech into *mauraj*), is of the shape of our ordinary stone-drag, the lower surface being beset with flints or chips of basalt, which are let into holes in the wood, and cut the straw into bits while threshing out the grain. The driver stands on the drag, or sometimes lies out on it at full length, and is often seen asleep, while the horse or cow lazily pull the drag round and round the central heap. The cattle are sometimes muzzled, but often allowed to help themselves as they pursue their weary task. The Mosaic law forbade the use of the muzzle.

In northern Syria, in place of the *nauraj*, the *hílan* is the implement used in threshing. It consists of a stout oaken frame, into the sides of

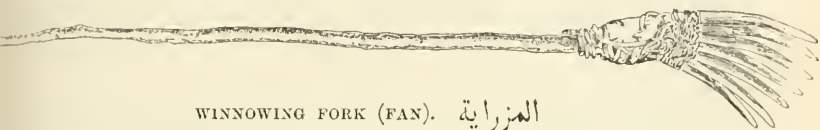


A threshing floor, with a heap of wheat straw in the centre. A part of this has been spread out on the threshing floor and is being cut up and threshed out by the *hílan*. The driver sits on the rude chair, to add his weight to that of the implement. In the distance are other heaps of straw on their threshing floors.

which are let two axles, on which are fastened circular plates of iron, which are so arranged on each axle as to enter the inter-spaces of those on the opposite axle, and so cut the straw into bits about an inch or two in length. A rude chair is fastened to the frame, and the driver sits on this while threshing. This implement seems to foreigners more efficient and rational than the *nauraj*, yet those whose ancestors have used the latter do not abandon it for the former.

The harness consists of a collar (*kiddlanîyah*) and traces (*jarrârât*).

The winnowing-fork (*midhrâyah*) consists of a handle (*'asâyah*) of wood, with two or more natural prongs, to which two or three more are tied by leather thongs.



WINNOWING FORK (FAN). المزرابية

The sheaves of grain are piled in the centre of the threshing floor in such a way as to leave a circular path about 8 feet wide around the heap. A number of the sheaves are undone and tossed loosely around on this clear space, and the drag driven around until all the grain is shelled out, and the straw (*qosh*) cut to the requisite fineness, when it is called *tibn*. The mixed grain, chaff and *tibn* are then thrown on one side, and a new supply of sheaves spread out. When all the sheaves have been threshed, the winnowing commences; the winnower stands with his side to windward and tosses a fork full of the mixed grain and straw high into the air; the chaff is carried to a distance of 10 or 15 feet or more; the *tibn* is carried to a shorter distance and falls by itself, while the heavy grain and the joints of the stems (*qasâl*) falls near the point from which it was thrown into the air. By continued repetition of this process the three sorts of produce of the threshing floor are well sorted, the grain and *tibn* for use; the finer "chaff, the wind driveth away."

Much earth and many small pebbles are found among the grain; these are afterwards separated in the following way:—A wooden tray, about 2 feet 6 inches broad, with a rim about an inch and a-half high around three-quarters of its circumference, is held in the two hands of the operator, a pile of grain, with its impurities, is placed on the tray, which is then worked up and down by the operator with a jerking motion, so as to toss the grain a few inches each time into the air, while giving it at the same time a little forward impulse away from his body toward the free border of the tray. The wheat being lighter than the pebbles and the earth, gradually separates from them and falls in dribblets over the edge of the tray, while the stones gravitate toward the rim of the tray, and are then thrown aside; the process, which involves much skill and experience, is a very effective one.

These threshing floors, with their varied and picturesque industries

form a very prominent feature of the landscape in the neighbourhood of the villages.

There are many plains of great fertility and of considerable extent, as those of Coelesyria, Philistia, Jericho, Esdraëlon, 'Akkar, Hems, and Haurân; but a large part of the country is mountainous, and the soil must be laboriously worked over with the mattock and the hoe, and the stones picked out, before it is ready for the plough. This process is called *naqb*. It consists in turning over the soil, prying out the rocks, and removing the stones from the loam, then building terrace walls of rubble, and levelling off the terrace (*jell*). Such terraces are from a few feet to many yards in width; the narrower ones are adapted to trees, the wider to grain.

It is not customary to manure soil for grain crops; but fertilizers are freely used for trees, especially the mulberry, orange, lemon, and other fruit trees.

The time for ploughing varies according to the situation and the crop. On the sub-Alpine slopes of Lebanon the ground is irrigated by the snow-water, which pours down in numerous rills from the great drifts on the higher peaks; these fields, from 5,000 to 6,000 feet above the sea level, are ploughed in September and October, and sown with wheat and barley. The grain sprouts, and the plants, after attaining a certain height, are overlaid with snow, as with winter wheat in colder climates. When the snow melts in the later spring, the plants start up with a vigorous growth and soon mature their grain.

On the lower levels, where snow seldom or never falls, the ground is ploughed after the first rains of autumn, and the grain grows steadily until the harvest, which varies in time from March and April in the Jordan Valley, to May, June, and July on the uplands. For the summer crops, as *sorghums*, *sesame*, and *tobacco*, the ground is ploughed in spring.

The mulberry, fig, and olive orchards are ploughed in the spring, when the leaves are starting, and sometimes again when the first crop of leaves has been stripped off and the second is sprouting, then again in the autumn after the first rains. At the time of the latter ploughing the manure is usually worked into the soil.

The vineyards are ploughed in the latter days of winter, and early spring, before the leaves sprout, while the dry stalks of the vines lie along the ground to all appearance dead.

The grain fields of the mountains are ploughed and sown every year, and seldom is any attention paid to the rotation of the crops. In the great grain fields of Coelesyria, Damascus, Haurân, and other parts of the country, a portion of the land lies fallow alternate years, or the crops are rotated.

The ground is usually seeded before being broken by the plough, and the seed ploughed in. If the ground be fallow it is broken by the plough, then seeded, and the seed ploughed in.

In Southern Palestine a kind of funnel is attached to the handle of



the plough, and seed placed in this funnel is dropped into the furrow as the plough moves along.

So far as the writer's knowledge extends, the people have no religious ceremonies connected with ploughing, sowing, or reaping.

*Irrigation* is practised in various ways. In the gardens and orchards bordering large rivers, the water is often raised by immense wheels, turned by the current of the river. These are called *Na'ârahs*. The *Shadûf* of Egypt is not, so far as the observation of the writer has extended, used in Syria and Palestine. Aqueducts, usually open, convey river water to the gardens and fields, where it is distributed by ditches and furrows, the latter being opened or closed by the hoe or the foot. Where water is brought in pipes, which are usually made of clay, it is raised to a head by means of upright shafts, which act on the inverted syphon principle, and give force enough for fountain jets of considerable height.

The rice fields in the neighbourhood of Marash are flooded with water, as are also some of the vegetable gardens, where aquatic plants like the *Colocasia esculenta* (*qolyâs*) are cultivated.

Irrigation wells are found in many parts of the country, the water being raised by means of a bucket-wheel (*na'ârah*), turned by a horse, mule, or horned cattle. The water is usually conveyed to the different parts of the garden by conduits raised on high stone walls, or colonnades and arches.

Subsoil drainage is not understood, and indeed is seldom called for. Recently, however, a large tract of land has been reclaimed from the *Hûleh* by the Sultan, who owns it as a private property, and cultivates it by means of muzâr'in. There are considerable marshy tracts in various parts of the land, which await the sleeping enterprise of the country to become fruitful fields and orchards. Such are the marshes of the Kishon, of Cœsyrîa, of Antioch, Damascus, Alexandretta and others.

*Gleaning* is no longer a recognised industry. The cultivators strip the fields and trees, and leave not enough for a barnyard fowl or a sparrow to glean. They pull off the branches of the very shade trees by their own houses to feed the leaves to their cattle. There is, however, one usage which somewhat resembles gleaning. It grows out of the habit of the fig-tree. The fig harvest commences in July or August, and the figs ripen successively during two or three months. It is customary to have the trees watched by a *Nâṭûr* during the period of fruit-bearing. But after the Feast of the Cross, which occurs in September, the *Nâṭûr* is drawn off, and passers-by may thereafter pluck the fruit with impunity. If there be fruit on the trees, as generally happens, the owner will not fail to visit them, and glean them himself to the very last fig, but he is not surprised to find himself anticipated by other gleaners, who cannot, however, take all the fruit at once, as it only ripens a few figs at a time, from day to day.

The principal *Forage Plants* of the country, beside the numerous native grasses and leguminous herbs, are :—

- Lucerne or Purple Medick. (*Qutât, Duḥraijeh*) *Medicago sativa*, L.  
 Vetch. (*Bâqiyah*) *Vicia sativa*, L.  
 Vetch. (*Kirsenneh*) *Vicia Ervilia*, L.  
 Alexandrian Clover. (*Bersîm*) *Trifolium Alexandrinum*, L.  
 Sainfoin. *Onobrychis sativa*, L.  
 Barley. (When cultivated as a forage plant, *qosîlch*) *Hordeum vulgare*, L.

The principal cultivated *Seeds and Grains* used as food are :—

- Fitches. (*Habbat-el-barakah, El-habbat-es-saudâ*) *Nigella sativa*, L.  
 Lupine. (*Türmûs*) *Lupinus Termis*, Forsk.  
 Fenugreek. (*Hîlbah*) *Trigonella Fænum-Græcum*, L.  
 Chick Pea. (*Hümmüş*) *Cicer arietinum*, L.  
 Horse Bean. (*Fûl*) *Vicia Faba*, L., or *Faba vulgaris*, L.  
 Lentiles. (*Adis*) *Ervum Lens*, L.  
 Peas. (*Bizellah; Bishleh*) *Pisum sativum*, L.  
 Mâsh. A variety of *Vigna Nilotica*, L. A seed of an olive-green colour, a little larger than a hempseed.  
 String Bean. (*Lubiyah-belediyeh*) *Vigna sinensis*, L.  
 Kidney Bean. (*Lubiyah-ifranjîyah*) *Phaseolus vulgaris*, L.  
 „ (*Lubiyah-quşaş*) Perhaps a variety of *Phaseolus multiflorus*.

Carob. St. John's Bread. (*Kharrûb*) *Ceratonia Siliqua*, L. The parenchyma of the pods is the part used as food. It is principally made into dibs, a sort of inspissated syrup.

- Sesame. (*Simsûm*) *Sesamum Indicum*, L.  
 Barley. (*Shâ'ir*) *Hordeum distichum*, L., and *H. vulgare*, L.  
 Oats. (*Sheifûn, Shufûn*) *Avena sativa*, L. Sparingly cultivated in northern districts.  
 Wheat. (*Qomh Hîntah*) *Triticum vulgare*, L.  
 Sorghum. (*Durrah beîda*) *Sorghum annuum*, Pers.  
 Maize. (*Durrah şofra*) *Zea Mays*, L.  
 Millet. (*Dukhn*) *Panicum miliaceum*, L.  
 Rice. (*Arizz, Râz*) *Oryza sativa*, L.

The principal *Vegetables* are :—

- Pepperwort. (*Reshâd*) *Lepidium sativum*, L.  
 Cresses. (*Jerjâr, Qurrah, Reshâd*) *Nasturtium officinale*, L.  
 Cabbage. (*Melfûf*) *Brassica oleracea*, L.  
 Cauliflower. (*Qunnabîṭ, Qurnabîd*) *Brassica oleracea*, L.  
 Turnip. (*Lîft, Suljâm*) *Brassica rapa*, L.  
 Radish. (*Fîjl*) *Raphanus vulgaris*, L.  
 Caper. (*Kabar*) *Capparis spinosa*, L.  
 Purslane. (*Boql*) *Portulaca oleracea*, L.  
 String Bean. (*Lubiyah*) *Vigna sinensis*, L.  
 Kidney Bean. (*Lubiyah-ifranjîyah*) *Phaseolus vulgaris*, L.  
 Kidney Bean (variety). (*Lubiyat-quşâş*) *P. multiflorus*.

- Horse Bean. (*Fâl*) *Faba vulgaris*, L.  
 Peas. (*Bizellah, Bishleh*) *Pisum sativum*, L.  
 Cucumbers. (*Khîyar*) *Cucumis sativus*, L.  
 Muqti. (*Muqti*) *Cucumis Chate*, L.  
 Squash. (*Kâsa*) *Cucurbita Pepo*, L.  
 Pumpkins. (*Jelânt*) „ *maxima*, Duch.  
 Parsley. (*Baqdaunis*) *Petroselinum sativum*, L.  
 Carrots. (*Jezar*) *Daucus carota*, L.  
 Lettuce. (*Khus*) *Lactuca sativa*, L.  
 Turmeric. (*Zu'farân*) *Carthamus tinctorius*, L. Used for tinging rice in cooking.  
 Tomatoes. (*Banadora*) *Lycopersicum vulgare*, L.  
 Potato. (*Baqaqa*) *Solanum tuberosum*, L.  
 Egg-plant. (*Beitinjân* or *Badhinjân*) *Solanum melongena*, L.  
 Spinach. (*Sbânikh*) *Spinacea oleracea*, L.  
 Beets. (*Shemandâr*) *Beta vulgaris*, L.  
 Colocasia. (*Qolqâs*) *Colocasia esculenta*, Schott.  
 Onions. (*Başal*) *Allium cepa*, L.  
 Garlic. (*Tâm*) *Allium sativum*, L.  
 Asparagus. (*Haljân*) *Asparagus acutifolius*, L.

The *Fruits* are :—

- Sweet Sop (*Shajarat el Qashqa.*) *Anona squamosa*, L., is sparingly cultivated.  
 Grapes. (*'inab*) *Vitis vinifera*, L. There are very numerous varieties—from the Zante Currant to berries as large and as firm as a Lady Apple. They are of all colours from light green to black.  
 Oranges. (*Burdiyân, Bartughâl*) *Citrus aurantium*, L.  
 Bitter Orange—Seville Orange. (*Naring, Kubbeid, Abu-Sufeir*) *C. Bigarada*, L.  
 Mandarin Orange. (*Yusuf Effendi*) *C. Madarensis*, L.  
 Lemon. (*Leimân Hamîd, Leimân Malih, Leimân Marâkabi*) *C. Limonum*, Risso.  
 Sweet Lemon. (*Leimân Helu*) *C. Limonum*, var *dulcis*.  
 Citron. (*Kibbâd*) *C. medica*, Risso.  
 Jujube Berries. (*'ennâb*) *Zizyphus vulgaris*, L.  
 Nabq. Christ-Thorn. (*Nabq, Sidr*) *Z. Spina Christi*, L.  
 Cherry. (*Karaz*) *Cerasus avium*, L. Cultivated from Hems northward.  
 Plum. (*Khaukh*) *Prunus domestica*, L. Many fine varieties are cultivated in Syria.  
 Cerasia. (*Qarâsiyah*) *Prunus Cerasia*, Bl. A variety similar to the damson plum of our orchards.  
 Jenerik or Jarink. (*Jenârik* or *Jarink*) A plum, in shape like a cherry, as large as a walnut, but with a plum stone.  
 Blackberry. (*'ulleiq*) *Rubus cæsius*, L., *R. tomentosus*, Boeckh, and *R. discolor*, Nees.

Strawberry. (*Kubâsh*) *Fragaria vesca*, L.

Pear. (*Ijjâs*, vulgo *Najâs*) *Pyrus communis*, L. The wild Syrian pear, *P. Syriaca*, Boiss, produces small, acerb, almost inedible fruits.

Apple. (*Tiffâh*) *Malus communis*, Desf., is barely found in the north of Syria, but many poor varieties are in cultivation.

Quince. (*Sepherjel*) *Cydonia vulgaris*, Pers. Several excellent varieties are cultivated.

Apricots. (*Mishmish*) *Armeniaca vulgaris*, L. Several fine varieties are cultivated, among them the *Lauzi*, the *Kuleibi*, and the *Fârisi*.

Peaches. (*Derragn*) *Persica vulgaris*, L. The peaches of Syria are inferior.

Nectarines are cultivated in Damascus.

Service Berries. (*Makhlîs*, *Mahrîs*) *Sorbus trilobata*, Labill.

Medlar. *Mespilus Germanica*, L. Cultivated in Northern Syria.

Hawthorn Berries. (*Zârâr*) *Cratægus Azarolus*, L. Of this there are red- and yellow-fruited varieties. The fruit is as large as a small crab-apple.

Japanese Medlars. (*Enchidinia*) *Photinia Japonica*, are sparingly cultivated.

Wild Gooseberry. *Ribes Orientale*, Poir, grows wild in Higher Lebanon and Anti-Lebanon.

Indian Fig. (*Subbeir*) *Opuntia Ficus-Indica*, Haw.

Myrtle Berries. (*Hab-el-Aâs*, *Hanbelâs*) *Myrtus communis*, L.

Pomegranates. (*Kummân*) *Punica granatum*, L.

Cornels. *Cornus Mas*, L. In the woods of Northern Syria.

Persimmons of a large size are cultivated in Northern Syria.

White Mulberries. (*Tât*) *Morus alba*, L. Cultivated for silk worms.

Purple Mulberries (*Tut Shâmi*) *Morus nigra*, L. A delicious fruit.

Figs. (*Tîn*) *Ficus carica*, L. Of the fig numerous varieties are cultivated.

Sycamore Figs. (*Jummaizi*) *Ficus Sycomorus*, L. A poor fruit.

Olives. (*Zeitân*) *Olæa Europæa*, L.

Bananas. (*Mauz*) *Musa sapientium*.

Dates. (*Belh*, *Tamar*) *Phenix dactylifera*, L. Several varieties are cultivated. The pressed, dried fruit is called *Qutah*.

The *Nuts* are :—

Pistachio. (*Fistuq*) *Pistacia vera*, L.

Almonds. (*Lauz*) *Amygdalus communis*, L.

Walnuts. (*Jauz*) *Juglans regia*, L.

Filberts. (*Binduq*) *Corylus avellana*, L.

Beechnuts. *Fagus sylvatica*, L. In Amanus.

The *Melons* are :—

Water Melon. (*Battîkh akhdar* ; *Jebas*) *Cucumis sativus*, L.

Musk Melon. (*Battîkh asfar*) *Cucumis citrullus*, L.

The *Medicinal Plants* are :—

Poppy. (*Khishkhâsh*) *Papaver somniferum*, L. It is cultivated in Syria for its heads, out of which a sedative decoction is made. Opium is not produced in Syria and Palestine.

Mustard. (*Khardal*) *Sinapis alba*, L. = *Khardal abiaq*. *Sinapis arvensis*, L. = *Khardal barri*.

Marsh Mallow. (*Khîmîyeh*) *Althæa officinalis*, L.

Round-leaved Mallow. (*Khubbaizi*) *Malva rotundifolia*, L.

Violet. (*Benefsej*) *Viola odorata*, L.

Liquorice. (*Ury-es-Sûs*) *Glycyrrhiza glabra*, L.

Senna. (*Senâ-mekki*) *Cassia obovata*, Collad.

(*Senâ-sâ'idi*) *C. lanceolata*, Forsk.

Colocynth. (*Ionqol*) *Citrullus Colocynthis*, L.

Elaterium. (*Qiththâ-el-Himâr*) *Ecballium Elaterium*, L.

Scammony. (*Soqmunîyeh, Maîmudîyeh*) *Convolvulus Scammonia*, L.

Henbane, Hyoseyamus. (*Benj*) *Hyoseyamus aureus*.

Stramonium. (*Barsîh*) *Datura Stramonium*, L.

Tobacco. (*Tebagh, Titân*) *Nicotiana Tabacum*, L.

Castor Oil Plant. (*Kharwa'*) *Ricinus communis*, L.

Hemp. (*Qinnab*) *Cannabis sativa*, L. The extract *Cannabis Indica* is known under the name of *Hushish*.

Nutgalls. (*Ofs*) Galls from various oaks.

Squills. (*Basl el Fâr.*) *Urginea Scilla*.

The *Aromatics* are :—

Rose. (*Ward*) *Rosa Damascena*, L. Attar of Rose is distilled from it.

Cummin. (*Kammûn*) *Cuminum Cyminum*, L.

Caraway. (*Karâwîyah*) *Carum carui*, L.

Dill. (*Shibith*) *Anethum graveolens*, L.

Fennel. (*Shumâr, Shumr*) *Foeniculum piperitum*, DC.

Origanum. (*Za'tar*) *Origanum Maru*, L. This may well be the Hyssop of Scripture.

Mint. (*Nâ'na'*) *Mentha sativa*, L.

Thyme. (*Za'tar*) *Thymus Syriacus*, Boiss.

Summer Savory. (*Za'tar*) *Satureia hortensis*, L.

*S. enneifolia*, Ten.

The chief *Industrial Plants* are :—

Soapwort. (*Shersh-Halâwi*) *Saponaria officinalis*, L.

Cotton. (*Qutn*) *Gossypium herbaceum*, L.

Flax. (*Kittân*) *Linum usitatissimum*, L.

Persian Seeds. *Rhammus petiolaris*, Boiss. Used as a dye.

Butin Seeds. *Pistacia mutica*, F. and M. The seeds are used in tanning.

Sumach. (*Simmâq*) *Rhus Coriaria*, L.

Indigo. (*Nîl, Şabâgh*) *Indigofera argentea*, L.

Madder. (*Fuwweh*) *Rubia tinctoria*, L.

Soda Plant. (*Ushnân, Hushishat-el-Qali*) *Salicornia fruticosa*, L.

Hemp. (*Qinnab*) *Cannabis sativa*, L.

Valonia Oak. *Quercus Ægilops*, L.

Sugar Cane. (*Qoşab muş*) *Saccharum officinarum*, L.

The principal *Trees and Shrubs used as timber and fuel* are :—

Smoke Plant. *Rhus Cotinus*, L. *Fuel*.

Tanner's Sumach. (*Simmâq*) *Rh. Coriaria*, L. Seeds for *tanning*.  
Wood for *fuel*.

*Rh. oxyacanthoides*, Dun *Fuel*.

Terebinth. (*Butm*.) *Pistacia Terebinthus*, L., and its variety *Palæstina*. *Fuel*.

Muticous Terebinth. (*Butm*) *P. mutica*, F. et M. The typical tree of the Syrian desert. The Arabs gather the small nuts and sell them for tanning purposes. Wood used as *fuel*.

Mastich. (*Mastik*) *P. lentiscus*, L. The inspissated sap used as a *chewing gum*, the wood as *fuel*.

Bân. (*Bân*) *Moringa aptera*, Gært. *Fuel*.

Maple. (*Qaiqöb*) *Acer Hyrcanum*, F. et M. *Fuel*.

” ” *A. Monspessulanum*, L. *Fuel*.

” ” *A. Syriacum*, Boiss. *Fuel*.

Bladder Nut. *Staphylea pinnata*, L. *Fuel*.

Zaqqûm. (*Zaqqûm*) *Balanites Ægyptiaca*, Del. *Fuel*. A kind of balsam is prepared from the fruit, and sold at Jericho as *Balm of Gilead*.

Pride of India. (*Zinzilukht*) *Melia Azedarach*, L. The favourite shade-tree of Syria. Used for *house-timbers* and *fuel*.

Jujube. (*Ennâb*) *Zizyphus vulgaris*, Lam. The berries are eaten, and the wood is used as *fuel*.

Christ-Thorn. (*Nabq, Sidr*) *Zizyphus Spina-Christi*, L. *Fuel*. The fruit is *edible*, but astringent.

Lotus. (*Nabq*) *Zizyphus Lotus*, L. *Fuel*.

Buckthorn. (*Zifrin*) *Rhamnus alaternus*, L. *Fuel*. Also an ornamental shrub.

Carob. (*Kharnûb, Kharrûb*) *Ceratonia Siliqua*, L. A fine *shade-tree*. Also cultivated for its *pods* (St. John's Bread, “the husks that the swine did eat”), out of which a sort of syrup is made. Also used for *building purposes*, and *fuel*.

Red Bud. Judas Tree. (*Zemzarîq*) *Cercis Siliquastrum*, L. *Fuel*.

Shittim. (*Sünt*) *Acacia Nilotica*, Del. A durable wood, used for *building purposes*, and *fuel*.

Shittim. (*Anbar*) *A. Farnesiana*, Willd. *Fuel*. The sweet-scented flowers are greatly prized by the Arabs.

Seyal. (*Seyyâl*) *A. tortilis*, Hayne, and *A. Seyyal*, Del. Largely used as *fuel*, and in making *charcoal*, which is sold in Egypt.

Almond. (*Lauz*) *Amygdalus spartioides*, Spach. *Fuel*

” ” *A. communis*, L. Used in *building*, and for *fuel*.

The green almonds (*Qur'aun el-lauz*) are prized by the natives as a delicacy, and the ripe ones are a considerable product.

- Almond. (*Lauz*) *A. Orientalis*, Ait., and *A. Lycioides* Spach., are used only as fuel.
- Cherry. (*Karaz*) *Cerasus avium*, L. The fruit is sparingly used in Northern Syria. The wood is valued *for the arts*, and as fuel.
- Cherry. (*Karaz*) *C. microcarpa*, C. A. Mey. *Fuel.*
- ” (*Mahleb*) *C. Mahaleb*, L. *Fuel.*
- Plum. (*Khaukh*) *Prunus spinosa*, L. *Fuel.*
- ” ” *P. monticola*, C. Koch. *Fuel.*
- ” (*Khaukh ed-dibb; Braqrâq*) *P. ursina*, Ky. The sour fruit is nevertheless *eatable*. The wood makes good fuel.
- Plum (*Qarâsia*) *P. Cerasia*, Bl. The fruit is a delicious sort of Damson Plum. The wood is good fuel.
- Plum. (*Khaukh*) *P. domestica*, L. Many varieties are cultivated for fruit. All make good fuel and timber.
- Pear. (*Ijjâs; Najâs*) *Pyrus Syriaca*, Boiss. *Fuel.*
- ” ” *P. Boveana*, Dec. *Fuel.*
- Apple. (*Tiſſâh*) *Malus communis*, Delf. Cultivated for fruit. Its wood is good fuel.
- Service Tree. (*Makhlîs; Mahrîs*) *Sorbus trilobata*, Labill. The small fruit is eaten. The wood is good fuel.
- Service Tree. (*Makhlîs; Mahrîs*) *S. Aria*, Crantz. *Fuel.*
- ” ” *S. torminalis*, L. *Fuel.*
- Medlar. *Mespilus Germanicus*, L. The fruit is *edible*, and the wood good fuel.
- Hawthorn. (*Zarâr*) *Crataegus Orientalis*, Pall. *Fuel.*
- ” ” *C. Azarolus*, L. The fruits are edible, and make a delicious jelly. The wood is excellent fuel.
- ” ” *C. Sinaica*, Boiss. *Fuel.*
- ” ” *C. monogyna*, Willd. A tree with *beautiful crimson inedible fruits*, as large as a pea. The wood is good fuel.
- Cotoneaster. *Cotoneaster pyracantha*, L. A tree with *beautiful crimson inedible fruits*, resembling those of the American mountain ash (*Pyrus Americana*). Wood makes good fuel.
- ” ” *C. nummularia*, F. et M. *Fuel.*
- Strawberry Tree. (*Qotlib*) *Arbutus Unedo*, L. The berries are *edible*. The wood is a poor fuel.
- Arbutus. (*Qotlib*) *Arbutus Andrachne*, L. A curious tree or shrub with a red trunk and branches, the outer bark scaling off and leaving the wood bare. *Fuel.*
- Bird Lime Tree. (*Dibq; Bumbâr*) *Cordia Myxa*, L. *Bird Lime* is made from the juice of the berries. The wood is a *poor fuel*.
- Storax. (*Hauz, Abhar; Libnah*) *Styrax officinale*, L. *Fuel.* The resin is the officinal Storax.
- Olive. (*Zeitân*) *Olea Europæa*, L. The berries are one of the chief

products of Syria and Palestine. The wood is extensively used for *articles of vertu*, and is *excellent fuel*.

Phillyrea. Phillyrea media, L. *Fuel*.

Fontanesia Fontanesia phillyreoides, Lab. *Fuel*.

Ash. (*Dardâr*) Fraxinus Ornus, L. A fine *timber tree*; also highly valued for *fuel*.

F. oxyphylla, M. B. *Building purposes and fuel*.

Silver Berry Tree. Eleagnus Hortensis, M. B. *Fuel. Hedges*.

Laurel. (*Ghâr*) Laurus nobilis, L. *Fuel*.

Castor Oil. (*Kharwâ*) Ricinus communis, L. The seeds furnish an oil which is used for *lighting purposes*, as well as a *cathartic*. The wood makes *poor fuel*.

Box. Buxus longifolia, Boiss. Wood used *in the arts*; also as *fuel*.

Fig. (*Tîn*) Ficus Carica, L. The *fruit* is a main reliance of the people. The leaves are *fodder* for cattle. The wood is a *poor fuel*.

Sycamore. (*Jummaiz*) Ficus Sycomorus, L. A *timber tree*. Wood makes *good fuel*. Fruit *edible* but poor.

False Sycamore. (*Hanâd*) F. pseudosycamorus, Dec. *Fuel*.

Hackberry. (*Mais*) Celtis Australis, L. A *shade tree* somewhat resembling the elm. The wood is *good timber* and *fuel*.

Walnut. (*Jauz*) Juglans regia, L. A magnificent *shade tree*, usually near fountains. The wood is much used in *furniture making*.

Mulberry. (*Tât*) Morus alba, L. The leaves are the *food of the silkworm*, and *fodder for cattle*. The wood is much used in *the arts*, and as *fuel*.

Black Mulberry. (*Tât Shâmî*) M. nigra, L. The berries are a *luscious fruit*. The wood is valuable as *timber* and *fuel*.

Plane Tree. (*Dilb*) Platanus Orientalis, L. A fine *timber tree*, growing along the river bottoms. Also *good fuel*.

Evergreen Oak. (*Sindiân*) Quercus coccifera, L. *Shade tree*, especially about tombs. Gives *good timber* and *fuel*.

Portuguese Oak. (*Mellâl*) Q. Lusitania, Lam. *Timber* and *fuel*. A fine *shade tree*, but with leaves deciduous in autumn.

Scrub Oak. Q. Ilex, L. *Fuel*.

„ „ Q. Cerris, L. *Timber* and *fuel*.

Ehrenberg's Oak. Q. Ehrenbergii, Ky. *Timber* and *fuel*.

Valonia Oak. Q. Ægilops, L. The *cupules* are used extensively in *tanning*. The wood makes excellent *timber* and *fuel*.

Valonia Oak. (*Lûq*) Q. Look, Ky. *Fuel*.

Lebanon Oak. (*Sindiân*) Q. Libani, Oliv. *Timber* and *fuel*.

Beech. Fagus sylvatica, L. The nuts *are eaten*. The wood makes *good timber* and *fuel*.

Filberts. Hazel-Nuts. (*Bindûq*) Corylus Avellana, L. *Timber* and *fuel*.

Iron Wood. Carpinus Duinensis, Scop. A *hard timber tree*. Wood excellent *fuel*.

Hop Hornbeam. Ostrya carpinifolia, Scop. *Fuel*.



Alder. (*Naght*) *Alnus Orientalis*, Dec. A *shade tree* growing along streams. Furnishes good *timber* and *fuel*.

Willow. (*Sifşaf*) *Salix Salsaf*, Forsk. *Timber* and *fuel*.

Brittle Willow. (*Sifşaf*) *S. fragilis*, L. *Fuel*.

White Willow. (*Sifşaf*) *S. alba*, L. *Fuel*. The twigs are used for *basket work* and *making hedges*.

Weeping Willow. (*Sifşaf*) *S. Babylonica*, L. A fine *shade tree*.

Caprea Willow. (*Sifşaf*) *S. Caprea*, L. *Fuel*.

Pedicelled Willow. (*Sifşaf*) *S. pedicellata*, Desf. *Fuel* and *baskets*.

Black Willow. (*Sifşaf*) *S. nigricans*, Fries. Twigs used in *basket work*. Wood used as *timber* and *fuel*.

White Poplar. (*Haur*) *Populus alba*, L. A tree with a *tall, straight trunk*, much used for *roofing timbers*; also for house *carpentry* in the interior. It is extensively cultivated throughout the country, in the neighbourhood of watercourses.

Euphrates Poplar. (*Haur*) *P. Euphratica*, Oliv. *Timber* and *fuel*.

Black Poplar. (*Haur*) *P. nigra*, L. *Timber* and *fuel*.

Pyramidal Poplar. (*Haur*) *P. pyramidalis*, Roy. *Timber* and *fuel*.

Stone Pine (*Snûbar*) *Pinus Pinea*, L. A fine tree with a spherical head, but usually trimmed into a palm-like shape. Furnishes very *heavy beams* and good *fuel*. It is not often used in house carpentry, except for roofing. The trunks support the heavy earthen roofs of the flat-topped houses.

Aleppo Pine. (*Arz*) *P. Halepensis*, Mill. *Timber* and *fuel*.

Bruttian Pine. (*Snûbar*) *P. Bruttia*, Ten. *Timber* and *fuel*.

Cedar of Lebanon. (*Arz, Ibhûl*) *Cedrus Libani*, Barr. *Timber* and *fuel*.

Cilician Fir or Spruce. *Abies Cilicica*, Ant. and Ky. *Timber* and *fuel*.

Cypress (*Sarû*) *Cupressus sempervirens*, L. A *shade tree*, especially used in cemeteries.

Large-fruited Juniper. (*Difrân. Ardîtsh*) *Juniperus drupacea*, Labill. *Timber* and *fuel*.

Large-fruited Juniper (*Difrân. Ardîtsh*) *J. macrocarpa*, L. *Timber* and *fuel*.

Tall Juniper. (*Sherbîn*) *J. excelsa*, M.B. *Timber* and *fuel*.

Phœnician Juniper. (*Sherbîn*) *J. Phœnicia*, L. *Timber* and *fuel*.

Yew. (*Illedên*) *Taxus baccata*, L. *Fuel*.

Besides the above-mentioned trees, there are used as fuel almost all the shrubby and thorny plants of the country. Some—as *Billân* (*Poterium spinosum*, L.), several species of *Genista*, *Spartium*, *Salvia*, *Calycotomo-*—are used even in burning lime and heating ovens, as well as in cooking.

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### III.—PHYSICAL CHARACTERISTICS OF THE PEOPLE.

The people of Syria and Palestine are, as a rule, shorter of stature than those of northern Europe. It is uncommon to see a man over

5 feet 6 inches in height. Women are proportionally smaller than those of Europe. In a large assembly of natives, with a few Franks interspersed, the Franks generally overtop all about them by 2 or 3 inches or more. Nevertheless, tall men are occasionally seen, and a few tall women.

The inactive habits of citizens, and their free use of fatty articles of diet, cause a tendency to corpulency, which is especially noteworthy in the women. Most of them are embonpoint, and many, even quite young girls, are unpleasantly obese.

The features of the people are in general good, but differ much by reason of sect and habits; as a general rule, Christian women are better-looking than non-Christian. This results from their greater freedom, which allows them more exercise, and from their greater intelligence, which adds an indefinable charm to female features. Heredity strengthens these qualities. Brunettes are more common among the non-Christians than among the Christians, although many of the Christian women are quite dark complexioned. Many, however, are exceedingly fair. A fair complexion is always considered more beautiful than a brunette. The young men of the Mohammedans have little or no advantage in point of personal appearance over the Christians, but in later life the influence of belonging to the ruling class tells on the development of the countenance, and elderly Mohammedan men are in general finer looking than elderly Christian men.

The Mohammedan type of countenance is a long oval, with regular features, often but not always Semitic in cast, with dark hair, dark eyes, straight or slightly aquiline nose, a good mouth, a fair facial angle, usually rather ugly ears, and a good, average chin. The young girls even are rarely pretty. The old women are exceedingly haggish. This results less from natural defect of conformation than from the unbridled temper in which they constantly indulge from childhood. The voice of Mohammedan women is shrill, spiteful, and passionate. The lives of unrestrained passion are soon deeply sculptured into their countenances, and spoil what may have been there of natural beauty.

The Christian type of countenance is a little more rotund, the features of the women are in general decidedly more comely, and the complexion fairer. Many of the young women are beautiful. The forehead is broad and low, the hair usually dark, sometimes a light brown, very rarely red. The eyes are usually dark hazel, sometimes blue, generally fine. The Maronites are of a darker complexion than the Greeks and Greek Catholics. The Armenians are darker than either, in fact, always brunettes. In general, it may be said that the faces of the Christians, men and women, are regular, pleasing, and, as a whole, there are less ugly persons in a thousand than would be the case in most countries of Europe.

The Druze type strongly resembles the city Arab type of Arabia. The men are for the most part handsome, but the women are seldom beautiful.

The figure of the native woman is originally good. The young girls

have full busts, and, but for the disproportionate development of the abdomen from gross feeding and inordinate drinking of water, would be graceful. Those women who go to the fountains, and carry water jars and other burdens on their heads, acquire a very erect port, and move with precision and grace. But the slatternly dress, and some peculiarities in the mode of lactation, soon spoil female figures here, and, after twenty-five years of age, one rarely sees a woman who, by the greatest stretch of politeness, could be called graceful.

The mountaineers, and inhabitants of the interior table-lands, have great powers of endurance, as is shown by the long journeys which they take, and the fatigue and exposure which they bear, and the long continuance of labours which might be expected to wear out their vitality. For example, muleteers will start at daybreak, having fed and groomed their animals before light, and walk after them all day long, and then lie down in their 'abâyeħ to sleep on the hard ground. Their food during this long period will perhaps have been bread with olives or cheese, and may be an onion or a few bunches of grapes.

The porters of the cities carry immense weights on their backs. This very morning the writer saw one carrying five dressed sheep on his back, with the thermometer at 95° F. in the shade.

No doubt the endurance of the fatigues and exposure to which many of the peasantry are subjected is largely attributable to the absence of alcoholism in the system. To the same cause is to be attributed the excellent results of surgery among this people. Blood-poisoning is far more rare than among the alcohol-sodden people of Europe.

But although the peasantry are a fairly hardy race, great physical strength is not a characteristic of the people. Their meagre diet forbids this. Eating flesh but seldom, and living mainly on bread, milk and its derivatives, and vegetables and fruit, the muscular system is not commonly highly developed. Trades, that should cultivate muscle, are pursued here in a sitting posture, and with so little outlay of force that they do not contribute largely to the growth of the muscles. The result of this want of vigour is seen in the fact that, to achieve a given amount of labour many more men are required here than in our own lands. When labourers are called upon to lift a heavy beam, or roll a large block of stone, four times as many as we should deem necessary take hold, and make up by shouting for sturdy outlay of strength.

Exercises, as such, are rather distasteful, even to boys and men, and altogether so to girls and women. Children, of course, have sports, but they are not so active as those of colder lands. Baseball, cricket, tennis, boating, running, jumping, wrestling, boxing, and the numerous other active sports of young Englishmen have no existence and no counterpart here. The ideal of enjoyment is either a mad gallop on horseback or sitting by running water in the shade, playing cards, telling stories, or smoking and chatting. At weddings, however, the young men throw off their lethargy, and dance, sometimes with great expenditure of physical energy, and fence with sword and shield, and pirouette on their mettlesome

horses. The national game of *jerid*, which consists of throwing a stick while at a full gallop, and catching it on the rebound, is athletic enough, but is little played.

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#### IV.—MENTAL CHARACTERISTICS OF THE PEOPLE.

The intellects of Orientals are characterised by keenness of the perceptive faculties, good memory, and versatility. They are less remarkable for logical power, judgment, and originality.

The strength of the perceptive faculties makes it easy for children to learn what is laid down in a book and for young men in college to commit to memory the matter of a lecture, if the manuscript is given to them. The want of the logical faculty makes it impossible for the student to take notes from a lecture. He cannot select the salient points and pregnant words of a discourse and note them down. Hence teaching by lecture has not been found a good system for the people of this land.

As a corollary to the strength of the perceptive faculties, *curiosity* is a marked trait of Syrian character. If two persons are walking together and talking, some boy will be sure to walk as near to them as he can get to pick up scraps of their conversation. If one stops in the street to write a memorandum in his pocket note-book, a passing porter, with two hundred pounds on his back, poises his load on his hips and waits to see why. His curiosity excites that of a woman with a sixty pound water jar balanced on her head, and she stops. A little boy with a bunch of grapes in his hand must see what it all means, while indemnifying himself for loss of time by eating his grapes. A donkey driver lets his animals forge lazily on, while he peers over the shoulders of the boy with the grapes. The driver of an empty carriage arrests his course, and stands upon his box to see why a donkey boy looks over the shoulders of a grape-eating boy, a woman with a jar, and a porter with a heavy load, at a stranger with a note-book and pencil in his hand. In an incredibly short space of time a crowd has been collected. When the man quietly puts the pencil in the note-book and the note-book in his pocket, the porter resumes his weary plodding, the woman with the water jar swings away to her house, the boy who has just finished his grapes goes off with a whoop and a hoot, the donkey boy races after his loitering beasts and stirs them up with a few curses and blows of his cudgel, the driver cracks his whip and starts his team, the crowd dissolves, and the man with the note-book quietly goes his way.

This curiosity enters into the life of the people, and influences all that they undertake. Everybody's business is that of everybody else's. They do not hesitate to ask for information on whatever is going on, no matter how private its nature may be.

The good memory of Orientals makes the acquisition of languages easy, and it is quite common to see a person here who can speak and write well in several tongues. On the other hand, the deficiency of the logical

faculty makes it hard for them to excel in the Mathematics and the Natural Sciences.

The strength of their perceptive faculties, coupled with the weakness of the reasoning power, causes argument to move on analogical rather than logical lines. A point is better carried by an illustration than by a syllogism.

The versatility of their mind stands in the way of stability and cumulative attainment. Many individuals have attained general culture, few have become profound scholars. Superficiality is the characteristic of educated mind here.

It results from these peculiarities that originality of thought is rare. Men investigate nothing. They do not study Nature and her laws. They do not cultivate philosophy, except with a view to hair-splitting argument, of which they are fond. There is no literature in our sense of the term. The stories which stand in the place of a literature are obscene. Poetry, of which the people are passionately fond, is conventional and limited in its range. Love, war, personal adulation, and a mystical philosophy are its themes. There is no proper epic in the Arabic. There is no poetic literature of the home, of Nature, of national life and patriotism, of history, or of religious life. When the missionaries wished to prepare a hymn-book, they could not call out the poetic gifts of the people in hymnology. The hymns are almost all translations from the English. Yet the Arabs love poetry to a degree which seems to strangers almost absurd. Boys in college versify algebra and anatomy. Everybody with any pretence to education makes verses. In a speech the poetical passages are applauded, whether understood or not. Indeed, poetry is valued rather in proportion to the involution of the thought and the obsolescence of the words. But it is none the less valued, and is a power of no little importance.

When, through successive generations of education, the more solid qualities of the mind shall have become hereditary, the sparkle and brilliancy of the Syrians will lend a charm to their culture, which, even now, half blinds one to their superficiality and overweening self-confidence.

Meantime, the quality of self-confidence carries them far toward the realisation of the advantages of solid acquirements. A boy who has studied English but six months will stand up before an audience that would put an English boy, speaking in his own tongue, quite out of countenance, and debate, extemporaneously in English, a question of history and philosophy. He seems quite insensible of his deficiency, and only awake to his knowledge. Even failure does not seem to confuse and embarrass him. Diffidence is a quality almost unknown. Consequently an Arab always appears at his best. Whatever he knows he can use at call, and use skilfully and well.

In matters of *taste* the Syrian is undeveloped, but none the less strongly pronounced. He likes *contrasts of colour*, but does not understand *harmony of tints*. The poor, dirty women of Palmyra go to the

fountains in costumes of red, white, blue, and yellow. The Mntawáli women come into Beirút with bundles of grass to sell, wrapped in their crimson or scarlet veil, and when they have sold them march off with as much pride in the colour of their dirty garments as any European belle in her magnificent costumes. The houses are painted with the most brilliant hues of green, blue, yellow, and red. In some places the artisans have learned something of the harmony of colours, but often green and blue stare at you, side by side, on the same wall. They are constantly associated in their textile fabrics of wool and silk.

The Syrians love *music*, but it is usually either a dull monotone, in a minor key, or a series of wild sounds, which seem more like the inarticulate notes of a midnight forest than the regulated expression of the harmony of the soul. Yet such as it is, although hardly amenable to the laws of western notation, it has a power over the minds of the people apparently greater than that exercised by the more artistic harmony of Europe and America. Muleteers sing to while away the weary hours while they tramp behind their animals. Sailors sing to the plash of the oar and the pulling of the ropes. Quite young children sing most vociferously, and their voices are quite fascinating to their own people. In entertainments in the Frank schools the native music is far more appreciated than the foreign. There is singing at weddings, chanting at funerals, and intoning everywhere in divine worship. Music is more or less obedient to law in the Oriental mind, albeit the intervals and harmonies differ very widely from western ideals. It has even been committed to paper, and, in a modified form, expressed by western notation. Of this more anon.

The Syrians are not remarkable for the development of the idea of *form*. Few draw, and fewer paint. The ecclesiastical pictures are rude daubs, of the most conventional type. There are no sculptors, except the few who have learned a little of the art of making figures of men and other natural forms to meet a foreign demand. There are very clever stone-cutters, who can design and execute vases, pillars, ecclesiastical ornaments, balustrades, and elaborate patterns for walls and pavements, in marble, limestone, sandstone, and slate. Many of the arabesque carvings and complicated wall figures and pavements in Damascus and Beirút are masterpieces of this sort of art. But it is a conventional art, not an imitation of the free, graceful outlines of nature. Even in this the Oriental has degenerated from his ancestors, who carved the beautiful doorways, niches, and arches which adorn so many Saracenic ruins.

*Architecture* is almost a lost art. The standard idea of a dwelling house is a cubical box, with partitions and apertures. The staircase, if there be a second storey, is usually outside the building. Most of the roofs are flat. The only graceful feature of a truly Oriental town is the slender minarets, and the arcades which are built in front of the cube, to afford an outdoors for enjoying "*keif*," the "*dolce far niente*" so dear to this people. In some cities, as Jerusalem, the want of wood has led to

the development of the dome, not as an ornament, but as a matter of necessity. The effect is one of solidity and architectural beauty.

The Syrian taste for *location* is pronounced and correct. Although villages are necessarily built where water is accessible, the people take the greatest pains to build their houses on the most airy sites, overlooking the most extensive view. One of the villages near Beirût, which has a matchless variety of views over the green plain, the dunes, and the blue Mediterranean, is named *Shuweijât* (*The Little Views*), and not a spur of rock, or a knoll commanding the ravines which intersect the town, and divide it into three distinct villages, has been neglected in the choice of building sites. The women are contented to toil up 200 feet of steep hillside, with a heavy jar of water on their shoulders, rather than have their houses in the ravine, at the level of the fountain. Doubtless the choice of these fine sites is determined in large part by the fresh breezes which sweep over the more prominent features of the surface; nevertheless the proprietor speaks in glowing terms of the grand sweep of the view. The convents of the country are almost all placed in the most picturesque locations, often at the expense of great inconvenience in the matter of water and other supplies. For a similar reason towns themselves are usually picturesque, especially in rolling and mountain regions.

The taste for *physical beauty and ornament* is intense. The descriptions of types and instances of female beauty in Arabic poetry are fervid and infinitely varied. Nothing escapes the vivid word painting of the silky tresses, "black as the raven's plume," the snowy brow, "pure as the Alpine drift," the arched lids, the long, dreamy lashes, the gazelle-like eyes, the chiselled nose, the ruby lips, the pearly teeth, the dimpled chin, the rosy cheek, the graceful neck, the queenly form, the god-like gait, the lily hand, the slender fingers, the enamelled nails, which are all described with a variety of expression which the literary ingenuity of the poets and the marvellous flexibility of the Arabic language, have alike rendered possible.

The horse, the camel, the lion, the perfect warrior are types of beauty and nobility, which furnish inexhaustible themes for the taste and descriptive power of the poets. Hundreds of names exist for each of these ideals, most of them expressive of phases of excellence and beauty.

The *love of ornament* is a passion amongst this people. The poorest of the women wear gay colours, even if the material is fringed into rags and tatters of blue, and green, and scarlet, and yellow. They wear bracelets, even if they cannot afford anything better than brass, or glass, or pottery. They stain their fingers and nails and feet with henna. They tattoo their arms, breasts, chins, cheeks, and foreheads with blue and scarlet, and the Bedawîn women, and some of the peasants, tattoo their lips with a lead-coloured stain. They wear ear-rings, nose-rings, brooches, tiaras of jewelry, velvet, silk, or lace, hair-pins with jewelled heads, necklaces, armlets, anklets, rings. The women, in many places, wear their dowry in

strings of gold and silver coins around their faces, or their heads, or hanging down their backs, braided with their hair. They love striking contrasts rather than harmonies in the colour of their dresses.

The taste for *odours and perfumes* is also almost a passion. Some of their standards are not agreeable to Occidentals. For example, *Habbag* (*Ocimum Basilicum*) is one of their favourites. My patients constantly bring it to my clinics. It is rather too strong for most Europeans and Americans. Henna is also a great favourite. To many Western nostrils it is mawkish and offensive. On the other hand, the natives are equally fond of perfumes of undoubted excellence. They love to surround their dwellings with jessamine, violets, mignonettes, roses, tuberoses, and carnations. No more delicate compliment can be offered here than to present a bunch of sweet-smelling flowers. My clinical table is often fragrant with these floral tributes from those too poor to show in any other material form their gratitude for services rendered. In the houses of the poorest people you will often see a bright-flowered, sweet-smelling carnation or rose, in a fragment of a water-jar or an old petroleum tin.

The *feelings* of Syrians are characterised by intensity rather than constancy. They pass quickly from grave to gay. They are sensitive to the point of touchiness, especially in that which relates to their country, their sect, their family, or their religion. A man who will take reproof or reproach directed at his own personality will at once resent a slighting allusion to his family, and will become furious at an innuendo against his religion and his sect. To curse a man is so common that no one thinks much of it. But to curse a man's religion is an actionable offence. Foreigners who indulge in such bad taste as to speak disparagingly to Syrians of their people in general take the surest way of making themselves hated. The people constantly speak thus of each other, and of their people collectively, but it is the best policy for a foreigner who hears such a remark to receive it with discreet silence.

The intensity of the feelings of Arabs is shown by the vast number of phrases capable of a double meaning which are idiomatic in their language. To defend themselves against the supposition of intending a double meaning, it is customary for the Arabs to say *bela ma' na* (*without meaning*) whenever they use a word susceptible of such interpretation, or they will say *ajellak Allah* (*may God exalt your nature*), that is, above any such low and injurious construction of what I have said.

The *will* of the Arabs is rather irresolute. They do not lack *wilfulness*, but a steady, resolute, self-determined, self-reliant will is a rare quality. This undoubtedly arises from the breaking of their wills by ages of misrule and oppression. Meantime, the loss of a self-poised will explains in part the depression of all industries and the stagnation of enterprise, which none see more clearly than the people themselves.

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## V.—MORAL CHARACTERISTICS OF THE PEOPLE.

It is a difficult and delicate task for a foreigner to judge impartially of any of the characteristics of the people among whom he travels or lives. But in nothing is this difficulty so great as in point of *morals and religion*. The standards of different countries and peoples differ so widely in this regard that the largest charity must be exercised, and the most favourable construction given to all doubtful instances. In what may be said on this topic the writer will endeavour to give a calm, dispassionate, and just presentation of facts, accumulated during a long experience, and make only fair inferences and generalizations, and avoid, as far as possible, comparisons with other peoples.

*Truthfulness.*—There is an Arabic proverb, "*Lying is the excellence of men; the disgrace is to him who tells the truth.*" This saying, however, like all proverbial expressions, is only a sententious generalization, and can by no means be applied to all persons and all transactions. Many Syrians tell the truth at times, many generally tell the truth, a few nearly always. But it is so generally admitted that no native will tell the truth at once and simply, when it is disagreeable to the listener, that everyone expects a man to suppress a part at least of such truth, to cover it up by a partial lie, or to tell an out-and-out lie, which will prevent the person from suspecting the truth. Thus, if a father has died, the one who possesses the information may say to his son that his father is indisposed, or that he has been ill but is now well, or that he sends his regards and hopes soon to return. In either case, such is apt to be the son's conviction that the friend is not telling the truth that he usually breaks out at once into frantic grief, and adjures the informant to tell him the facts. If the informant thinks that the shock will be too great, he may now flatly deny the death. Otherwise, he may make a succession of admissions, each nearer to the catastrophe, and each an actual or virtual lie, until the truth bursts in its overwhelming force on the mind of the son.

I am daily asked by friends of my patients to tell the sick man that there is nothing serious, that he will soon be well, that he does not need any operation, and the like. As I cannot tell these falsehoods, the friends take it upon themselves to tell them for me, and appeal to me in the presence of the sick man to confirm them. It requires the utmost tact in many cases to avoid offending the sensibilities of the friends on one side, and frightening the patient to death on the other.

This class of falsehoods is looked upon by natives as right and necessary, and is dictated by a kindly though perverted feeling. Thus the writer was called to a distant part of the country to see a man in a desperate case of illness. When near the village, his conductor begged him to say to the sick man that he was by accident in a neighbouring town, and hearing of his illness called to see how he fared. On representing to my conductor how useless and shallow such a falsehood would be in deceiving the sick man, he suggested that I should tell him

that I was very much provoked at being called so far to see one who had no need of my services. I then asked him whether, having had confidence enough in me to call me, he had not enough to trust that I would use tact in my intercourse with the patient. He replied, "Of course he had, but——" and suggested other modes of meeting the case.

This class of falsehoods, while most foolish and ineffective, is the least sinful of the many phases of untruthfulness ; but it is *well-nigh universal in the East*.

The people are, as a class, unreliable about keeping promises and agreements. Thus a carpenter engages to begin work for you on a certain day. When the day arrives it is quite likely that he will not come. To oblige you he will promise, when he knows that another job, previously undertaken, will prevent him from meeting his appointment with you. He does not reflect that you will be more provoked at his failure to come when he promises than his refusal to promise when he knew he could not come. Everyone who has any experience in building here knows how many weary days and weeks are wasted by the untruthfulness of the artisans on whom he relies. Boatmen and muleteers are especially untruthful, and often delay a journey by their failure to keep their word. In consequence of the universal distrust of promises of this sort, it is customary to exact of boatmen, livery stablemen, muleteers, and others with whom one makes an agreement, a pledge, which will be forfeited if the agreement is broken.

In general, Syrians put little faith in each other. The speaker is so conscious of the fact that the hearer does not believe him that he constantly fortifies his assertions with oaths :—"by my conscience," "by my virtue," "by my religion," "by the life of God," "by your life," "by the life of your son," "by the mercy shown to your father." These are some of the "oaths for confirmation" which are daily heard, but which do not end strife, because their value is well known. As the persons arguing a point both use the same oaths on opposite sides, it may be supposed that one set of asseverations neutralises the other. Perjury before the Courts is of daily occurrence. The Life Assurance Companies of Europe decline to take policies on Oriental lives, owing to the difficulty of obtaining reliable testimony on the points insisted on in the preliminary enquiry and the certificate of death.

So general is the habit of lying that it calls for an explanation. To the writer it has seemed to arise primarily from a sense of weakness and oppression, which has put the people on their guard against committing themselves. This explanation covers the innumerable number of falsehoods which seem to be uttered without any adequate motive, and which certainly do the person who utters them no good. A person who has told the truth has nothing more to say ; he has no other card to play. One who has told a lie still has the truth to fall back on, and may claim some merit in coming out with a frank avowal. In point of fact, we every day meet with instances in which a person has fenced and parried with untruths, and then at some opportune moment says, "Well ! I will

tell you the truth," so-and-so. The conversations of Samson and Delilah on the source of his strength illustrate this habit.

Once the habit of lying is established, it is easy to see how it should become the rule of conversation, in all cases where one wishes to be guarded. Instead of discreet silence, or skilful evasion of a compromising question, the more effective method of a deliberate falsehood is calmly resorted to, and justified on the plea of necessity. "What can we do?" is every day in every mouth.

It must not be supposed, however, that any one here maintains falsehood in thesis. The complimentary prevarications, the reservations, verbal and mental, in which they indulge to spare the feelings of others, the positive untruths which they tell with the same motive, are excused and condoned as necessary. But a reputation for truthfulness is as valuable in this land as in any other, perhaps more so.

*Honesty.*—This quality is *truthfulness in act*. It goes with truthfulness in word. An exact equivalent for the word honesty does not exist in the Arabic. The nearest to it is *amaneh*, which rather means trustworthiness.

It is customary for the steward of any institution or individual to take from the dealers a percentage on his purchases. This is justified by the idea that the dealer gives it out of his profits. Stewards often serve for very low salaries, expecting to indemnify themselves out of the perquisites of their position.

Government officers receive low salaries, and it is taken as a matter of course that they will supplement them by stealing and extortion. Although household servants seldom betray their employers to thieves, they do not regard petty pilfering of stores as very bad, especially if they have families to support. Household stores are kept under lock and key, and the perfect woman "giveth a portion to her maidens."

The closeness of the family bond causes relatives to lend each other far more money, with or without any written acknowledgment, than is usual in Europe or America. Such loans are very often unpaid, and many bitter family disputes arise from this source.

The vineyards, fig orchards, and melon patches are watched by an armed man, and no one would expect to get any fruit unless his property were so guarded.

Joint-stock companies are almost unknown in the country except as controlled by foreigners. There are two exceptions, that of the Tripoli Tramway, and that of the Tripoli, Hems, and Hamath carriage road. Their success thus far affords a hopeful augury of the growth of capacity and trustworthiness in the community.

Business firms are most frequently family combinations. There are, however, many upright and high-toned merchants and bankers, and their number is increasing every year. The number of business failures in Beirût is rarely over five per cent. of the total number of firms engaged in business; they are less common among Mohammedans than among Christians.

In official circles *bribery* is well nigh universal. The course of justice is so perverted by this habit that no one goes into court with any idea that the issue depends on the equity or legality of his case. Judges receive such inadequate salaries that they cannot maintain their families without bribes.

*Trustworthiness* may be considered as a branch of honesty. The work of labourers and mechanics requires much supervision. If it is day labour, the overseer must keep his eye quite constantly on the workmen, or the work flags. If it be contract work he must watch with greatest care lest inferior materials be furnished, and the work be done in a careless and slovenly manner.

If a contractor find that he cannot make good his contract, as to quality of material and workmanship, he is sure to default, and the Courts will sustain him, on the ground that he is not able to meet his agreement without loss. Much embarrassment arises from this cause, and great difficulty is experienced in getting either materials or work up to the standard, even where the terms are favourable to the contractor. Foreigners usually prefer day work, which, however, costs from 20 to 50 per cent. more according to the exactness of the job.

A person stationed at a given point, and told to watch until you return, or sent to a given point to await you, will probably soon leave his post, and come back to find why you did not come. Cassabiancas are not common here.

Many apparent instances of untrustworthiness are due to a want of care on the part of the *employé* in ascertaining exactly what is wanted. Other instances occur from a rooted habit of interpreting the directions, or improving upon them, according to a subjective standard of his own. It is quite common for an employed person to tell you that he thought it would be better to do so and so. One employer replied, "I do not hire you to *think*, but to do what I say."

*Chastity*.—The Arabic language is full of obscenity. Most of the commonest words have also secondary, obscene meanings. The speaker defends himself by a *bela ma'na*, or *ajellak-Allah*, from the imputation of intending such a meaning. But the defence is a condemnation. It shows that at least such a thought is connected with the word used. In moments of anger these meanings are asserted openly, and language becomes ribald and crass. The obscenity, even of very small children, is very shocking to those trained in another school.

The literature of the Arabic language is full of the grossest thoughts and descriptions. The original "Arabian Nights" is a book which no modest person would care to read.

Masturbation and sodomy are extremely common among boys, and constitute serious difficulties in conducting a boarding school. Night watchmen have to patrol the dormitories and halls to keep these vices in check.

The penalty attached to fornication of girls is so severe that the offence is comparatively rare. Among the Mohammedan and Druze

sects a father or brother will kill an unchaste daughter or sister. Among Christians the death penalty is unusual, and seduction is more common. In all sects girls are married very early, often at 12, sometimes at 9 or 10. This is undoubtedly a protection against unchastity in unmarried females. It is also true that attempts at seduction of girls are frowned down by Orientals as inexcusable and cruel.

Chastity in married women differs in different localities. The fact that nearly all the houses are in villages or towns, and that there is no privacy in any house except in the large cities, tends to check adultery. In point of fact it is relatively uncommon. In the jealously-guarded Mohammedan harems, it is almost impossible. Among the poor, where the whole family lives in a single room, it is difficult. Among the peasant population the sentiment is strongly against it.

Harlotry is a trade in the cities, yet it is far less open and shameless than in the great capitals of Europe and America.

Undoubtedly, in the present state of education, the reserve enforced in the intercourse between the young of the two sexes tends to preserve chastity. Among the Mohammedans in the cities, it amounts to almost complete non-intercourse. To a Mohammedan young man of Damascus for example, all the female sex, except his near relatives, is a sheeted mystery. But in villages and in the desert the young men and women have more or less freedom of intercourse, which is rarely abused. Nowhere, and among no sect however, do the sexes mingle in social gatherings, or in places of worship, saving where European manners have done away with those of the natives.

*Profanity* is very common. It must be remembered, however, that a familiar use of the divine name and attributes, which grates upon western ears, is idiomatic in Oriental speech, and conveys no more impression than *good bye* in English, or *adieu* in French. Every salutation contains or implies the name of God. *Allah*, used with the rising accent, means "what?" *Yallah*, said to a troublesome child, means "go away"; or to a person whom one wishes to do something, means "begin"; or to a donkey, means "get up." If a person say, "I rang the bell *yallah, yallah, yallah*," he means I rang it *over, and over, and over*. If one yawns, he will probably end off with an ennuyed *yallah*. If a man stumble the bystanders will ejaculate *Allah*. It is the survival of a short prayer that no harm may come of the accident. Where a man would say *eh* as a sort of catch in conversation while thinking of a word, a man here would say *Allah-kheir, God is good*. It cannot be denied that this familiarity in the use of the name of God tends to lower the value of that great name, and to diminish its significance as used in devotion. It is a true taking of it in vain.

*Cursing* is extremely common, and often as ridiculous as it is wicked. A man will curse the father and grandfather of another, his harem, his religion, his donkey, his donkey's father, the devil. The writer heard a person the other day curse the religion of the devil. A woman was undergoing an operation for the repair of her ear, which had been slit by

a heavy ear-ring. Maddened by the pain of the operation she repeatedly cursed the religion of the ear-ring that caused her misery. Children who can hardly talk curse each other and their parents. Parents curse their children and the parents of their children.

*Family affection.*—It is delightful to turn from some of the weak points of Oriental character to those in which they show forth goodness of heart and lovely virtues. Family affection is one of the most characteristic of all the qualities of this land. The patriarchal idea has never been lost. In western lands we are strangers to our second and third cousins. In the east, even poor relations of the most distant degrees, are acknowledged. Some families, as the Shehâbs, Blemmas, Khâzins, and others, trace back their family history for generations and centuries, some of them for one or two millenniums.

Love of children is one of the most winning traits of the Arabs. The devotion of mothers to nursing their own children, caring for them in sickness, and mourning for them when taken away, is most touching. A mother will sit for hours at a time in a most irksome position in the bed to allow her child or husband to lean against her bosom, while she soothes his pains and lulls him to sleep by her endearing tones and loving ministrations. For days she will hardly taste food, and refuses to take a moment's sleep while watching a case of sickness. She will strip the coins off her head-dress, sell her jewels, or even her clothing and bedding to provide food and medicine for her sick child. I know of many parents who serve in menial capacities and deny themselves every luxury, to educate a son and make a gentleman of him. The phrensy of parents when they lose a child is sometimes almost fatal to themselves.

Love to parents is also a beautiful trait in the Orientals. There are few Gonerils and Regans and many Cordelias in the Levant. A father, not more than fifty years old, recently remarked to me that it had long been his day dream that he should arrive at the age when he could sit in his own house, while his son took the management of his affairs. Everywhere the aged grandfather and grandmother may be seen, honoured and beloved, in the houses of their offspring of two generations. The opinion of the elders is looked for with filial respect by their descendants, and their decision in matters of general family interest is usually final.

The liberality of members of a family to each other is very striking and beautiful. Children earning wages often put all, not required for their clothing, into their parents' hands. Parents continue to help their children long after maturity. Brothers and sisters help one another, sometimes by loan, very often by gift. It is a great disgrace to a family for even distant members to die by starvation. Hence such deaths are very rare. A man in straits in Syria can usually realise the means of relieving his difficulties far more readily than one in similar circumstances in the west. He goes to some cousin, perhaps of the fifth or tenth degree, and obtains the needed accommodation, sometimes as a loan at high interest, but often as a gift or a loan with little or no interest.

*Hospitality.*—This virtue is also one of the most characteristic

of the qualities of the people of this land, and she is a most attractive light over their social life. Its most typical form and extreme application is seen in the case of the Bedawin. A stranger coming to a Bedawin encampment at once becomes their guest. Even if he be an enemy, he is entitled, by the law of hospitality, to shelter, food, and protection, and may stay as long as he pleases, quite unmolested. When he has left, and is fairly outside the limits of the camp, his late hosts may plunder and kill him.

In Qaryetein, a watchman of the vineyards once shot a Bedawin who was trespassing. Dreading the inexorable law of revenge, he resolved to flee to a Bedawin tent, and throw himself on the protection of his host. It chanced that he fled to the tent of the mother of his victim, who at once gave him the usual welcome and entertainment. Presently the avengers of blood traced him to the tent, and were about to enter and put him to death. The mother of the slain man, however, seized a club, and brandished it in the faces of the assailants. They told her that they had come in her behalf to kill the murderer of her son. She said she knew who he was, but that no one should dishonour the hospitality of her tent by injuring even such a guest. She continued to protect him until the town authorities redeemed him by paying the blood-money, which, when received, constitutes a complete quit claim.

If anyone, however poor, is eating, and a friend comes by, he at once says "*tafaddal*," i.e., "*prefer yourself*," meaning by that phrase to invite him to partake. As soon as a stranger arrives in a village, he may ask for the *menzoul*, which is a room, often the best in the place, reserved for the entertainment of strangers. This is often in the sheikh's house. The guest is asked what he wishes, or he is entitled to ask to be furnished with eggs, milk, fruit, bread, and other articles which he needs. Theoretically, he is not obliged to pay anything for these, being considered the guest of the village. Practically, all right-thinking guests do pay a reasonable compensation in some way, either by items, or by a lump sum given as a present.

It is very common for anyone who wishes a favour of another to say *ana dakhilak*, that is, "*I am your guest*," or "*dakhl Allah wa dakhlak*," that is, "*I am God's guest and yours*."

Two incidents, occurring on the same day, during a recent journey of the writer in the Nusairy Mountains, will illustrate the method and sweetness of Syrian hospitality better than a generalisation.

The first took place at El-Bireh, a Nusairy village in the lonely highlands, where for four months the people are more or less shut in by the snow-drifts. An attendant had failed to keep up with us, and we found ourselves at mid-day without our lunch. The sheikh had invited us to the booth occupied by the Government inspectors of the harvest, and presently it was filled with men who came in from the threshing floors to welcome us. As soon as we let it be known that we needed food, the sheikh sent for what they had. A large tinned copper pan was brought, filled with a stew of squash and cracked wheat in *Lebben*. We were so

hungry that we ate deeply into this coarse dish, and suffered from indigestion for several days after. Just as we were leaving the sheikh gave us a loaf of bread a-piece. He would not take any compensation, and apologized most earnestly for the poor entertainment.

That very afternoon we arrived at the Christian village of el-Meshta, the seat of a wealthy family named el-*Helu*. We rode through the gardens, and at the turn of a steep pathway came suddenly on an open space, over-shadowed by a noble plane-tree, with a cool jet of water plashing into a basin, around which were arranged divans. On these divans the elder members of the family were sitting or reclining, smoking their narghilehs, and chatting together—a most attractive picture of a patriarchal household. The younger men were lounging about in the shade. The boys were taking a plunge among the ducks in the tank which received the overflow of the basin, and enlivening the quiet conversation of their seniors by their shouts and laughter. A few black-eyed, shy girls were peering out of doors and windows, and wondering no doubt, who the three horsemen with Frank clothes and pith hats might be.

The moment we were seen the chief of the family stepped forward to bid us welcome, a dozen youths seized our bridles and stirrups to help us dismount, busy hands spread cushions for us in the breeziest part of the shady plaza, and we were made “at home.” Our horses were tied up by friendly hands, our saddle-bags taken into the house, and presently sherbet and coffee were served, and narghilehs offered. After we had chatted for some time, the host offered to give me the use of a room for a bath which I desired, and even proposed that his son should serve me as bath-tender, an offer which was modestly declined. When dinner-time came, an ample repast was served under the plane-tree, to the cooling sound of the fountain. The best room in the house was given to us for our beds, and we were made thoroughly welcome for the period of our stay, which, unfortunately for us, was only one day. They entreated us to stay at least a week.

One feature of the entertainment was that the host and his family themselves did a large part of the serving, not because they lacked attendants, for the great house was full of them, but as an assurance of their pleasure at our visit, and their devotion to our welfare. This feature of Oriental hospitality is so marked that the Marthas who serve are more than the Marys who give their attendance on the conversation of the guest.

As a corollary of the hospitality shown to the guest, he becomes immediately acquainted with the family, and on easy terms with them. There is no stiffness and reserve to be overcome.

Nor must it be supposed that this hospitality is shown only to guests who may be supposed to confer honour by their presence, or from whom a return in kind may be hoped. While we were at el-Meshta, a man from another village brought his little boy to be operated on for a stone. Our host at once offered, if I would do the operation, to let him have a room and entertainment in his house for the period which I



might deem necessary. It would have been at least two weeks. Had I consented to operate there the father would have consented as a matter of course.

Convents entertain any guests who may come without charge. Guests usually leave an acknowledgment of the courtesy. To every Bishop's establishment there is attached an "*Untush*," or place of entertainment, where even the poorest of his visitors may be accommodated. Many officials have such places of entertainment.

Doubtless the simplicity of the mode of life of most Orientals favours hospitality, as it is far easier to show it than in the more artificial life of the West. But it deserves a place among the virtues of the people because it springs from genuine goodness of heart, and a sense of duty to the stranger as well as the friend.

*Neighbourliness.*—Akin to hospitality is neighbourliness. The Arab proverb has it, "*the neighbour before the house*," that is, determine whether you are going to like your neighbour before you take a house. They have high ideas of the duties of neighbours. Our cold manner of not knowing one's next door neighbour is wholly contrary to Oriental ideas. It is with them at once a duty and a pleasure to know them. In sickness one visits and ministers to a neighbour almost as to a relative. It is expected that a doctor should favour neighbours with lower fees or take none. A tradesman is expected to deal better with neighbours than with others. Your next neighbour has a right to purchase of property prior to that of your own brother, a right sustained in law. A person appealing for aid and sympathy will say, "*I am your neighbour*." The Scripture is full of allusions to neighbours and neighbourliness. It is no strain on friendship to borrow food and bedding from a neighbour in case of emergency. To lend them is only a modified form of hospitality. A woman, who has a young child, is always ready to show her friendly feelings by nursing the child of a neighbour who may be in need of such an accommodation. In fact, it is quite common to exchange courtesies in this line during a visit. It is a sort of *blood-sisterhood*.

*Charity.*—Systematic beneficence is not common, but it is everywhere esteemed a virtue to feed the poor. It is even meritorious to feed street dogs. So general is it to give food to beggars that a large mendicant class is supported in this way. The religious beggars, *faqîrs*, have no other means of living, and travel where they will are sure of a sufficiency. It is not at all necessary to be lame, or blind, or deformed, in order to secure alms. There is a Moslem, living in a good house, with a family, and who goes about in a fur-lined cloak, and does nothing for a living but beg. He is supported from year to year in this way. Some Emîrs go about on blood mares, with an attendant, and beg their living, as well as that of their horse and groom. As a rule the alms given is small in amount, but the applicants are numerous, and many make a principle of never turning any away without help.

There are benevolent societies in most of the cities of Syria, and considerable amounts are raised and distributed among the poor.

*Temper.*—Syrians are ordinarily good-tempered. Like all mercurial races they are generally gay and cheerful, and seldom morose and crabbed. They are, however, liable to sudden and violent outbursts of temper, which transform usually mild and amiable persons into furies. During such paroxysms of ungovernable rage the whole frame is wrought up into a hysterical state, the eyes start out of their sockets and become bloodshot, the face becomes livid and purple, the veins of the neck are engorged, the hands and arms are projected forward, and the feet stamp in a transport of passion, while the tongue pours out a volume of vituperation with a voice which can be heard hundreds of feet away. Many persons lose their voices temporarily, some permanently, from these thundergusts. Many are made ill by them, and some lose their lives as a consequence of the strain on heart and lungs and brain. The least consequence of such an indulgence of hot temper is usually headache and lassitude, which often last for many days. So common are such outbreaks that one cannot pass any great distance along the streets of a city without witnessing one. They are especially common around the fountains, owing to questions of priority and privilege in the matter of drawing water.

This vehement anger, which is usually unrestrained from childhood, leads to most serious brawls, and often ends in fatal assaults with club, or knife, or firearms. It is amazing to find on what a small foundation some of these desperate affairs rest. A controversy about a few paras, the question as to which of two women shall put her jar first under the waterspout, an allusion to the family or religion of another, a pleasantry susceptible of a double entendre, are sufficient to set a village aflame, and to create a blood feud between two families. In such quarrels the partisan spirit overrules every other consideration. If a brawl is going on in a village or a quarter of a town, residents, attracted by the noise, rush to the scene and array themselves on the side of their clan or religion, usually without reference to the merits of the controversy.

*Revenge.*—It is generally considered that a hasty temper is soon sated with rage and ready to forgive. Unfortunately the idea of revenge is a national trait of the Arabs. The law of revenge is best exemplified in the Bedawin character and usages, where it underlies the whole mode of existence. It will, therefore, be treated of at length in the essay on the Bedawin. But the influence of their principles and practices is felt among all the people of Syria and Palestine. Injuries are cherished and nursed, and the time for revenge awaited with a patience and persistence seemingly at variance with the national character. Many a stab in the back delivered, in a dark lane at night, into the chest of a person unknown to the assailant, revenges an injury committed by a member of the family of the injured man on the assailant or one of his family. This second assault can only be atoned for by the blood of the assailant or of one of his family or religion. The Druzes practise the *lex talionis* more than any other of the Orientals except the Bedawin. But the Christians far too often vie with them, and in consequence a long series

of bloody civil wars, ending in the terrible massacres of 1860, devastated Lebanon and rendered it one of the most unstable provinces in Turkey. Happily, under the wise system of government inaugurated by the great powers of Europe, these feuds have died out, and peace and prosperity bless that beautiful range. Private revenge, however, still keeps alive hatreds and personal feuds of a most serious character.

*Peace-making.* It might be thought that with their explosive tempers, and the principle of revenge recognised and approved, the people could never arrive at the equilibrium of goodwill and kindly feeling after a quarrel. But here comes in a good trait. The Orientals are great peacemakers. In a street brawl some one or several people rush in, tear the combatants apart, and often at serious risk to their own safety hold them off from each other while they and others remonstrate, and use their neutrality to bring about a reconciliation. They do not esteem any amount of time or effort too great to effect this end. So when a family quarrel occurs, disinterested parties busy themselves in bringing about a rapprochement, and obliterating the traces of the controversy. And this is done, not with the reluctance springing from a half-unwilling sense of duty, but with the unmistakable enthusiasm and zeal of those who desire peace. Men will give up their business, and sacrifice much time, and exhaust the ingenuity of friendship to allay passions, soothe wounded hearts, and heal the breach. The same kindly impulse which leads the peacemaker to give himself to the task of reconciliation, leads both parties to recognise in him a sort of authority, which entitles him to impose conditions on both. Wonderful is the ingenuity with which he persuades both that they have gained everything and lost nothing by the adjustment. Untiring is the patience with which he smooths down the ruffled feelings, quenches each spark of passion as it flickers up again into a tiny flame, and finally brings the late combatants together in a brotherly embrace and kiss. Among the ingenious methods by which susceptibilities are allayed is the custom, instead of asking forgiveness of one another, for the two combatants to ask forgiveness of God, a method sound in religion as well as philosophy. It is not surprising that the Arabs should be peacemakers, as they all feel the necessity for the office. In an hour the peacemaker may become a party to a quarrel, in which he will need and obtain the pacificatory services of the parties whom he so lately reconciled.

*Temperance.* The Mohammedans are on principle total abstainers. Many Christians follow them in this matter. Although living in a wine-producing country the people are, as a class, non-users of wine and other alcoholic beverages, and of those who do use them few are drunkards, and most only drink at comparatively rare intervals. Except where European influences prevail it is rare to see wine on the table.

*Cruelty and Mercy.* These opposite traits are also characteristics of the Arabs. Their cruelty arises rather from thoughtlessness than from ferocity. Children are not taught that it is cruel to tie a string to a bird's leg and let it fly for a short distance, and then jerk it back, and

repeat this until the poor creature dies of exhaustion and grief. They are not taught that it is cruel to catch birds with lined twigs, and then to tie their wings together over their backs, and string them on a stick, and carry them in this agonising attitude for hours before they are killed. No parent ever remonstrates with a child for pulling the wings and legs off insects. It is no wonder then that men come to load animals, the backs of which are all raw, and continue to drive spavined and foundered animals until they drop under their loads. It is not wonderful that they beat their beasts most barbarously. All these cruel habits are found in every land where children are not early trained to be kind to dumb beasts, and where public sentiment and law have not come in to restrain barbarity.

Cruelty to animals is for the most part confined to those which are hunted, or loaded, or driven. On the other hand, herdsmen are usually merciful to their flocks and herds. They do not overdrive their charge. They are diligent in watering them, and finding suitable pasture for them. They direct them by words and ejaculations, but seldom beat them or stone them. Few sights are more interesting than the care which a shepherd takes to coax his sheep and goats to drink their fill at the water-troughs, by banging on a copper kettle, calling to his wards in sheep and goat phrases, and mixing a little tar with their water to give it an agreeable smack. Even the muleteers, although they will load their galled animals, yet when they come into camp take much pains in dressing the sore spots, and adjusting pads to relieve pressure. And, no matter how tired the muleteer may be, he will not neglect to curry and rub down his more tired beasts. The click of the currycomb often awakens the camp an hour or more before dawn.

Worn-out animals are turned out to graze. It is not considered merciful to put an end to them. The writer has seen a horse, with his hoof torn off, left to eke out his existence on the public common. It is a perverted sense of kindness which spares him. It is considered a merit to feed street-dogs and stray cats.

Children are in more danger from over-indulgence than from cruel treatment. Only in the silk mills is there anything like the systematic over-work of children so common in the manufacturing countries of Europe. Employers are seldom cruel to their workmen, and public sentiment is always against them if they are.

There is a kindly regard for the blind, the maimed, lepers and insane. Blind men feel their way about with perfect confidence by means of their staff. They are never allowed to die of starvation. The maimed are sure of a living, and often of that of a sound companion who does the soliciting, and waits upon the injured person for a share in the proceeds. The insane go about the streets unmolested, and are seldom violent. Kindly offices to the sick and unfortunate are general.

*Envy* is not a conspicuous trait of the people. On the contrary, they are, as a rule, contented. Believing, as a large part of them do, in the absolute decrees of God, and the inevitable appointment of their lot,

they are inclined to accept it even too willingly, and to regard it as fixed. Children usually adopt the guild or employment of their parents. The restless, feverish desire to better their condition, so characteristic of the overcrowded states of Europe, has only begun to ferment in the body politic of Syria. Its principal manifestation thus far is in the vast numbers who have emigrated to North and South America and Australia, to seek their fortunes.

*Jealousy* is necessarily a part of the Mohammedan system. It is in striking contrast with the confidence shown by Christian communities in the same localities. There is no doubt that under the system of polygamy nothing else than this supreme jealousy would prevent universal scandal and vice.

It will be seen from this review of the moral characteristics of the people that many of their traits are such as belong to an undeveloped child-like stage, and that the good qualities may be further cultivated, while many of the bad may be expected to disappear with advancing culture and civilization.

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#### VI.—RELIGIOUS CHARACTERISTICS OF THE PEOPLE

In a country where there are so many religions as in Syria and Palestine, and so sharply defined, it might seem difficult to find any features in common which would characterise the whole. Yet there are such features.

(1) *Religion is universal.*—The whole population is enrolled by the Government according to religious divisions. The first question asked of a man in court is "What is your religion?" To say that a man has no religion is equivalent in public opinion and law to cursing his religion, and declaring it to be of no account, as it is held to be impossible for anyone to be without religion.

(2) *Religion enters into all the Relationships of Life.*—A considerable part of men's names is compounded of the names and attributes of God. The same forms of salutation, containing the same prayers and ejaculations, are used by all. A few are special to particular sects, but the name of God enters into all. Religion controls labour. Each sect has numerous religious holidays, during which its votaries abstain from business. The aggregate of these holidays is large, numbering at least a hundred days in the year. The hindrance to business is enormous. Some of the shops are closed one day for a Maronite feast. Another day others are closed for a Greek holy-day. Then follow Jewish and Mohammedan *non dies*. Sometimes all the Christian shops are closed the same day, when the calendars happen to correspond. In large building operations, where men of several sects are employed, much embarrassment is experienced from this cause.

Religion regulates the social relationships and affinities. Marriages between Mohammedans and Christians are of course out of the question.

Druzes and Christians do not inter-marry. Mutawâlis and Sunnite Mohammedans also do not cross their own lines. Jews have no right to inter-marry with any other sect. Even Christians of the different sects seldom inter-marry. Furthermore there is comparatively little visiting or social intercourse between Christians and Mohammedans and Jews. Druzes mingle more with the other sects, as there is a special provision in their articles of faith for allowing even pretended advocacy of Islam and Christianity.

Sectarian schools are the rule, non-sectarian schools have not proved a success.

(3) *All the Religions are Ritualistic and Formal.*—They lay great stress on the externals of conformity, on feasts and fasts, on pilgrimage and vows, on stated seasons of prayer, and on the efficacy of priestly mediation. While there is a vast difference between the ritual of the semi-idolatrous Christians sects and that of the iconoclastic Mohammedans, they touch in the matter of reverence for tombs and sacred sites, and their belief in supernatural agencies at work in human affairs. They all believe in charms, relics, and texts worn about the person, or suspended or nailed about the house. A Mohammedan will string about his neck a bit of alum, a shark's tooth, a tin case containing a verse of the Koran or an incantation, and a bored pebble. A Christian wears a little picture done up in a small tin box, a bit of the wood of the Cross, a small relic of some saint. A Jew has his special necklace of charms. And all these are for one common purpose, viz., to ward off the evil eye. So alike is their regard for sacred sites that many Christian shrines, as the Convent of St. Catherine, at Sinai, and that of St. George, at el-Hûsn, are in the odour of sanctity to Mohammedan nostrils, while many Mohammedan and Druze shrines are frequented by Christians. Jerusalem and Hebron are alike sacred to Mohammedans, Jews and Christians. If any convent or tomb of any sect gains a reputation for miracle-working among the votaries of that sect, it will soon attract those of other sects and become an object of reverence to all.

(4) *All the Religious Sects Agree in Attaching a Secondary Value to the Pious Life.*—They swear substantially alike. There is little difference in their lying or cheating. If a man is true to the externals of his religion he is not debarred from its privileges on account of immoralities. Some restraint is exercised by the confessional on the Christians, but it is notorious that bandits and libertines, who are liberal to the Church, have not much difficulty in securing its sacraments. A Mohammedan who was hung for murder in the first degree in Beirût some years ago, and that the murder of a Mohammedan Officer of the Government, was cut down and taken by an immense procession of the people of his sect, headed by its chief dignitaries, to the principal mosque, washed and buried with great pomp, and all the religious privileges accorded to the most pious. Though a murderer, he was none the less a believer.

(5) *Holiness is not a Prominent Object of any Religion of the East.*—Not that there are no pious persons in any of the indigenous sects, but that

the attainment of holiness is not set before them by their teachers, and seldom sought as an end. The Pharisaic spirit is the prevalent one.

(6) *The Sense of Sin is Almost Dead in All.*—Men seldom or never admit to one another that they have done wrong. They never seem distressed because they have sinned, and defiled their own souls. While they are as awake as others to the consequences of sin, and as anxious to escape them, they do not bewail the sin itself, and abhor its stain in the soul.

(7) *They are all Nearly Alike in a Narrow Bigotry and Intolerance.*—The sectarian spirit has destroyed patriotism, and divided the body politic into a number of irreconcilable schisms, which stand more in the way of the progress and amelioration of the people than any other cause.

## BAROMETRICAL DETERMINATION OF HEIGHTS IN LEBANON AND ANTI-LEBANON.

By Professor ROBERT H. WEST, M.A.

THE following observations at upper stations were taken by myself with a mercurial barometer, Casella, 738. The sea level observations are from the records of the Observatory of the Syrian Protestant College, Beirut (111 feet above sea level). These readings are from barometer, Browning, 244. All readings at upper stations are corrected according to certificates from Kew.

The reductions have been made according to the tables prepared by Arnold Guyot (Smithsonian Meteorological and Physical Tables, 1884, pp. 371-386). In cases where there was no reading at Beirut simultaneous with the observation at the upper station, the necessary readings have been obtained by interpolation from the tri-daily observations; as the variations of the barometer at Beirut are very slight and regular during the summer months, these interpolations are sufficiently accurate.

In the appended notes, I have referred especially to the determinations of the late Sir Richard Burton and Mr. Tyrwhitt Drake in their "Unexplored Syria" (London, Tinsley Brothers, 1872), and the map issued by the French Government in 1862, "Carte du Liban." These are the only original sources to which I have had access, and most of the heights given in the other maps and books which I have consulted, appear to be drawn from one or the other or both of these sources.

	Date.	Beirút.			Upper Station.				Altitude in feet.
		Barom.	Att. Therm.	Ext. Therm.	Barom.	Att. Therm.	Ext. Therm.		
1. Khan Muzhir, near highest point of Damascus Diligence Road.	August 23rd, 1887	29.770	86	89	25.110	72.3	72	5,022	
2. 'Am Mamábah, on northern face of Jebel Kneissh.	" "	29.770	86.3	85	24.744	72.5	72.5	5,425	
3. Jebel Sunnín, summit of west face, but estimated as 200 feet below highest point of mountain.	" 24th, "	29.790	86	89	22.404	75	75	8,446	
4. Top of natural bridge near Neba' ul Laban	" 25th, "	29.836	82	83.5	24.874	73	73	5,330	
5. 'Aqurah, above village	" "	29.840	84	82.5	25.422	61.5	61.5	4,638	
6. Haarún	" 27th, "	29.790	83.5	80	25.522	65.5	65.5	4,486	
7. The Cedars, platform near Maronite chapel.	August, 1887	29.861	83.5	83	24.029	79.4	79.4	6,420	
Mean of six observations.									
8. Pass above Cedars, on road to Ba'albek	August 31st, 1887	29.883	82.5	83.5	22.330	74.5	74.5	8,530	
9. Peak No. 1. (See Note)	" "	By Aneroid.						9,994	
10. " 2	" "	29.860	83.7	84.5	21.134	75.5	75.5	10,142	
11. " 3	" "	29.878	83.7	84.6	21.070	75.3	75.3	10,227	
12. " 4	" "	29.878	83.7	84.2	21.012	68.8	68.8	10,218	
13. 'Ain Áta	September 3rd, 1887	29.910	84.0	81.7	24.922	76.3	76.3	5,385	
14. Zahlch	" 6th, "	29.810	81.3	76	26.706	56	56	3,170	
15. Aíqa. (By Aneroid)	August 25th, "	29.749	80.5	82.4	27.597	77.7	77	3,615	
16. Damascus. Mean of morning observations	July, 1890	29.754	83.2	86.2	27.541	85.5	89	2,280 } 2,337	
" "	" "							2,394 } 5,158	
17. Bludún. Mean of 18 observations	July and August, 1890							8,090	
18. Highest peak back of Bludún	August 20th, 1890	29.836	86	87	22.578	67.3	63.5	8,134	
19. Abu-ul-Ijín	August 20th and 25th, 1890	29.807	85.6	87.2	22.478	65	60.7	5,255	
20. 'Asál-ul-Ward	August 26th, 1890	29.726	85	82.5	24.840	71.5	71.5	8,045	
21. Ya'arúd (fountain)	" "	629.72	86.2	84	25.502	83.3	82.0	4,016	
22. Halimat Qabú	" 28th, "	29.841	87.2	86.1	22.566	64	59	4,737	
23. Deir 'Atiyah	" "	29.820	88	88	26.080	79.7	81		
24. Ma'lúla, garden of Mar Sarkis	September 1st, 1890	29.864	82	82	25.354	64.3	64		



## NOTES

1. French map gives for highest point on Damascus Road 1,542 metres = 5,059 feet. As my observation was taken some 30 feet below the highest point, this is a very close agreement.

3. *Jebel Şunnîn*. French map, 2,608 metres = 8,557 feet. I was unable to ascend to the highest point for lack of time, but my reading, plus the estimated remainder, would make the altitude 8,650 (about). Burton quotes Van du Velde (Scott), 8,554.

5. *'Aqûrah* French map. 1,400 metres = 4,593 feet. A remark may be made in respect to this village, which is true with a great majority of villages in the mountainous districts of Syria. They are built on hill-sides, so that the top of the village may be several hundred feet higher than the lower part. This fact of itself will explain many differences in the altitudes given by various travellers.

7. The Cedars. Burton (I., 257), quotes Van du Velde, who in turn takes Major Scott as his authority, 6,315 feet. French map gives 1,925 metres = 6,316 feet.

8. Burton (I., 257), 8,351; also (I., 76), 7,700.

9-12. The peaks north of the Cedars are the highest in Lebanon or Anti-Lebanon. Burton is the only original authority with which I am acquainted which gives names to them all; but, although I am quite familiar with them having ascended them three times, I cannot certainly identify his peaks, except No. 4. I think my No. 1 is his *Ḍhahr-ul-Qoḏîb* (wrongly transliterated *Zâhr-ul-Kazîb*), to which he assigns an altitude of 10,018. This was obtained by means of mercurial barometer; all others of his observations are by aneroid. No. 2, *Jebel Muskiyah*, 10,131; No. 3, *Jebel Makmal*, 9,998, and No. 4, *Jebel Timârûn*, 10,533. This last is given by the French map as *Ḍhahr-ul-Qoḏîb*, 3,063 metres = 10,049 feet (mis-quoted by Burton, 6,063 metres!). None of these names have I ever heard from shepherds or others in that region except *Ḍhahr-ul-Qoḏîb*, a name which they sometimes apply to the whole range, and sometimes to the particular peak, No. 4. The names most commonly given to the whole range, just north of the Cedars, are *Jebel-ul-Arz*, "the Cedar Mountain," and *Jebel Fam-ul-Mizâb*. This latter, which is also applied to the rounded peak overlooking the Cedars to the north, means "the Mountain of the Mouth of the Waterspout," and is given very appropriately from the way in which the water is drained from the little depression among the highest peaks.

14. *Zaḥleh*. French map, 945 metres = 3,100 feet.

16. Damascus. The great difference between the results of the morning and afternoon observations is noteworthy. Probably the explanation lies in a fact I have frequently noticed, that the diurnal variation of the barometer is much greater in the interior than it is at *Beirût*. This, being quite unknown in amount, necessarily introduces an element of uncertainty into all barometric determinations in the interior; but, in

general, observations taken in the middle of the day will give higher resulting altitudes than those in the morning or evening. Indeed, in this part of Syria, where there are high mountains, and plains between which become greatly heated during the day, it is evident that unknown and unknowable local conditions play an important part, and make barometric determinations at best but approximations. These remarks, true for mercurial barometers, apply with tenfold force to determinations by means of aneroids, which are most erratic in their readings, and which need to be compared with a mercurial barometer not only at the beginning and end of each journey, but every few days during it. Other determinations of the altitude of Damascus are as follows:—French map, east of city, 697 metres = 2,286. Stübel's map, "Dschebel Hauran," 631 metres = 2,070, plainly too low. Map of German Palestine Exploration, 691 metres = 2,266 feet. New Map of Palestine Exploration Fund, 2,362, being the figures given by the French map for some distance west of the city. Burton gives no results.

17. *Bludân*. The new map of the Palestine Exploration Fund gives 5,140.

18. The Peaks above *Bludân*. Here, as in 9-12, I have been unable to certainly identify Burton's names, although I summured in *Bludân* and ascended the mountains several times. But the peak called *Shayyâr 'Ain-un-Nusûr* is certainly placed too far north both on Burton's map and on the new map of the Palestine Exploration Fund; the "Fountains of the Eagles," from which it is named, are at the head of the steep valley which runs north-east from *Bludân*. An aneroid determination of their altitude gives 7,550 feet. The peak whose altitude I have here given is immediately to the south, overlooking the little meadow in which the fountains are situated.

19. *Abu-ul-İin*. There is no difficulty in identifying this peak. Burton gives 8,330. But a re-calculation from his observation, vol. I, p. 259, applying the correction there given, and using the mean monthly barometer at sea-level, corrected for temperature (29·775), and day temperature at *Beirut* for July and August (85·6), I obtain as a result 8,031 feet. The same remarks apply to the other observations and results given on the same page of his book.

20. *'Asâl-ul-Ward*. Burton, 5,553; re-calculated, 5,232.

22. *Ḥalîmat Qabû*, the northernmost prominent peak of *Anti Libanus*. Burton gives 8,257; re-calculated, 8,000. Burton names the two other "*Ḥalâim*," or peaks immediately south of *Ḥalîmat Qabû*, as *Ḥalîmat Qar'â* and *Ḥalîmat Kurrays*; but our guide named them *Ḥalîmat Qârah* (so named from the town not far distant, on the plain) and *Ḥalîmat Qar'â*, respectively.

The other high peak of *Anti-Lebanon*, called by Burton "*Tala'at Musa*," and whose altitude is given by him as 8,721 feet (re-calculated 8,440), I did not have an opportunity to ascend.

24. *Ma'lûla*. My observation was taken in the garden of the convent of *Mar Sarkîs*, above the village. I should estimate the altitude of the

village to be 4,600–4,650. The German “Palästina” Map gives 1,429 metres = 4,688 feet.

15. The aneroid observations at Afqa, and also in No. 9, are corrected according to comparisons made with the mercurial barometer within a few hours both before and after, and are hence comparable with the other determinations in accuracy.

Syrian Protestant College,  
Beirût, Syria,  
*January 5th, 1891.*

## PROVERBS AND SAYINGS AMONG THE SPANISH JEWS.

By REV. J. E. HANAUER.

I FORWARD a list of “Ladino” or Judeo-Spanish proverbs. Whether or not these come from European sources I am unable to say. With the exception of one or two, for instance, “All is not gold that glitters,” they were new to me when I collected them, not from books, but as they fell from the lips of Spanish Jews in the course of conversation. I noted them down, and when I had collected a good number a Judeo-Spanish scribe wrote them down on the paper I send, and from my dictation. Nos. 38, 39, were added by him, and as I have never heard them used in conversation I cannot vouch for them. In my notes I have in several cases indicated what seem to me to be their equivalents in English or German.

The transliteration is arbitrary, I have no knowledge of Castilian Spanish, and have therefore given the proverbs as they sounded to my ears, and were noted down when I first heard them.

(1) קאדה אוננו טראצֶה לה צראזיקה · פארה סו פטיקה ·

1. “Cada uno trava la brasika para su petika.” “Everybody draws the little embers for his little cake.” Amongst the Arabs and fellahin there is a saying exactly similar.

كل واحد بيصحب الجمر الى قرسه

(2) אונה מאנו לאצֶה לה אנטרה · אי לאס דוס לאצֶאן לה קארה ·

2. “Una mano lava la otra, e las dos lavan la cara.” “One hand washes the other, and both wash the face.”

(3) מישליקרה מאטה טרים · סיטי מארידוס אין און מין ·

3. “Mishlikera mata tres, siete maridos in un mes.” “A meddlesome

or tale bearing woman kills three (persons) and (gets) seven husbands in one month."

NOTE.—The three persons killed (metaphorically) are herself, the one to whom she has been babbling, and the person slandered.

(4) מארידו יינו · מארידו בואינו ·

4. "Marido yeno, marido bueno." "A full, *i.e.*, rich, husband is a good husband."

(5) חאסידה אי בואינה גדיאה · ביזה לאס מזוזות · ארנצה לאס

פיעאס ·

5. "Chassida, e buena Judea, beza las mezzuzoth, arrova las pitas." "She is a Chassida, and a good Jewess, who kisses the mezzuzoth and steals the loaves," is a striking description of a hypocrite."

(6) קין אל סילו איסקופי · אלה קארה לי קאיי ·

6. "Quen al cielo ascupe, a la kara le kaye." "Whoever spits at the sky will have the spittle fall back on to his face."

(7) דזיאו לה פריסיאדה · נייצי טוסטאדה ·

7. "Desio la presiada, nieve tostada." "The precious (*i.e.*, spoilt) girl desired toasted snow." This is the same as the English saying about a spoilt child crying for the moon.

(8) אל טינימו · אונה קרוסטה מאס ·

8. "Al tenioso una krosta mas." "To the person afflicted with a scab one crust more (or less does not matter)." The real sense seems to me to be that folks are too apt to think that it does not matter much if one oppresses those who happen to be down in the world. It may also be the equivalent of the English saying, "It never rains but it pours."

(9) אגראניקו אגראניקו · סי לי אינצי אל גאיי חיל חיל פאפיקו ·

9. "A granico, a granico, se le inche, al gayo el papico." "With one little grain after the other the cock fills his little crop," *i.e.*, many mickles make a muckle.

(10) אלטו אלטו קומו חיל פינו · מינדו מינדו קומו חיל קומינו

אמארגו אמארגו קומו לה פיל · דולסי דולסי קומו לה מייל ·

10. "Alto, alto como il pino, minudo minudo come il commino, amargo amargo come la fiel, dulce, dulce come la miel." "Tall, tall (*i.e.*, sublime)

\* NOTE ON 7.—I have sometimes heard פריגיאדה "pregniada," substituted for פריסיאדה in 7. It must be borne in mind that Orientals (whether Christians, Jews, or Moslems), even though most respectable, frequently, as Mr. Neil observes in his works on Palestine, speak freely and unreservedly on subjects which are banished from European society as topics unfit for conversation.

as the pine tree, minute, minute as the cummin seed, bitter, bitter as gall, sweet, sweet as honey," is a riddle descriptive of the art of reading.

(11) סייטי איסקלאבאס אי צואין מארדו · קי לו · סיירבאן פור  
חיל אוינדו ·

11. "Siete esclavas, e buen marido, que lo siervan por el oyido." That she may have "seven slaves and a good husband to serve her at her least word," expresses the wishes of a mother for her daughter.

(12) מדיקו אי קומאדרי · קאמינאן די טאדרי ·

12. "Medico e commadre, camminan de tadre." A doctor and a nurse are out late.

(13) טי לו דיגו אטי מי איזה · פארה קי לו אינטיינדאס טו מי  
נאירה ·

13. "Te lo digo a ti mi eja, para que lo entiendas tu mi nuera." "I tell it thee, my daughter, that thou, my daughter-in-law, shouldest understand it," proves that the art of 'talking at' a person is cultivated even by the Sephardim.

(14) נינגונו סאדי לו קי איי איז לה אוייה · מאס קי לה קוגארה  
קי לו מנייה ·

14. "Ninguno save lo qui ai en la oya, mas que la cuechara que lo menia." "No one can know, better than the spoon that stirs it, what is in the pot." (The heart knoweth his own bitterness, and stranger intermeddeth not with his joy. Proverbs xiv, 10).

(15) לה מאדרי קון לה איזה פור דאר אי טומאר סון אמיאס ·

15. "La madre con la ija por dar e tomar son amigas." "In giving and taking the mother and daughter are friends." The sense of this is obscure.

(16) לה איגי איז לה מאר · אי נני איזו מאל ·

16. "La itschi en la mar e me izo mal." "I threw it into the sea, and it injured me," seems to point to the wisdom of a man keeping his own counsel.

(17) חיל ריי איסטא חאזינו · שיך איסלאס ביציוו לה קורה ·

17. "Il re esta hazino, Sheikh Islam bevio la cura." "The King was sick, and the Sheikh ul Islam had to drink the physic," shows that it sometimes happens that subordinates have to act as the scapegoats of those above them.

(18) פוקו מי מאגקה נאאיסטרה · פשים אי מאנגאס אי ניאגאס ·

18. "Poco, mi manca maestra, pijas e mangas, e nezgas." "But little more is needed, mistress, (only) bands, sleeves, and gussets," *i.e.*, everything.

(19) די און דיִיאה און דיִיאה • קאזא מי טײַאה •

19. "Di un dia undia, caza mi tia." "From one day to the other my aunt is on the point of marrying," *i.e.*, procrastination is the thief of time.

(20) ייא לן כי • די לה אישקינני •

20. "Yo lo se, de la schkenbe." "I know all about it, as about the tripe," is said of persons who pretend to knowledge they do not possess. In connection with the above the story of a young wife who, though perfectly ignorant of cooking, yet always answered, "Yo lo se"—"I know all about it," to an old friend who wished to instruct her, is told. The latter, in revenge, directed her to place some tripe her husband had brought home, on the fire to cook without having first cleaned it. The result, which may be imagined, cured her effectually of saying, "I know all about it" when taught anything.

(21) צײַטס אל אזנו • ני פריטנו ני בלאנקו •

21. "Vites al asino? Ni preto ni blanco." "Hast thou seen the ass? Neither a black nor a white one," is the curious answer given to an impertinent questioner.

(22) צײַטה סין סול • נו אים די קוראסון •

22. "Visita sin sol, no es di corason." "A visit without sunlight does not come from the heart."

(23) יין קי איסטוי קאיינטי • קי סי ריינאן לא גינטי •

23. "Yo, que este cayente, que se rigan la gente." "As long as I am warm (I care not whether) people laugh," shows a most philosophical (or shall I say cynical?) contempt for public opinion.

(24) שאסטרי חארנאן • קואנדו פיירי לה אלגוזא • קואנדו פיירי איל דידאל •

24. "Shastre haragan, quando piedre la alguja, quando piedre el didal." "A worthless tailor at one time loses the needle, at another the thimble," *i.e.*, a bad workman blames his tools.

(25) בואין אמאניסיר • סי קוננסי איל בואין דיִיאה •

25. "Buen amanser se conosse el buen dia." By a good dawn a good day may be known.

(26) נו סי דיזי קואטרו • סי נו איסטא אל סאקו •

26. "No se dise quatro, si no esta al sacco." Do not say "four" till they are in the pocket, *i.e.*, do not count your chickens before they are hatched.

(27) מונג גאסטוי אי מאל • שבת •

27. "Muncho gaste e mal shabat." "Many expenses and yet a bad Sabbath."

(28) קין נו טייני לא אירמוזה · ביזא לא מוקוזה ·

28. "Quen no tiene la ermoza, beza la mokosa." He who has not got the pretty one kisses the ugly one.

(29) לה לאצאנדירה איזו איל לאצאדו · לה בוליסה סי קאנסו ·

29. "La Lavandera iso el lavada, la bolisa se kauso." "The laundress does the washing; the mistress of the house is fatigued," or in other words, "those in a high position, as a rule, take the credit which is due to those below them for good work done".

(30) אילצאנטה לה קאצסט · די איל קוליצרו · אי נו די בן אדם ·

30. "Alevanta la cavessa de el colevra, e no de Ben Adam." "Raise the head of a serpent, but not that of a human being," is the Judeo-Spanish equivalent to the German "Undank ist der Welt Lohn," *i.e.* "The world's reward is ingratitude."

The same sentiment is expressed in the following proverb (31)—

(31) אזיר ביין קון איל מאלו · ני מירסיד ני גראדו ·

31. "Azer bien con el malo, ni merced ni grado." "To do good to the evil is a thankless and ungrateful task."

(32) די איל דזיר אל אזיר · קומו לה נגני אל אמאניכיר ·

32. "De el dezir al azir, como la noche al amansir." "Between 'saying' and 'doing' there is a difference as great as between night and day break." "Deeds, not words."

(33) לו קי לה בייזה קרייאה · אינטרי סונייוס לי צנייאה ·

33. "Lo que la vieja keria, entre soenios le venia." "That which the old woman desired happened to her in a dream," or, "The wish is father of the thought."

(34) עודו לו קי ארילומברה נו אים אורו ·

34. "Todo lo que arelombra no es oro." "All that glitters is not gold."

(35) איל מארידו ארמפי איל צאזו · אי לה קולפה אים לה מוזיר ·

35. "El marido arrompe el vaso, è la culpa es la mojer." "The husband breaks the vessel, but it is the wife's fault."

(36) קין צאטאיייה לה פואירה · אוי סו ריפואיסטה ·

36. "Quen batial a puerta, oie su ripoesta." "He who knocks at the door will hear his answer," equivalent to the German "Wie man in den Wald hinein schreit, so hallt es wieder heraus." "As one shouts into the wood so it echoes back."

(37) מי ציזינה מי דזיאונרו אונה ציו · ליינו דוס אי טרים ·

37. "Mi vicina me disonero una vez, lio, dos e tres." "My neighbour (fem.) insulted me once, I will insult her twice and thrice," is the expression of a spirit thoroughly vindictive.

(38) סו סיל אימפריסטמו אירה בואינו · קאדה אנוו אינפריסטאָה  
 חכו ינזיר ·

38. "Si el imprestemo era bueno, cada uno enprestava a su mujer." "Were it a good thing to lend, everybody would lend to his own wife."

(39) מי איזיקו · מי אגאקיטו ·

39. "Mi iziko, mi izikito." "My little son, my wee little son," "Every mother's goose is a swan;" or, "Mi iziko, mi atchakitiko." "My little son, my little excuse."

## NOTES ON DR. POST'S PALMYRENE INSCRIPTIONS.

By REV. J. E. HANAUER.

THE following notes are based upon a comparison of the 40 Palmyrene inscriptions, figured, transliterated, and translated, &c., by Prof. Euting, in his "Epigraphische Miscellen" (Sitzungs-Berichte der Koeniglich-Preussischen Akademie der Wissenschaften zu Berlin), 1885, with the five inscriptions reproduced on page 36 of the *Quarterly Statement* for January, 1891:—

(A.)

	<i>Transliteration.</i>	<i>Translation.</i>
1st line ....	... ? ? ע	'A ? ?
2nd ,, ....	... מקימ (ו)	Moquim (u).
3rd ,, ....	... זדי בת (ברת)	Zaydi, daughter of.
4th ,, ...	... מהו (ע ?)	'Amhu (his or their ?) (kinsman or uncle).

In the first line I am not able to read more than the one letter ע. I do not know what letters the two other characters represent. The second line contains one word מקימ, a name that seems to be pretty common in Palmyrene texts. It occurs in Prof. Euting's No. 22, Plate VIII, and also in his Nos. 42 and 43, Plate IX. The third line contains two words, the first of which, זדי, is a name still used amongst the fellahât of Palestine, whilst the next word is the word בת, Hebrew for daughter. This form also occurs in Euting's No. 25, Plate IX, though the form more frequently met with seems to be ברת (see Euting's Nos. 5, 6, 18, 22, 23). The construct state, whether the word be ברת or בת, requires to be followed by a noun. I am not sure whether מ, the first character on the fourth line, is equivalent to ע, as it is in Phœnician and Samaritan. Assuming it to be so, then the word עמהו, 'Amhu, is either



a name, or identical with the Arabic **عمك**, which really means "uncle," though I find it is often used in Jerusalem in the sense of "kinsman." When speaking to me of my own father-in-law, for instance, natives constantly use the word **عمك**, literally, "thy uncle." I cannot help thinking that, as at the end of B, C, D, respectively, we have the word **אחיה** = **אחיה**, marking their position in the family as "brother," so in this case **בת עמיהו** shows the lady to have been "an uncle's daughter" = cousin.

## (B.)

	<i>Transliteration.</i>	<i>Translation.</i>
1st line ....	<b>נבו זרי בר</b>	Nebo Zari (Nebo is my prince),
2nd ,, ....	<b>בר נבו אחיהם</b>	son of Bar Nebo, their brother.

The word **נבו** = **נבו** = Nebo, occurs in Prof. Euting's inscription (No. 4, Plate VII) discovered in the vicinity of the well-preserved temple (said to be of Diocletian) at Damascus by Herr Luetcke, Imperial German Vice-Consul, in March, 1883. In that inscription **נבו** forms part of the name **נבו זרי** = Zabd-Nebo. Nebo-Zari (Nebo, or Mercury, is my prince) suggests my mentioning another name, that of **בל שורי** = **בל שורי** = Bel-Suri (or Bel is my wall), in Euting's No. 8, Plate VIII, as analogous in form. **נבו** is clearly **בר**, that is, "Son." It is found in each one of Euting's inscriptions numbered respectively 4, 5, 6, 7, 8, 13, 19, 20, 21, 22, 24, 26, 27, 28, 29, 30, 31, 32, 33, 35, 36. As it is repeated in C, D, and E, I need say no more about it.

The last word, **אחיהם** = **אחיהם**, occurs, but without the final **ם**, sign of the 3rd person plural, also in C and D, as well as in Prof. Euting's above-mentioned inscription No. 4 from Damascus, and also in his No. 34, Plate IX. We now come to Prof. Post's Inscription C.

## (C.)

	<i>Transliteration.</i>	<i>Translation.</i>
1st line ....	<b>בר נבו בר בר נבו</b>	Bar Nebo, son of Bar Nebo
2nd line ...	<b>אחיה</b>	(i.e., grandson of Nebo, his or their brother).

The last word, **אחיה** = **אחיה**, occurs in exactly the same form in Prof. Euting's No. 4, and his translation reads "seines Bruders (oder seiner Brueder)," his brother's (or his brethren's).

Bar Bar Nebo = the son of the son of Nebo.

(D.)

	<i>Transliteration.</i>	<i>Translation.</i>
1st line ....	בר התה בר	Bar Hth (H.T.H.), son of Bar
2nd line ....	בר נבו ואא	Nebo (or grandson of Nebo) (their?) brother.

I have no remark to make on D.

(E.)

	<i>Transliteration.</i>	<i>Translation.</i>
1st line ...	מברדת	Mbrdt. (M.B.R.D.T.), (possibly a
2nd line ....	בר בר נבו	name) of Bar Bar Nebo, Bar Bar
3rd „ ....	בר נבו	Nebo (son of Bar Nebo, son of Bar Nebo, or, son of the son of Nebo, son of the son of Nebo).

מברדת, Mbrdt, *may, possibly*, be a name, though I do not think it is. The root is ברד, hail, cold, &c. The form מברדת is not to be found in any lexicon to which I have access. It is certainly not either in Gesenius or Buxtorff. In Arabic, however, we have a noun spelt in exactly the same manner, viz., مَبْرَدَةٌ, plural مَبْرَدَات, and meaning a refreshing or cooling drink. As Dr. Post's Inscription E is the legend attached to the picture of a man taking his ease, and holding a drinking vessel in his left hand, I am very strongly of opinion that the inscription simply gives the title or subject of that picture, viz. :—The Refreshment of Bar Bar Nebo, &c., or Bar Bar Nebo enjoying himself. I trust the above notes may prove interesting to readers of the *Quarterly Statement*, and that the Editor will kindly allow them a place in the next issue.

JERUSALEM,

February 4th, 1891.

## THE LACHISH INSCRIPTION.<sup>1</sup>

As I stated last summer in the "Academy," the inscription on the piece of pottery discovered by Mr. Petrie, at Tel el-Hesy, reads לסמך, *le-samech*, from *samak*, "to uphold," and must be translated "belonging to Samech." We find the name Semachiah in 1 Chr. xxvi, 7. The shape of the letter *samech* is interesting, as it presents us with the oldest form of the letter in the alphabet of Israel hitherto known.

A. H. SAYCE.

Another well-known Semitic scholar writes :—

The inscription seems to read להמך, *i.e.*, dedicated or belonging to

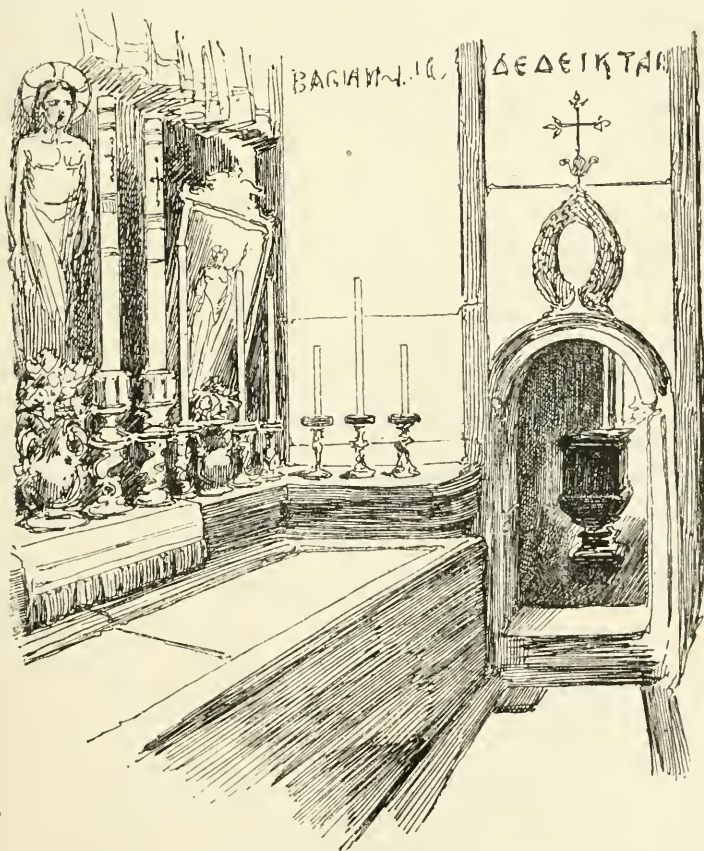
<sup>1</sup> *Quarterly Statement*, 1891, page 70.

*h m k*. Whether *h m k* is a name of a divinity or of an owner I cannot decide. I do not know of another instance of this name. If you will give my transcription in the journal please do not mention my name. Anyone could have given you the transcription and there is no merit of mine.

## ENTRANCE TO THE HOLY SEPULCHRE.

By WILLIAM SIMPSON, M.R.A.S.

I AM under the impression that no sketch of the Entrance to the Holy Sepulchre has appeared in any of the Palestine Exploration Fund's



publications ; so I have copied out a rough one I made in 1869, which

is taken from inside the sepulchre. It was M. Clermont Ganneau that first called attention to the importance of the fact that the tombs at the west of the Holy Sepulchre were *Kokim* tombs, and from that he pointed out that the spot was in all probability an old Jewish place of sepulchre. The sketch given with this, shows that the Holy Sepulchre itself was also a *Kok*, for the doorway still retains the form of the opening of one of these Jewish tombs. As it is only lately that the distinction between *oculus* and *Kok* has been arrived at, its value as an indication of antiquity was not likely to have occurred since the time of Constantine, hence the unlikelihood that anyone at a later date has imitated the older form. I have read statements that the original rock of the tomb can still be seen in some part of the entrance; but these affirmations always appeared as if they required to be authenticated. Surely some one on the spot could do this. The *Kokim* tombs on the west of the Holy Sepulchre have no ledges in them; this would tend to the suggestion that the ledge in the Holy Sepulchre may have been excavated, and perhaps this was done to form it into an altar, for Mass was at one time celebrated upon it. Some have supposed that there is a trough, under the marble slab, which formed the real tomb.

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## IRRIGATION AND WATER SUPPLY IN PALESTINE.

By WILLIAM SIMPSON, M.R.A.S.

FROM what I have learned regarding the pits in the Vale of Siddim, the conclusion appears to be, that whatever they may have originally been, they were no part of a *Karaize*. From calling attention to them some important information has, as a result, been brought forward. Mr. Gray Hill's letter describes what is almost certain to be a *Karaizè* at El Beda, near Palmyra, which is also described in his book, "With the Beduins," p. 159; and his account of the newly discovered source of water in Palmyra is also most probably an aqueduct of the same kind. In the Wady Byâr, south of Solomon's Pools, there is a rock-cut conduit which is several feet below the surface, and in its construction shafts were sunk at a number of places, thus realising the exact idea of a *Karaize*. These shafts are marked on the large map, and the description of them will be found in Sir Charles Wilson's paper on "The Water Supply of Jerusalem." It is seldom that these conduits were cut through the rock, but in my former communication I mentioned one at Hada, near Jellalabad. My attention has also been called to some very ancient conduits at Lake Copais in Bœotia. Operations have been going on there for some years back to drain the lake, but it would seem that attempts of the same kind had been made before the time of Alexander the Great. It is said that there are natural channels under

the hills to which the name *Katawóthra* had been given, but as these were not sufficient a number of *emissarii*, or tunnels, were made to carry off the water, one of which is nearly 4 miles long, and it has about 20 vertical shafts, which are now choked up, but they are supposed to be about 100 or 150 feet deep. Crates attempted to clear out these conduits in the time of Alexander the Great, so that they must be of considerable antiquity. Perhaps other explorers may be able to supply further details, but the data seems already sufficient to establish the point, that the *Karaize* as a means of water supply has existed from a remote period over the wide space from Afghanistan to the Mediterranean.

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## PITS IN THE SHITTIM PLAIN.

By REV. JAMES NEIL, M.A.

FOR Dr. Selah Merrill's information, let me say that the journey on which I discovered these pits was arranged by a representative of the German Consulate at Jerusalem and the German Chaplain, Pastor Weser, to investigate the claims of the Shapira pottery, and to carry on excavations for this purpose on the highlands of Moab. Pastor Weser begged me, as the English Chaplain at Jerusalem, to accompany the expedition to see fair play, because the English savans from the first regarded the Shapira pottery as spurious. I had, indeed—very fortunately, as I now know—to “go far out” of my “way.” The ferry in the neighbourhood of Jericho was broken, and we were compelled to ride some 18 miles up the west of the Jordan Valley to the ferry opposite *Tell Damieh*, and the same distance down the east of the Valley to Ali Diab's camp, then in the Plain of Shittim, near *Tell Keferein*. Later on we had to return the same way, so that I rode twice past these lines of pits. On my return I mentioned my discovery to Major Conder and Mr. Drake, and they told me that they had just found similar pits in the neighbourhood of *Ain Fusail*, but it now appears that they were rock-cut cisterns, or *beers*.

I did not take special and accurate measurements of the pits, nor have I said that I did. In my descriptions I have very naturally adopted those published by the “American Palestine Exploration Society's Fourth Statement,” January, 1877. Let me again refer the readers of the “Quarterly” to my careful treatment of the whole subject in an article on “The Site of the Cities of the Plain and the ‘Pits’ of the Vale of Siddim,” in the “Theological Monthly,” May, 1890 (Messrs. J. Nisbet and Co.), in which I have given Dr. Selah Merrill credit for his very interesting and valuable identification of the probable sites of the Cities of the Plain, now so remarkably confirmed by my discovery of the

“water-pits of earth,” **בְּאֵרוֹת הָאֲרֶץ**, of which the valley to the north of these five cities was full (Genesis xiv, 10).

Dr. Selah Merrill says in his original report, “What those pits (the slime pits of Genesis xiv, 10) were I do not know, nor do I know the object of the pits which at present exist.” In the last “Quarterly” he says, “my impression was these pits were used for military purposes.” Now these two statements are, no doubt, to be reconciled by the account of the legend which the Bedaween told him, and which Sheikh Goblan in part told me, as to the adventures of the fabulous Sheikh *Zeer*, for at its close he tells us, “this legend seems to indicate clearly that the pits were for military purposes.” But I should like to remind Dr. Selah Merrill of what he tells us about this familiar story of their folk lore: “After a while he (Sheikh *Zeer*) tried to get his dominions back, and made war upon his own people for that purpose. They dug these pits *expecting that he would fall into them and be killed. He fell in but his nephew rescued him,*” &c

Now what meaning would this have, or what shadow of foundation in fact, if the pits, as the archeologist of the American Palestine Exploration Society would lead us to suppose, were but some 3 to 6 feet only in depth? But all will see, if they were formerly *Karaize* pits, or deep wells, how forcible and natural is the allusion to the falling in with risk of being killed, and to the need of being rescued from without.

The complete and conclusive answer to Dr. Selah Merrill's supposed difficulties as to whence came the materials by which the pits were filled up, and as to how the rims of the basin-like mounds around them could still remain to the height of a few feet, lies in the fact that the appearances now presented by these three lines of pits are precisely the same as those presented by the ruins of the *Karaize* system in the desert beyond Damascus, on the way to Palmyra—so much so that I instantly recognised them—and that they are like nothing else!

Can Dr. Selah Merrill be serious when he says, as a reason why these pits were not wanted for irrigation purposes, “Canals to-day carry water south of the stream (*Wady Nimrin*), and were water ever wanted north of it why would it not be carried thither in the same way?” Simply because the Jordan valley falls to the south and rises towards the north! He says, hypothetically and doubtfully, “were water ever wanted north of it.” Why the want of water in that waste wilderness is woeful. It is for some 10 miles one of the most arid spots in Palestine, and that is saying a good deal. It is, moreover, one of the hottest and most rainless regions. I shall never forget how I suffered from thirst on the burning day when I traversed it first *en route* from *Tell Damieh* to *Nimrin*—a thirst and incipient fever which the Arabs of our escort sought vainly to assuage by giving us to chew the stalk and leaves of a succulent plant which they scoured the country far and wide to secure.

Excavations should certainly be made at this spot when the first opportunity offers, for if the channel at the bottom proves to be cemented, which, however, is very doubtful (see my discussion of this in my article in the May, 1890, "Theological Monthly"), the matter will be at once set at rest. But in any case we may hope to find evidence of the filling up of the *Karaize* pits, which I have no doubt whatever existed here in ancient times, not only in the three rows, of which ruins now remain, but also in many more crossing one below the other, as we know they do at the present day on the plains of Damascus. If I am right, where the lines of pits end on the east side near the hills, or where if extended a little further they would end, by digging we should come to water, and this again would be a certain proof.

I say *solvitur explorando*; and now let our Fund get to work at the first opportunity. We could engage in few more inexpensive, interesting, and important excavations. Think of finding pits *in situ* mentioned as existing 4,000 years ago!

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## COMPARISON OF THE HIGHEST AND LOWEST TEMPERATURES OF THE AIR, AND RANGE OF TEMPERATURE IN PALESTINE AND IN ENGLAND IN THE TEN YEARS ENDING 1889.

By JAMES GLAISHER, F.R.S.

THE observations at Sarona were taken by Herr J. Dreher, the instruments were made by Negretti and Zambra, and examined by myself.

The observations at Blackheath were taken during the same ten years, by instruments of a similar construction to those at Sarona, by myself.

TABLE I. shows the Highest Temperature of the Air at *Sarona* in every Month.

Months.	Years.										Means of 10 years.
	1880.	1881.	1882.	1883.	1884.	1885.	1886.	1887.	1888.	1889.	
January ..	63·0	80·0	72·0	78·0	71·0	70·0	70·0	78·0	76·0	72·0	73·0
February..	78·0	75·0	81·0	72·0	65·0	73·0	82·0	77·0	78·0	80·0	76·1
March ..	83·0	87·0	82·0	97·0	79·0	90·0	83·0	89·0	98·0	97·0	88·5
April ..	94·0	96·0	89·0	95·0	97·0	90·0	90·0	97·0	91·0	102·0	94·1
May ..	103·0	99·0	88·0	99·0	98·0	103·0	86·0	98·0	97·0	100·0	97·1
June ..	91·0	96·0	84·0	89·0	97·0	93·0	112·0	89·0	89·0	100·0	94·0
July ..	92·0	89·0	87·0	88·0	96·0	88·0	89·0	89·0	93·0	92·0	90·3
August ..	91·0	106·0	89·0	92·0	90·0	91·0	91·0	92·0	91·0	90·0	92·3
September	102·0	92·0	92·0	106·0	86·0	94·0	94·0	99·0	90·0	90·0	93·6
October ..	96·0	89·0	92·0	94·0	100·0	98·0	96·0	100·0	105·0	98·0	96·8
November	96·0	89·0	93·0	84·0	79·0	84·0	85·0	82·0	80·0	86·0	85·6
December	77·0	72·0	77·0	76·0	82·0	80·0	81·0	76·0	75·0	82·0	77·8
Means ..	88·8	89·2	88·5	89·2	86·7	87·8	88·2	88·1	88·6	90·8	88·3



By looking over this table, it will be seen that the temperature of the air has reached or exceeded  $100^{\circ}$  in every year, excepting 1882. The highest temperature was —

In 1880, on May 23rd	....	....	....	....	....	103
1881 „ Aug. 27th	....	....	....	....	....	106
1882 „ Nov. 1st	....	....	....	....	....	93
1883 „ Sept. 30th	....	..	....	....	....	106
1884 „ Oct. 16th	....	....	....	....	....	100
1885 „ May 23rd	....	....	....	....	....	103
1886 „ June 15th	....	....	....	....	....	112
1887 „ Oct. 29th	....	....	....	....	....	100
1888 „ Oct. 19th	....	....	....	....	....	105
1889 „ April 20th	....	....	....	....	....	102

Thus the maximum temperature of the year has occurred—

Once in April.	Once in September.
Twice in May.	Three times in October.
Once in June.	Once in November.
Once in August.	

In the year 1880 the temperature on May 22nd was  $102^{\circ}$ , and on September 6th it was  $102^{\circ}$ .

In the year—

1885, on May 10th, the temperature was ....	102
1886 „ June 14th „ „ ....	102
1888 „ October 17th „ „ ....	102
1888 „ October 18th ....	104
1889 „ May 10th ....	100
1889 „ June 8th ....	100

Thus in ten years the temperature has been  $100^{\circ}$ , or more than  $100^{\circ}$  on 17 different days; the highest of all was  $112^{\circ}$  in 1887, on June 15th. The months in which the temperature has always been less than  $100^{\circ}$  are January, February, March, July, November, and December.

It reached or exceeded  $90^{\circ}$ , in the year—

1880	....	....	....	....	....	on 36 days.
1881	....	....	....	....	....	„ 27 „
1882	....	....	....	....	....	„ 8 „
1883	....	....	....	....	....	„ 16 „
1884	....	....	....	....	....	„ 14 „
1885	....	....	....	....	....	„ 24 „
1886	....	....	....	....	....	„ 16 „
1887	....	....	....	....	....	„ 25 „
1888	....	....	....	....	....	„ 39 „
1889	....	....	....	....	....	„ 31 „

or in 10 years the temperature has reached or exceeded  $90^{\circ}$  on 236 days.

TABLE II. shows the Highest Temperature of the Air at *Blackheath* in every month.

Months.	Years.										Means of 10 years.
	1880.	1881.	1882.	1883.	1884.	1885.	1886.	1887.	1888.	1889.	
January ..	54·5	48·0	52·5	54·0	54·5	52·0	50·5	51·5	51·0	53·5	52·2
February ..	53·9	52·1	54·5	53·5	56·5	57·5	46·0	52·0	50·5	56·0	53·3
March ..	66·0	59·8	65·0	54·3	68·4	58·0	60·0	56·5	56·0	58·0	60·2
April .	67·8	67·6	65·0	69·5	69·0	72·5	65·5	63·5	66·0	65·1	67·2
May ..	87·2	76·2	75·0	81·0	81·0	75·8	74·5	69·2	77·7	83·0	78·1
June ..	80·3	81·6	74·0	84·0	82·0	86·8	79·8	82·6	84·5	84·5	82·0
July ..	78·5	94·0	78·0	85·0	86·5	87·1	86·8	90·0	75·0	80·0	84·1
August ..	81·3	84·3	81·0	84·0	91·0	77·5	86·5	86·2	86·0	86·0	84·4
September.	87·5	71·0	71·0	75·2	83·0	74·5	83·5	69·0	72·0	79·1	76·6
October ..	65·0	62·5	71·0	64·8	62·0	59·0	75·5	61·0	67·1	62·0	65·0
November	57·6	61·5	60·0	55·5	60·0	57·5	58·5	51·2	59·0	58·8	58·0
December .	55·8	52·0	56·0	53·5	54·5	49·2	54·0	50·5	57·0	53·0	53·6
Means ..	69·6	67·6	66·9	67·9	70·7	67·3	68·4	65·3	66·8	68·3	67·9

The highest temperature of the air at Blackheath was—

		°		°		
In 1880, in September....	87·5	being	15·5	less	than	maximum at Saronæ.
1881 „ July	94·0	„	12·0	„	„	„
1882 „ August	81·0	„	12·0	„	„	„
1883 „ July	85·0	„	21·0	„	„	„
1884 „ August	91·0	„	9·0	„	„	„
1885 „ July	87·1	„	15·9	„	„	„
1886 „ July	86·8	„	25·2	„	„	„
1887 „ July	90·0	„	10·0	„	„	„
1888 „ August	86·0	„	19·0	„	„	„
1889 „ August	86·0	„	16·0	„	„	„

Thus the maximum temperature at Blackheath has occurred—

Five times in July.  
 Four „ August.  
 Once „ September.

In the 10 years the temperature has reached 90° on 3 days only, the highest was 94° in July, 1881. The lowest maximum at Saronæ was 93° in 1882, and the lowest maximum at Blackheath was 81° in the same year; the highest maximum at Saronæ was in 1886.

By comparing the numbers in Tables I. and II. together, month by month, it will be found that with the exception of three months, the numbers in Table I. are larger than in Table II. The exceptions are July, 1881, when the temperature at Blackheath was higher by 5°, than at Saronæ, August, 1884, and July, 1887, when at Blackheath the temperature was higher by 1° in both instances.

At Saronæ the maximum temperature in relation to that at Blackheath was, in—

January	8·5	in excess in	1880,	varied to	26·5	in excess in	1887
February	9·5	„	1884	„	36·0	„	1886
March	10·6	„	1884	„	42·7	„	1883
April	17·5	„	1885	„	36·9	„	1889
May	11·5	„	1886	„	28·8	„	1887
June	4·5	„	1888	„	32·2	„	1886
July	5·0	in defect	1881	„	18·0	„	1888
August	1·0	„	1884	„	21·7	„	1881
September	3·0	in excess in	1884	„	30·8	„	1883
October	20·5	„	1886	„	39·0	„	1885-87
November	19·0	„	1884	„	38·4	„	1880
December	18·0	„	1888	„	30·8	„	1885

The greatest differences are in the winter months, the largest 42·7°

is in March, the next in order are October and November ; the least differences are in July and August.

The mean of the 10 differences in each month, show the mean excess over Blackheath maximum temperature in—

January	....	....	....	....	was	20 <sup>o</sup> ·8
February	....	....	....	....	„	22·8
March	....	....	....	....	„	28·3
April	....	....	....	....	„	26·9
May	....	....	....	....	„	19·0
June	....	....	....	....	„	12·0
July	....	....	....	....	„	6·2
August	....	....	....	....	„	7·9
September	....	....	....	....	„	17·0
October	....	....	....	....	„	31·8
November	....	....	....	....	„	27·6
December	....	....	....	....	„	24·2

and these numbers are the same as the differences between the numbers in the last column of Tables I. and II.

Month.	Years.										Means of 10 years.
	1880.	1881.	1882.	1883.	1884.	1885.	1886.	1887.	1888.	1889.	
January ..	32·0	40·0	34·0	39·0	32·0	40·0	43·0	32·5	37·0	42·0	37·2
February..	32·0	41·0	37·0	41·0	41·0	42·0	43·0	37·0	42·0	41·0	39·7
March ..	34·0	40·0	37·0	35·0	42·0	38·0	39·0	37·0	40·0	42·0	38·4
April ..	41·0	47·0	45·0	40·0	46·0	45·0	42·0	43·0	48·0	44·0	44·1
May ..	50·0	48·0	47·0	48·0	49·0	53·0	48·0	45·0	52·0	50·0	49·0
June ..	55·0	53·0	51·0	59·0	58·0	58·0	57·0	58·0	56·0	59·0	56·5
July ..	63·0	60·0	60·0	63·0	61·0	66·0	61·0	62·0	64·0	65·0	62·5
August ..	66·0	67·0	64·0	65·0	63·0	65·0	65·0	64·0	65·0	67·0	65·1
September	57·0	63·0	57·0	58·0	61·0	64·0	59·0	61·0	63·0	62·0	60·5
October ..	57·0	54·0	53·0	53·0	55·0	51·0	55·0	57·0	58·0	56·0	54·9
November	52·0	49·0	46·0	49·0	47·0	48·0	49·0	52·0	41·0	40·0	47·3
December	44·0	39·0	40·0	40·0	38·0	43·0	37·0	46·0	40·0	38·0	40·5
Σ Means ..	48·6	50·1	47·6	49·3	49·3	51·1	49·8	49·5	50·5	50·5	49·5

The lowest temperature in the year—

1880	....	was	32°	in	January and February.
1881	....	„	39	„	December.
1882	...	„	34	„	January.
1883	....	„	35	„	March.
1884		„	32	„	January.
1885	....	„	38	„	March.
1886	....	„	37	„	December.
1887	....	„	32·5	„	January.
1888	....	„	37	„	January.
1889	....	„	38	„	December.

Thus the lowest temperature at Saronia has occurred—

Five times in January.

Twice in March.

Three times in December.

The lowest in the 10 years was 32°, and this occurred five times, viz., 1880, January 29th and 30th; 1880, February 6th; and 1884, January 22nd and 24th.

The temperature was below 40° in the year—

1880	....	....	....	on	13	nights.
1881	....	....	....	„	2	„
1882	....	....	....	„	13	„
1883	....	....	....	„	2	„
1884	....	....	....	„	9	„
1885	....	....	....	„	3	„
1886	....	....	....	„	3	„
1887	....	....	....	„	15	„
1888	....	....	....	„	2	„
1889	....	....	....	„	3	„

or in 10 years the temperature on 65 nights has been below 40°.

By taking the difference between the lowest and highest temperature in each year, the range was—

In 1880	....	....	....	....	71°
1881	....	....	....	....	67
1882	....	....	....	....	59
1883	....	....	....	....	71
1884	....	....	....	....	68
1885	....	....	....	....	65
1886	....	....	....	....	75
1887	....	....	....	....	67½
1888	....	....	....	....	68
1889	....	....	....	....	64

The largest range, 75°, was, in 1886; the next in order was 71° in 1880 and 1883. The smallest was 59° in 1882, the next in order 64° in 1889. The mean annual range of the 10 years was 67½°

METEOROLOGICAL OBSERVATIONS.

TABLE I V. shows the Lowest Temperature of the Air at *Blackheath* in every month.

Months.	Years.										Means of 10 Years.
	1880.	1881.	1882.	1883.	1884.	1885.	1886.	1887.	1888.	1889.	
January ..	15·0	15·0	27·5	29·2	31·0	22·5	15·0	16·0	20·3	19·0	21·0
February..	23·3	28·2	26·0	31·9	29·0	26·0	20·0	19·5	17·0	17·2	23·8
March ..	27·0	24·2	30·0	24·0	27·5	25·0	20·1	22·0	23·5	17·0	24·0
April ..	33·1	29·5	36·0	31·3	30·0	28·5	31·5	25·8	25·5	31·8	30·3
May ..	31·9	34·0	38·0	32·5	36·1	31·5	30·3	32·3	31·5	39·8	34·1
June ..	38·9	39·7	42·5	42·5	41·5	41·2	39·8	43·0	45·0	45·5	42·3
July ..	45·0	45·5	48·0	44·5	48·9	47·5	45·7	45·5	42·0	46·5	45·9
August ..	46·5	45·0	48·0	47·4	46·0	43·0	46·5	42·0	44·0	42·8	45·1
September	41·5	41·0	37·5	53·5	43·8	35·5	40·8	33·0	40·2	35·0	40·2
October ..	28·8	28·5	32·3	37·0	35·0	32·0	38·0	24·0	26·3	33·5	31·5
November	25·0	31·0	26·0	29·0	25·2	27·5	27·2	21·2	31·2	26·2	27·0
December	27·8	24·0	24·0	29·0	27·5	21·0	18·0	23·0	24·0	21·2	24·0
Means ..	32·0	32·1	34·6	37·7	35·4	31·8	31·1	28·9	31·1	31·3	32·4

The lowest temperature of the air at Blackheath —

In 1880 was	January	....	15°·0,	being	17°	lower	than	at	Sarona.
1881	„	January	....	15°·0	„	24	„	„	„
1882	„	December	....	24°·0	„	10	„	„	„
1883	„	March	....	24°·0	„	11	„	„	„
1884	„	November		25°·2	„	6°·8	„	„	„
1885	„	December	....	21°·0	„	17°·0	„	„	„
1886	„	January	....	15°·0	„	22°·0	„	„	„
1887	„	January	....	16°·0	„	16°·5	„	„	„
1888	„	February	....	17°·0	„	20°·0	„	„	„
1889	„	March	....	17°·0	„	21°·0	„	„	„

Thus the minimum temperature at Blackheath has occurred —

Four times in January.

Once in February.

Twice in March.

Once in November.

Twice in December.

In the 10 years the temperature has been as low as 15° on three occasions, all in January; once the reading was 16° in January, and twice 17°, once in February and once in March.

By comparing the numbers in Tables III. and IV. it will be seen that without exception, those at Sarona, Table III., are all larger than those at Blackheath on Table IV. The excess in—

January	has varied from	1°·0	in	1884	to	28°·0	in	1886.
February	„	8·7	„	1880	„	25°·0	„	1888.
March	„	7°·0	„	1880	„	25°·0	„	1889.
April	„	7°·9	„	1880	„	22°·5	„	1888.
May	„	9°·0	„	1882	„	21°·5	„	1885.
June	„	8°·5	„	1882	„	17°·2	„	1886.
July	„	11°·5	„	1881	„	22°·0	„	1888.
August	„	16°·0	„	1882	„	24°·2	„	1889.
September	„	4°·5	„	1883	„	28°·5	„	1885.
October	„	16°·0	„	1885	„	33°·0	„	1887.
November	„	9°·8	„	1888	„	31°·8	„	1887.
December	„	2°·0	„	1889	„	23°·0	„	1887.

The greatest difference are in the winter months; the largest, 33°·0, in October, the next in order, 31°·8, in November.

The mean of the 10 differences show the mean excess in each month over the minimum at Blackheath are—



January	....	....	....	....	....	16 <sup>o</sup> .2
February	....	....	....	....	....	15.9
March	....	....	....	....	....	14.4
April	....	....	....	....	....	13.8
May	....	....	....	....	....	14.9
June	..	....	....	....	....	14.2
July	....	....	....	....	....	16.6
August	....	....	....	....	....	19.0
September	....	....	....	....	..	20.3
October	....	....	....	....	....	23.4
November	....	....	....	....	....	20.3
December	....	....	....	....	....	16.5

These numbers agree with the differences between the numbers in the last column of the two preceding tables.

TABLE V. shows Extreme Monthly Range at *Savona* in every month.

Months.	Years.										Means of 10 Years.
	1880.	1881.	1882.	1883.	1884.	1885.	1886.	1887.	1888.	1889.	
January ..	31·0	40·0	38·0	39·0	39·0	30·0	27·0	45·5	39·0	30·0	35·9
February..	46·0	34·0	44·0	31·0	24·0	31·0	39·0	40·0	36·0	39·0	36·4
March ..	49·0	47·0	45·0	62·0	37·0	52·9	44·0	52·0	58·0	55·0	50·1
April ..	53·0	49·0	44·0	55·0	51·0	45·0	48·0	54·0	43·0	58·0	50·0
May ..	53·0	51·0	41·0	51·0	49·0	50·0	38·0	53·0	45·0	50·0	48·1
June ..	36·0	43·0	33·0	30·0	39·0	35·0	55·0	31·0	33·0	41·0	37·6
July ..	29·0	29·0	27·0	25·0	35·0	22·0	28·0	27·0	29·0	27·0	27·8
August ..	25·0	39·0	25·0	27·0	27·0	26·0	26·0	28·0	26·0	23·0	27·2
September	45·0	29·0	35·0	48·0	25·0	30·0	35·0	29·0	27·0	28·0	32·1
October ..	39·0	35·0	39·0	41·0	45·0	47·0	41·0	43·0	47·0	42·0	41·9
November	44·0	40·0	47·0	35·0	32·0	36·0	36·0	30·0	39·0	46·0	38·5
December	33·0	33·0	37·0	36·0	44·0	37·0	44·0	30·0	35·0	44·0	37·3
Means ..	40·2	39·1	37·9	40·0	37·3	36·7	38·4	38·5	38·1	40·3	38·6

These ranges, excepting in the month of June to September are generally large, the least and greatest range in each month are as follows:—

	The smallest was		The largest was	
	°		°	
In January	27	in 1886	45.5	in 1887.
February	24	1884	46.0	1880.
March	37	1884	62.0	1883.
April	43	1888	55.0	1883.
May	38	1886	53.0	1880, 1887.
June	30	1883	55.0	1886.
July	22	1885	35.0	1884.
August	23	1889	39.0	1881.
September	25	1884	48.0	1883.
October	35	1881	47.0	1885, 1888.
November	30	1887	47.0	1882.
December	30	1887	44.0	1884, 1886, 1889.

The smallest range in the month was 22° in July, 1885, and the largest was 62° in March, 1883.

TABLE VI. shows Extreme Monthly Range at *Blackheath* in every month.

Months.	Years.										Means of 10 Years.
	1880.	1881.	1882.	1883.	1884.	1885.	1886.	1887.	1888.	1889.	
January ..	39·5	33·0	25·0	24·8	23·5	29·5	35·5	35·5	30·7	34·5	31·2
February..	30·6	23·9	28·5	21·6	27·5	31·5	26·0	32·5	33·5	38·8	29·4
March ..	39·0	35·6	35·0	30·3	40·9	33·0	39·9	31·5	32·5	41·0	36·2
April ..	34·7	38·1	31·0	38·3	39·0	44·0	34·0	37·7	40·5	33·3	37·1
May ..	55·3	42·2	37·0	48·5	44·9	44·3	44·2	36·9	43·2	43·2	44·0
June ..	41·4	41·9	31·5	41·5	37·5	45·6	40·0	39·6	39·5	39·0	39·8
July ..	33·5	48·5	30·0	40·5	37·6	39·6	41·1	44·5	33·0	33·5	38·2
August ..	34·8	39·3	33·0	36·6	45·0	34·5	40·0	41·2	42·0	43·2	39·3
September	46·0	30·0	33·5	21·7	39·2	39·0	42·7	36·0	31·8	44·1	36·4
October ..	36·2	34·0	38·7	27·8	27·0	27·0	37·5	37·0	40·8	28·5	33·5
November.	32·6	30·5	34·0	26·5	34·8	30·0	31·3	30·0	27·8	32·6	31·0
December.	28·0	28·0	32·0	24·5	27·0	28·2	36·0	27·5	33·0	31·8	29·6
Means ..	37·6	35·4	32·4	31·2	35·3	35·5	37·4	36·3	35·7	37·0	35·5

	the smallest was		the largest was
In January	.... 23·5 in 1884	....	and 39·5 in 1880
February	.... 21·6 „ 1883	....	„ 38·8 „ 1889
March ....	.... 30·3 „ 1883	..	„ 41·0 „ 1889
April ....	.... 31·0 „ 1882	....	„ 44·0 „ 1885
May ....	.... 36·9 „ 1887	....	„ 55·3 „ 1880
June ....	.... 31·5 „ 1882	....	„ 45·6 „ 1885
July ....	.... 30·0 „ 1882	....	„ 48·5 „ 1881
August....	.... 33·0 „ 1882	....	„ 45·0 „ 1884
September	... 21·7 „ 1883	....	„ 46·0 „ 1880
October	.... 27·0 „ 1884 and 1885	....	„ 40·8 „ 1888
November	.... 26·5 „ 1883	....	„ 34·8 „ 1884
December	.... 24·5 „ 1883	....	„ 36·0 „ 1886

These least ranges are all smaller than those at Sarona, excepting in the months of June to September, when they are larger at Blackheath. The largest ranges at Sarona are all greater than at Blackheath, excepting those in May, July, and August.

By comparing the ranges in Tables V. and VI., it will be seen that the ranges at Sarona, in respect to the ranges at Blackheath, were in—

January, larger, excepting in 1880 and 1886.
February „ „ 1884 „ 1885.
March „ „ 1884.
April „ without exception.
May „ excepting in 1880 and 1886.
June, smaller, excepting in 1881, 1882, 1884, 1886, and 1889.
July „ without exception.
August „ „
September, smaller, excepting in 1882 and 1883.
October, larger, without exception.
November „ excepting in 1884, and was the same in 1887.
December „ without exception.

By taking the differences between the numbers on the last column of Tables V. and VI. the mean difference of range in each month is found, and is at Sarona in—

January, larger than at Blackheath by ....	....	4 7
February „ „ „ ....	....	7 0
March „ „ „ ....	....	13 9
April „ „ „ ....	....	12 9
May „ „ „ ....	....	4 1
June, smaller „ „ „ ....	....	2 2
July „ „ „ ....	....	10 4
August „ „ „ ....	....	12 1
September „ „ „ ....	....	4 3
October, larger „ „ „ ....	....	8 4
November „ „ „ ....	....	7 5
December „ „ „ ....	....	7 7

Thus the great ranges of temperature at Sarona in the months of March and April are remarkable, as also the small ranges in the months of July and August.

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## MOUNT HOREB.

By J. Stow, Esq.

THE site of Mount Horeb is a question on which a difference of opinion exists, and so far there seem to have been no data to go upon by which its locality could be fixed with any degree of certainty, and yet, notwithstanding the doubt by which the subject is surrounded, it would almost appear that its position is indicated by the prophet Ezekiel: for although he does not in express terms refer to it, he does mention the Waters of Strife (which proceeded out of a rock in Mount Horeb) as forming the southern boundary line of a new division of the land among the twelve tribes, which has not yet taken place; and what is very remarkable, he supplies the exact measurement of each division, so that it is possible to ascertain the length of the land from north to south, the southern boundary of which extends to the Waters of Strife. It is not necessary here to enquire into the apparently preposterous idea of locating several tribes in a howling wilderness; it is sufficient for our purpose to take note of the measurements supplied.

In order to make plain what it is wished to demonstrate there are several particulars to be considered, viz. :—

1. The scale of measurement.
2. The central point from which the measurements are made north and south respectively.
3. The boundaries expressed by name.
4. The divisions of the land.
5. The way in which the correctness of the measurements may be tested.

*First.*—The scale of measurement. This we find in Ezek., xl, 5, is the reed.

The reed = 6 cubits.

The cubit = 1 cubit (18 inches) and a handbreadth (3 inches) or 21 inches.

The reed =  $6 \times 21 = 126$  or  $10\frac{1}{2}$  feet.

This measurement we find applied from first to last in all the measurements made.

*Second.*—The central point is the Sanctuary, *i.e.*, the Temple, see Ezek. xlv, 1 and 4, and xlvi, 9, 10 (mark particularly last clause of verse 10).

Thus we see the Sanctuary or Temple is the central point, and is situated in the centre of the most holy portion allotted to the priests, which is 10,000 reeds from north to south, and 25,000 from east to west.

From this point the measurements of the several divisions of the land commence.

*Third.*—The boundaries expressed by name are, first, the northern, (Ezek. xlvii, 15). Secondly, the southern boundary of the holy portion of 25,000 reeds square (Ezek. xl, 19); and lastly the southern boundary of the division allotted to the tribe of Gad, which is the southern boundary of the land. (Ezek. xlvii, 19, and xlviii, 28.)

*The northern boundary* is given Ezek. xlvii, 15, 16, 17. From this it seems pretty clear the line runs from the sea coast through Zedad westward. It will be seen when we come to measure the distance of the northern boundary from the temple by the sacred measure, that it agrees very nearly with the distance between the latitude of Zedad and that of the Temple.

The second boundary mentioned by name is Tamar, which is situated on the southern boundary line of the holy portion of 25,000 reeds or 20,000 reeds to the south of the temple (*see* Ezek. xlvii, 19.) (The expression “south side” here, as well as that of “north side,” xlvii, 15, can only refer to the relative position of the land to be divided among the tribes, xlvii, 13, 14, in respect to the reserved portions set apart for sacred purposes.)

For it follows, if the southern boundary line of this holy portion of 25,000 reeds is situated 20,000 reeds from the Temple, that Tamar, which forms the northern boundary of that portion of the land allotted to the five tribes to the south (in rough sketch) must also be 20,000 reeds from it (*i.e.* the Temple), and it will be seen when the question of distances comes to be considered, that this assumption is not far from being correct.

The last boundary mentioned by name is the extreme southern boundary at the Waters of Strife in Kedesh; now the Waters of Strife are in Mount Horeb (*see* Exodus xvii, 6), therefore if it is possible to fix the correct distance of one we arrive at that of the other. Now we have given us the extent of the land lying between Zedad or its immediate neighbourhood in the north, and the Waters of Strife in the south, which it will be hereafter seen is, according to the measurements laid down, 288 miles 620 yards.

*Fourth.*—*The division of the land.* There are three principal ones, viz. :—

- 1st. The holy portion of 25,000 reeds square.
- 2nd. A portion to the north of the holy portion divided between seven of the tribes.
- 3rd. A portion to the south of the holy portion divided between the remaining five tribes.

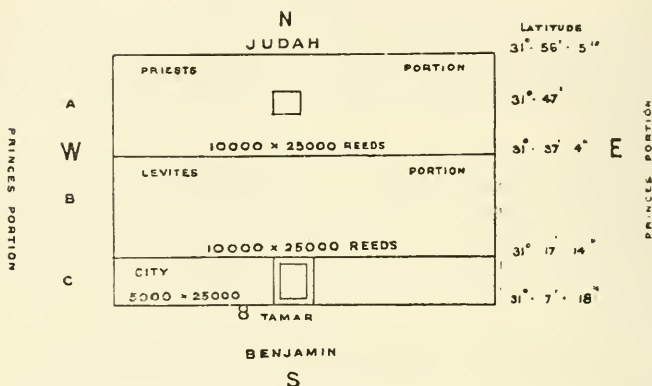
First, the holy portion. This is subdivided into three parts, viz. :—

A portion for the priests (in the centre of which is the Temple), measuring from north to south 10,000 reeds, from east to west 25,000 reeds. (Ezek. xlviii, 10).

A portion for the Levites to the south, of 10,000 by 25,000, (Ezek. xlviii, 13).

A portion for the City (Ezek. xlviii, 15), to the south of the Levites' portion of 5,000 by 25,000 reeds, making a square of 25,000 by 25,000 (Ezek. xlviii, 20) in the centre of the land reserved for special and holy purposes.

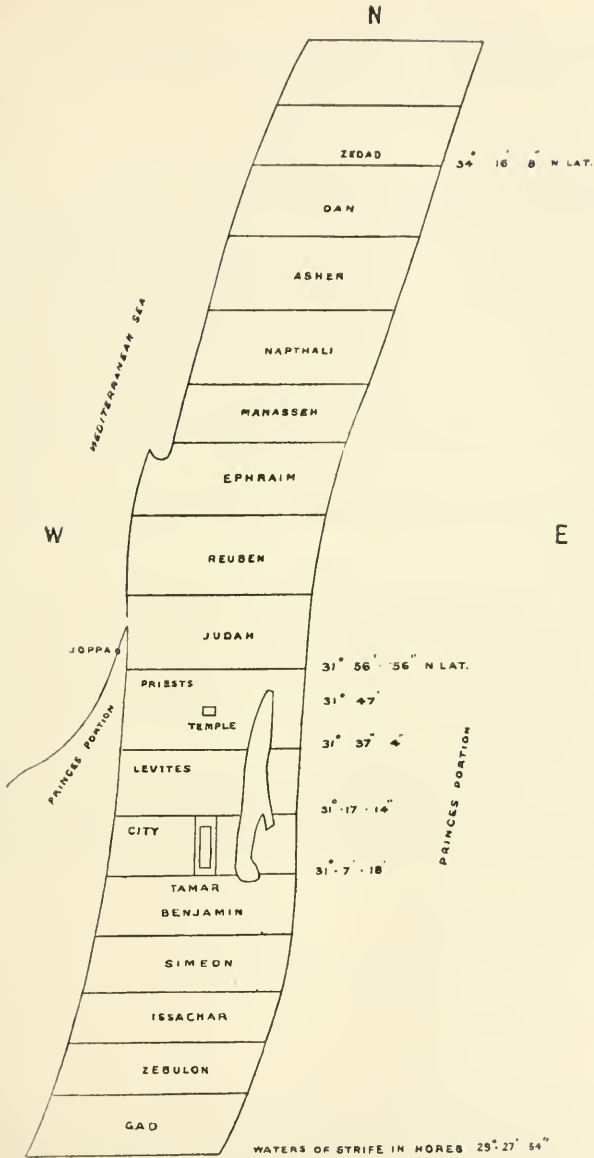
To simplify, a description of which a figure is given.



N.B.—The distance between the Temple and southern boundary is 20,000 reeds, which equals 39 miles 1,365 yards, or  $39^{\circ} 42''$  of Lat.  $31^{\circ} 47' - 39' 42'' = 38^{\circ} 7' 18''$ , which is the latitude of the southern boundary of holy portion, and therefore apparently the true latitude of Tamar.

We now pass on to the next division of the land, extending from the northern boundary of the holy portion (Lat.  $31^{\circ} 56' 56''$ ) to the northern boundary of the land in the extreme north—running from the sea eastward through Zedad (Ezek. xlvii, 15). This division is subdivided into seven lots between seven tribes (Ezek. xlviii, 1, 8), viz., Dan, Asher, Naphtali, Manassah, Ephraim, Ruben, Judah. The lots are equal, and run each from the sea coast eastward for a distance of 25,000 reeds, and from north to south, a distance of 10,000 reeds—that is to say, there are seven subdivisions each measuring 10,000 by 25,000 reeds. This will be found to be so by a reference to Ezekiel xlviii, 8, 9. Now, in this passage the length of the most holy portion is given as 25,000; the breadth, *the same as one of the other portions*. But the size of the other portions is not given. But, on the other hand, the size of the most holy portion is very minutely given (Ezek. xlviii, 10). It is therefore quite plain that if the most holy portion is equal to one of the other portions, that they each must be equal to it. Now, the most holy portion (*i.e.*, the priests) is 25,000 reeds by 10,000, therefore that must be the size of the other portions respectively. The rough figures on the next page will explain the relative positions of several lots, as described in Ezek. xlviii, 1-29.





It will thus be seen the total length of the land from north to south is as follows, viz. :—

	Reeds.
Seven tribes to north of priests' portion, each 10,000 reeds ...	70,000
Holy portion ....	25,000
Five tribes to south of holy portion ...	50,000
Reeds ....	145,000

Of  $10\frac{1}{2}$  feet each equals 288 miles 620 yards.

*Fifthly.*—*How can the correctness of these measurements be tested?* That can only be done by comparing the distances from the central point to the several boundary lines named as measured by the sacred measure with the true latitude of the places named (unfortunately the writer has no means of ascertaining this). It can only therefore be shown what the latitudes of these boundaries should be according to the sacred measurement. The distance from the centre of the most holy portion to the extreme northern boundary is 75,000 reeds of 6 cubits of 21 inches each or  $10\frac{1}{2}$  feet. If, therefore,  $31^{\circ} 47'$  be the correct latitude of the Temple, then the northern boundary of the land will be in Lat.  $34^{\circ} 6' 55''$ . But Zedad is on the northern boundary (Ezek. xlvii, 15; Numbers xxxiv, 8), therefore this should approximate very nearly to the latitude of Zedad.

By the same process the distance of the Temple from the southern boundary of the holy portion of 25,000 reeds is 20,000. Assuming the correctness of this conclusion,  $31^{\circ} 23' 26''$ , should be the latitude of Tamar. It therefore follows, if the measurement between the Temple and Zedad in the north, and the Temple and Tamar in the south, be correct, that we may expect, with some degree of confidence, that the measurements of the extreme southern boundary line, viz., the "Waters of Strife," will be correct also.

Between the southern boundary line of the holy portion and the southern boundary line of Gad's portion, there are five divisions of 10,000 reeds each, or 5,000 reeds of  $10\frac{1}{2}$  feet. Therefore  $29^{\circ} 43' 59''$  is apparently the latitude of the "Waters of Strife" in Horeb (Ezek. xlvii, 19; xlviii, 28).<sup>1</sup>

Rietfontein, Transvaal,  
June 13th, 1890.

<sup>1</sup> There is an error in the plate due to a miscalculation which the author has corrected in the text. The true latitude of Sinai is  $28^{\circ} 32' N$ . Zedad is placed by Robinson  $34^{\circ} 22'$ . Latitude  $29^{\circ} 44'$  is near 'Akabah, and latitude  $31^{\circ} 23'$  near the south end of the Judean chain of mountains.

## QUOTATIONS OF PSALMS.

By MAJOR CONDER, R.E.

IN answer to correspondents, who desire to know the details as to quotations of Psalms, and of the New Testament, on the Byzantine monuments of Palestine, it may be convenient to give those collected by Waddington, to be added to the two already mentioned, in the *Memoirs* and in the *Quarterly Statement*.

(1) Waddington, No. 1,960 from Jimrîn near Bostra ; also from the Monastery of Job in the Haurân (No. 2,413 a).

Αὕτη ἡ πύλη τοῦ Κ(υρίου)υ δικαιο(ι) εισελεύσονται ἐν αὐτ(ῆ). Psalm cxviii. 20.

This is the same that I found repeated on a lintel stone in the ruins of Kh. Khoreisa (*Memoirs* vol. iii, p. 356). The ruins of a chapel were found to which it appeared to belong. The site is on sheet cxi, not far from Hebron.

(2) Waddington No. 2,068, from Umm el Jemâl near Bostra.

Εὐχὴ Νουμεριανῶν (καὶ) Ἰωάννου Ἐκ γαστρὸς μητρὸς Θ(εὸ)ς ἡμῶ(ν) σὺ εἶ μὴ ἐγκαταλίπης +

The lxx version of Psalm cxi, 11, reads—

ἐκ κοιλίας μητρὸς μου Θεός μου εἶ σὺ, μὴ ἀποστῆς ἀπ' ἐμοῦ

(3) Waddington 2,551 c. The well known text on the old basilica entrance to the great mosque at Damascus—

+ Ἡ βασιλία σου Χ(ριστ)έ βασιλία πάντων τῶν αἰώνων καὶ ἡ δεσποτία σου ἐν παση γενεᾷ καὶ γενεᾷ.

This is Psalm cxlv, 13 with Χριστέ added.

(4) Waddington 2,650, from El Barah in Northern Syria.

Κ(ύρι)ος ποιμέν(ι) με + καὶ οὐδέν μοι ὑστερήσ(ει) +

This is Psalm xxiii, 1, with μοι instead of με.

(5) Waddington No. 2,651, from the same ruined town as the last.

Χριστ[ο]ς ἀεὶ ικαῖ + Πίστις ἐλπίς ἀγάπῃ + Ἐγίρει ἀπὸ γῆς πτωχὸν καὶ ἀπὸ κοπρίας ἀνο ψοῖ πένητα.

Compare the lxx of Psalm cxlii, 7.

ὁ ἐγείρων ἀπὸ γῆς πτωχὸν καὶ ἀπὸ κοπρίας ἀνοψῶν πένητα.

(6) Waddington No. 2,652, from the same site.

Γένοιτο Κύριε τὸ ἔλεός σου ἐφ' ἡμᾶς + καθάπ (ερ ἡλπίσαμεν ἐπὶ σε) Psalm cxxxiii, 22.

(7) Waddington No. 2661, from the ruined town El Has in Northern Syria.

Εὐλογημένος ὁ ἐρχόμενος ἐν ὀνόματι Κυρίου Θεὸς Κύριος καὶ ἐπίφανεν ἡμῖν.

This is Psalm cxviii, 26-27 with ἐπίφανεν for ἐπέφανεν.

(8) Waddington No. 2,672, from Ruweika gives the exact lxx text of Psalm cxi, 1, 2.

(9) Waddington No. 2,677 from Adana in Syria.

Μικάριος ἄνθρωπος ὁς (ἐλπίζει) ἐπὶ (Κύ)ριον κὲ οὐ μὴ ἄπω(λείται). Psalm xxxiv, 19.

(10) Waddington 2,654, from El Mujelieh in Northern Syria.

Τὸν Ὑψιστον ἔθου καταφύγην σου οὐ προσελεύσετε πρό(ς) σε κακά καὶ μάστιξ οὐκ ἐγγύ ἐν τῷ σκηνώματί σου.

This with the changes τε for ται, and ἐγγύ for ἐγγεῖ is the lxx of Psalm xci, 9, 10.

(11) At Deir Sambil with the date 420 A.D. The first verse of Psalm xxiv occurs. (Waddington No. 2,663).

(12) At El Barah also (Waddington 2,648) Psalm iv, 8 is given in a manner differing slightly from the lxx, probably because all the words could not be crowded in. The Doxology is also added with a cross. This text was copied by De Vogüé as follows:—

Ε(δω)κάς μοι εὐ' φροσ' ἰννην εἰ(ς) τὴν καρδίαν μου. + Ἄπο καρπῶν σίτου καὶ οἴνου καὶ ἐλλέου ἐνεπλήσθημεν ἐν ἰρήνῃ.

In this rendering μοι is additional; ἐλλέου is a bad spelling for ἐλαίου, which should be followed by αὐτῶν: ἐνεπλήσθημεν stands for lxx ἐπληθύνθησαν; and ἰρήνῃ for εἰρήνῃ. The diphthongs of the Greek are often replaced by single shorter vowels in the Syrian texts. The clause is unfinished, and should end ἐπὶ τὸ οὐτὸ κοιμηθήσομαι. The text is written in three lines perhaps injured on the left; the second begins + Ἄπο, and the third λεου. The Doxology below is as follows:—

Δόξα Πατρὶ καὶ Υἱῷ καὶ ἀγίῳ Πν.

This is probably a text of about 417 A.D.

(13) Waddington No. 2,646, from the same important ruined town of the 5th century, A.D.

+ Κύρ(ιος) φυλάξῃ τὴν ἰσοδὸν σου καὶ τὴν ἔξοδον ἀπὸ τοῦ νῦν καὶ ἔως τῶν αἰώνων Ἀμήν. Psalm cxxi, 8. The second word stands for φυλάξει.

Two passages of the New Testament also occur.

(14) Waddington No. 2,635. "The Lord hath said to us 'I am the God of Abraham; Isaac, Jacob, our God not of the dead,'" which is contracted from Matt. xxii, 31, 32, and not a textual copy. This is found at Salamieh in the region of Palmyra.

(15) Waddington No. 2,647, from El Barah is a fragment + "glory in the highest (to God) and on earth peace" (Luke ii, 14). I think these are all the texts of the kind in Waddington's volume. At Gara has been found on a monument of stone the verse "The Earth is the Lord's and the fulness thereof."

## EARLY AKKADIANS IN LEBANON.

By MAJOR CONDER, R.E.

In a recent paper for the Victoria Institute, Mr. T. G. Pinches, M.R.A.S., of the British Museum, treats of the Akkadian inscriptions of King Gudea, at Tell Loh, dating about 2,500 B.C. The following important passage has been translated.

“When Gudea was building the temple of his god Ningirsu, Ningirsu subjected all things to him, from the upper sea to the lower sea. In Amanus, the mountain of cedar, he has cut and caused to be brought from the mountain, cedar trees whose length was 70 cubits, cedars whose length was 50 cubits, box trees whose length was 25 cubits. With this wood he made various parts of the temple.”

Stores were also brought from Phœnicia, and diorite from Makan generally supposed to be Sinai.

This passage indicates an Akkadian invasion of the Lebanon in very early times, and if Makan be correctly identified (and Mr. Pinches agrees with Lenormant on this point), all Palestine would, even before Abraham's time, have been known to, and probably colonised by the Akkadians. The “upper sea” would appear to be the north-east part of the Mediterranean, and the “lower sea” the Persian Gulf. It will be noted that this historic statement agrees with the supposition that an early Akkadian population carved the Hittite monuments, while the language of Mitani,<sup>1</sup> in the 15th century B.C., forms a connecting link, Mitani being the northern part of Mesopotamia, east of the Euphrates and close to the Hittite borders, opposite to their capital of Carchemish. Hitherto this extension of Akkadian rule has not been historically demonstrated, and the new texts are of great value for the history of Palestine.

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## NOTE ON THE LACHISH CORNICE.

By MAJOR CONDER, R.E.

THE cornice shown (pp. 26, 35) in Mr. F. Petrie's “Lachish Memoir,” closely resembles that in the interior court of the Haram at Hebron. It is also similar to that on two tombs in the Kedron Valley. One of these tombs has been called “Egyptian” because of this cornice, but on the other (Absalom's tomb) this cornice occurs with Ionic capitals. The Hebron masonry being of the same class with the Herodian work at Jerusalem, I think there can be little hesitation in regarding this kind of cornice as belonging to the Greek or Greco-Roman age in Palestine. The date is therefore more probably the 1st rather than the 10th century B.C., and it may be placed even as late as the 1st century A.D. with great probability. This agrees with the Greek character of the pillar found in connection with the cornice.

Some of the buildings found at Lachish appear to me to be as late as 500 A.D.

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<sup>1</sup> I hope shortly to publish a translation of this important letter of Dusratta in this language, which is an Akkadian dialect. The letter contains more than 500 lines of writing. Only a few scattered words have so far been explained.

## THE HITTITE PRINCE'S LETTER.

By MAJOR CONDER, R.E.

THE original text of this letter, having been published by Dr. Winckler, was under discussion last month between Mr. G. Bertin and myself. The death of this excellent Akkadian scholar has just occurred, and is a great loss to the study of the antiquities of Western Asia. Writing to me during his last illness, he says.

"I do not think that there can be any doubt about the language of this letter of Tarkondara; being neither Semitic nor Aryan nor Egyptian, it must, therefore, be Turanian."

To this conclusion, also, Mr. T. G. Pinches has been carried by the forms of the verbs, and this places the study of the Hittite language on a firm basis, showing its connection with Akkadian, and so with the still extant Archaic dialect of Turkestan and Mongolia.

## CORRECTION.

ON p. 71 of the *January Quarterly Statement*, 1891, I have made two mistakes. In the fourth line from the bottom read A.D. for B.C., and in the last line for "the lxx," read "the Hebrew of the Old Testament."

C. R. C.

## NOTES ON THE QUARTERLY STATEMENT.

By MAJOR CONDER, R.E.

JANUARY, 1891. P. 13. The note bearing my initials must be corrected, I had not seen the copy of the inscription, which is not the Syriac text to which I referred.

P. 77. If it be the case that "*no Semitic scholar either challenged or contradicted*" the idea that Mr. T. Ballhatchet was a Phœnician, it was probably because the assertion was not worth contradicting. Dr. Max Müller long ago exploded the fallacy of supposing Phœnician names to be recognisable in Devonshire or Cornwall. We do not even know that the Phœnicians ever landed in England, and no Phœnician texts are known nearer home than Marseilles or Spain.

P. 84. Dr. Chaplin's Mask, from Er Ram, is mentioned in the "*Memoirs*," vol. iii, p. 438, and was shown to me by Dr. Chaplin. I have a sketch of it in my MS. notes. It can never have been used as a real mask, being so very thick; perhaps, however, it was fastened on to another stone. It seems to me that it might be of any date, from the 12th century, A.D., backwards.

## THE SCULPTURED TOMB AT SHEFA 'AMAR.

By HERR SCHUMACHER.

In the *Quarterly Statement* of January, 1891, p. 72, VII, Major Conder writes that I give an "imperfect sketch" of the sculptured tomb at Shefa 'Amr, and that I do not mention the inscription. In reply I beg to draw the attention of Major Conder to the fact stated in *Quarterly Statement*, October, 1889, p. 188, that the tomb I sketched and photographed was *recently* discovered, and, although situated *near* those given in the "Memoirs," is not the same of which he gives an inscription. I have visited all the tombs, together with my friend the Rev. Van Kasteren, and have also seen the one with the Greek inscription; but that I photographed was not discovered at the time of the P.E.F. Survey. It contains no characters but the  $\alpha$  and  $\Omega$  and a rude ornamentation work.

HAIFA,

*February 11th, 1891.*

## MILLO, HOUSE OF MILLO, AND SILLA.

By GEORGE ST. CLAIR, F.G.S.

In a former paper I suggested, in a tentative way, that Millo might perhaps be the great causeway which crosses the Tyropœan at Wilson's Arch. I now make a different but a cognate suggestion, with more confidence, because I can support its probability by a little array of evidence. I am persuaded that Millo was a great defensive mound or dam crossing the Tyropœan, at the southern end of what Josephus calls a fortified ditch, instead of at its northern end ("Antiq." x, 8, 2). In fact it corresponds to the transverse wall which I have contended for, and the position of which I have tried to show.

It is possible that even the Jebusites had hit upon the device of making a dam, in some rude fashion, to bar the approach up the Tyropœan Valley. Sir George Grove, in the "Dictionary of the Bible," conjectures that it was the Jebusites who first built Millo, and named it by a word in their own language, because it is difficult to find a satisfactory Hebrew etymology for it; because, secondly, the Canaanites of Shechem also had a Millo (Judges ix, 6, 20); and lastly, because David seems to have found Millo already existing when he came to Jerusalem.

David having taken the stronghold of Zion, improved his new capital by building "round about, from Millo and inward" (2 Sam. v, 9). This suits very well the idea that Millo was a great dam which constituted the outer defence of the Tyropœan, and to a great extent of Zion itself. It is not unlikely either that the House of Millo was a castle at the end of the dam, on the Ophel Hill, which was adopted by David as a place

of residence, and so became the House of David. David may possibly have improved both the castle and the dam.

But it was Solomon who so strengthened this work as to deserve the credit of having constructed it. It was one of the great works for the accomplishment of which he made a levy upon all parts of the kingdom (1 Kings ix, 15). The nature of the work is indicated in 1 Kings ix, 27, "Solomon built Millo (and so) closed up the fissure of the City of David his father;" the fissure or cleft is the ravine, and the two works, of building Millo and closing the cleft, are either one and the same or are closely associated together. The rebuilding would no doubt extend to the House of Millo, which had become David's house; accordingly, before it can be begun another residence must be provided for Solomon's wife. Pharaoh's daughter was brought up "out of the City of David unto her house which Solomon had built for her: then did he build Millo" (1 Kings ix, 24). The labourers employed upon the work were the children of Joseph, and their superintendent was Jeroboam, an Ephramite, probably already acquainted with the similar work at Shechem (1 Kings xi, 28). It is stated in the Septuagint that Jeroboam completed the fortifications at Millo, and was long afterwards known as the man who had "enclosed the City of David."

But although Millo was a mound or dam rather than a wall, we need not suppose it was a mere earthwork; it would most probably be faced with masonry, to ensure its preservation and increase its strength. The work was so well done that Jerusalem was never again attacked on this side, although previously this side was found the most vulnerable, both by David and by the children of Simeon and Judah in the days after Joshua.

Joash was assassinated at the House of Millo, going down Silla (2 Kings xii, 20, combined with 2 Chron. xxiv, 25). There has been as much obscurity about Silla as about Millo. Some have supposed it to be the same as M'sillah in 1 Chron. xxvi, 16,—a stairway at the west gate of the Temple. But the locality of this M'sillah is at one of the Parbar gates, north of Wilson's Arch, and can have nothing to do with Beth Millo. However, the M'sillah and the Silla are related in etymology and in meaning—for both of them are banks with stairways. Silla is the stairway at Millo itself: Joash was leaving David's house to escape the conspirators, and was being carried on a litter down the stairway. When Nehemiah, in his description of the walls, comes to Millo, as I understand him, he has to speak of the stairs of the City of David, and the stairway of the wall above the House of David (or Beth Millo), Neh. iii, 15, xii, 37. The word for stairs here is Maaloth.

Hezekiah, who was much concerned about the south-eastern part of the city, "strengthened Millo, the City of David" (2 Chron. xxxii, 5).

If we are to find a Hebrew etymology for the name מִלּוֹ (Millo), it seems to be a noun formed in the usual way by prefixing the letter M to a verb. There is the Aramæan intransitive verb מָלַן, equivalent to



the Hebrew לָוַה, with the meaning *to be inclined*, and among other meanings *to wind about*, *to twist*, and used concerning stairs as well as concerning serpents and garlands. Is it not something more than a coincidence that a regular Hebrew word for stairs is מַעְלָה, *Maaloth*, similar to Millo, though formed from the verb עָלָה?

As to סִלָּא (Silla), from סָלַל to heap up, to tower up,—it accords very well with all we can gather or guess about the great dam. Sollah was the mound which in ancient warfare was used in besieging a town. How likely it seems that some variant of it would describe a mound constructed for defensive purposes. It is worth noting that the writers of Targums express the Hebrew Sollah by the word Milletha, and that they use the same word Milletha to render Millo. It seems clear that to them Sollah and Millo were alike a mound, whether used for attack or defence.

If there is truth in this view about Millo, Millo might be found by sinking one shaft in the Tyropœan and driving a gallery north and south. And then would follow the discovery of the stairs and the sepulchres.

## THE FULLER'S FIELD.

By GEORGE ST. CLAIR, F.G.S.

IN the days of King Ahaz, when Jerusalem was threatened by the allied forces of Rezin, King of Syria, and Pekah, King of Israel, Isaiah was commanded to "go forth (go outside the city?) and meet Ahaz, at the end of the conduit of the upper pool, in the highway of the Fuller's field" (Isaiah vii, 3). The upper pool here spoken of is believed to be the Virgin's Fountain, which is elsewhere the upper spring of the waters of Gihon, and where we find one end of a conduit which connects it with a lower pool at Siloam. But if this is what is meant, why is the spot not described shortly and plainly as En Rogel, by which name it was already known? (1 Kings i, 9). Surely it is not En Rogel itself which is meant, but the end of a channel or passage belonging to it, and yet not the end which terminates at the pool of the spring; nor the Siloam end either, else it would be so stated. Does it not refer to the top of the shaft and stairway of the Ophel Hill, which had been so long lost until rediscovered by Warren? This entrance was of course known to Isaiah, and known to the King. Being near the King's gardens, perhaps within their boundary, Ahaz may have been accustomed to walk there. The place spoken of is not really stated to be "in the highway of the Fuller's field;" for in the Hebrew text the word "in" is not found, and the word highway is not the only fair rendering of the Hebrew *M'sillah*. The text might be translated, Go and meet Ahaz at "the end of the

channel of the upper pool, the stairway of the Fuller's field." This is an exact description of the top of the Ophel shaft.

We recall the statement of Josephus, that when James the Just was thrown over the Temple wall, a fuller despatched him with his club. And we remember that in a cavern on Ophel, Warren found what appeared to be dyers' vats.

In the days of Hezekiah, the son of Ahaz, the stairway shaft is again spoken of. Sennacherib's officers have pitched their camp north-west of the city; but desiring a conference with Hezekiah—who was probably living in David's house on Ophel—they came and "stood at the passage of the upper pool, which is at the staircase of the Fuller's field" (2 Kings xviii, 17). There they called to the King, and when Hezekiah deputed his Prime Minister, Secretary, and Recorder to represent him, these officers spoke from the wall.

The circumstances may seem to require that the wall should extend a little more southward than the wall found by Warren, but they appear to be good evidence that the Ophel shaft was outside the wall, and that the King's house was within shouting distance of the shaft, or at any rate that the Assyrian officers thought so.

But if *M'sillah* in this passage is not to be rendered stairway, nor highway, but rather "mound" (see paper on Millo and Silla), then it suggests that the dam which crossed the Tyropœan had its eastern termination not far from the Ophel shaft. In that case the Fountain Gate of Nehemiah would be at the south-east angle of Jerusalem, where the shortest path leads off to Siloam Pool. (A man knows best himself the weak points of his own theories, and I have been surprised that no critic should have pointed out that the Fountain Gate should more naturally be looked for here, rather than at the point assigned it in my paper and plan, April, 1889).

[QUARTERLY STATEMENT, JULY, 1891.]

THE  
PALESTINE EXPLORATION FUND.

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NOTES AND NEWS.

THE office of the Fund has been transferred to 24, HANOVER SQUARE, W., where the most interesting of the objects collected from time to time by the officers of the Fund will be exhibited. The Rev. Greville J. Chester has kindly promised his advice and assistance in arranging the objects.

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Herr Schick having recovered from an indisposition of some duration, has continued his researches as opportunity offered. Unfortunately the surreptitious removal of the Siloam inscription has made the Turkish authorities suspicious, and the excavations in connection with the "second Siloam aqueduct" have had to be discontinued. He sends an account of his examination of the recently observed arch in "Solomon's stables" and of other interesting matters.

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Mr. G. R. Lees having forwarded a photograph of this arch, a reproduction of the photograph is published in the present number, together with the promised paper of Mr. T. Wrightson, M.I.C.E.

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The visit of Professor T. Hayter Lewis to Jerusalem last year has enabled him to furnish a valuable paper on the "Ruins of the Church on the Skull Hill, Jerusalem," which will be found at page 211.

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Mr. F. J. Bliss continued the excavations at Tell el Hesi until the advancing season of harvest made it impossible for him to obtain labourers. He has since

been occupied in writing a detailed report of his work which will be published in the October *Quarterly Statement*.

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According to the *Jewish Chronicle* the Jaffa and Jerusalem Railway has been opened as far as Ramleh.

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On the occasion of his visit to Edinburgh to receive the honorary degree of LL.D., which has been conferred on him by the University of that city, Major Conder delivered a lecture in the Freemasons' Hall on Palestine Exploration. Sir William Muir presided, and there was a large attendance. On the motion of the Rev. J. G. Cunningham, seconded by the Rev. Professor Duns, Major Conder was cordially thanked for his lecture.

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Messrs. Kegan Paul and Co. have just issued a work by Mr. George St. Clair, F.G.S., on "Buried Cities and Bible Countries." It contains numerous maps and drawings, several of which have been lent by the Fund. It will be remembered that Mr. St. Clair was for many years one of the authorised lecturers for the Fund.

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Mr. F. J. Bliss has furnished an elaborate paper on "The Maronites," which will shortly be published.

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It may be well to mention that plans and photographs alluded to in the reports from Jerusalem and elsewhere cannot all be published, but all are preserved in the offices of the Fund, where they may be seen by subscribers.

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The first volume of the "Survey of Eastern Palestine," by Major Conder, has been issued to subscribers. It is accompanied by a map of the portion of country surveyed, special plans, and upwards of 350 drawings of ruins, tombs, dolmens, stone circles, inscriptions, &c. The edition is limited to 500. The first 250 subscribers pay seven guineas for the three volumes; subscribers to the "Survey of Western Palestine" are privileged to have the volumes for this sum. The price will be raised, after 250 names are received, to twelve guineas. The Committee are pledged never to let any copies be subscribed under the sum of seven guineas. Mr. A. P. Watt, 2, Paternoster Square, is the Sole Agent. The attention of intending subscribers is directed to the announcement after Maps and before Contents of this number.

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Mr. H. Chichester Hart's "Fauna and Flora of Sinai, Petra, and the Wady 'Arabah" has been completed and sent out to subscribers.

The following gentlemen have kindly consented to act as Honorary Local Secretaries :

John Whitehead, Esq., Esplanade, Guernsey.

A. B. Lloyd, Esq. (in the place of Mr. Greenwell, resigned), for Newcastle-on-Tyne.

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The Committee have to acknowledge with thanks the following donation to the Library of the Fund, viz. :—

“Itinerarium D. Beniaminis cum Versione et Notis Constantini L'Empereur 'ab Opyrek, S.T.D. et S.L.P. in Acad. Lugd. Batava,' from the Rev. George H. Culshaw.

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The books now contained in the Society's publications comprise an amount of information on Palestine, and on the researches conducted in the country, which can be found in no other publications. It must never be forgotten that no single traveller, however well equipped by previous knowledge, can compete with a scientific body of explorers, instructed in the periods required, and provided with all the instruments necessary for carrying out their work. The books are the following (*the whole set (1 to 13) can be obtained by subscribers to the Fund by application to the Head Office only (24, Hanover Square, W.), for £3 Os. Od., carriage paid to any part in the United Kingdom only*):—

By Major Conder, R.E.—

- (1) “Tent Work in Palestine.”—A popular account of the Survey of Western Palestine, freely illustrated by drawings made by the author himself. This is not a dry record of the sepulchres, or a descriptive catalogue of ruins, springs, and valleys, but a continuous narrative full of observations upon the manners and customs of the people, the Biblical associations of the sites, the Holy City and its memories, and is based upon a six years' experience in the country itself. No other modern traveller has enjoyed the same advantages as Major Conder, or has used his opportunities to better purpose.
- (2) “Heth and Moab.”—Under this title Major Conder provides a narrative, as bright and as full of interest as “Tent Work,” of the expedition for the *Survey of Eastern Palestine*. How the party began by a flying visit to North Syria, in order to discover the Holy City—Kadesh—of the children of Heth; how they fared across the Jordan, and what discoveries they made there, will be found in this volume.
- (3) Major Conder's “Syrian Stone Lore.”—This volume, the least known of Major Conder's works, is, perhaps, the most valuable. It attempts a task never before approached—the reconstruction of Palestine from its monuments. It shows what we should know of Syria if there were no Bible, and it illustrates the Bible from the monuments.

- (4) Major Conder's "Altaic Inscriptions."—This book is an attempt to read the Hittite Inscriptions. The author has seen no reason to change his views since the publication of the work.
- (5) Professor Hull's "Mount Seir."—This is a popular account of the Geological Expedition conducted by Professor Hull for the Committee of the Palestine Fund. The part which deals with the Valley of Arabah will be found entirely new and interesting.
- (6) Herr Schumacher's "Across the Jordan."
- (7) Herr Schumacher's "Jaulân."—These two books must be taken in continuation of Major Conder's works issued as instalments of the "Survey of Eastern Palestine." They are full of drawings, sketches, and plans, and contain many valuable remarks upon manners and customs.
- (8) "The Memoirs of Twenty-one Years' Work."—This work is a popular account of the researches conducted by the Society during the past twenty-one years of its existence. It will be found not only valuable in itself as an interesting work, but also as a book of reference, and especially useful in order to show what has been doing, and is still doing, by this Society.
- (9) Herr Schumacher's "Kh. Fahl." The ancient Pella, the first retreat of the Christians; with map and illustrations.
- (10) Names and Places in the Old and New Testament and Apocrypha, with their modern identifications, with reference to Josephus, the Memoirs, and *Quarterly Statements*.
- (11) Besant and Palmer's "History of Jerusalem."—The "History of Jerusalem," which was originally published in 1871, and has long been completely out of print, covers a period and is compiled from materials not included in any other work, though some of the contents have been plundered by later works on the same subject. It begins with the siege by Titus and continues to the fourteenth century, including the Early Christian period, the Moslem invasion, the Mediæval pilgrims, the Mohammedan pilgrims, the Crusades, the Latin Kingdom, the victorious career of Saladin, the Crusade of Children, and many other little-known episodes in the history of the city and the country.
- (12) Northern 'Ajlân "Within the Decapolis," by Herr Schumacher.

By Henry A. Harper—

- (13) "The Bible and Modern Discoveries."—This work, written by a Member of the Executive Committee of the Palestine Exploration Fund, is an endeavour to present in a simple and popular, but yet a connected form, the Biblical results of 22 years' work of the Palestine Exploration Fund. The writer has also availed himself of the discoveries made by the American Expeditions and the Egyptian Exploration Fund, as well as discoveries of interest made by independent travellers.

The Bible story, from the call of Abraham to the Captivity, is taken, and details given of the light thrown by modern research on the sacred annals. Eastern customs and modes of thought are explained whenever the writer thought that they illustrated the text. This plain and simple method has never before been adopted in dealing with modern discovery.

To the Clergy and Sunday School Teachers, as well as to all those who love the Bible, the writer hopes this work will prove useful. He is personally acquainted with the land; nearly all the places spoken of he has visited, and most of them he has moreover sketched or painted. It should be noted that the book is admirably adapted for the School or Village Library.

By Guy le Strange—

- (14) "Palestine under the Moslems."—For a long time it had been desired by the Committee to present to the world some of the great hoards of information about Palestine which lie buried in the Arabic texts of the Moslem geographers and travellers of the Middle Ages. Some few of the works, or parts of the works, have been already translated into Latin, French, and German. Hardly anything has been done with them in English, and no attempt has ever been made to systematise, compare, and annotate them.

This has now been done for the Society by Mr. Guy le Strange. The work is divided into chapters on Syria, Palestine, Jerusalem, and Damascus, the provincial capitals and chief towns, and the legends related by the writers consulted. These writers begin with the ninth century and continue until the fifteenth. The volume contains maps and illustrations required for the elucidation of the text.

The Committee have great confidence that this work—so novel, so useful to students of mediæval history, and to all those interested in the continuous story of the Holy Land—will meet with the success which its learned author deserves.

By W. M. Flinders Petrie—

- (15) "Lachish" (one of the five strongholds of the Amorites).—An account of the excavations conducted by Mr. Petrie in the spring of 1890, with view of Tell, plans and sections, and upwards of 270 drawings of the objects found.

By Trelawney Saunders—

- (16) "An Introduction to the Survey of Western Palestine, describing its Waterways, Plains, and Highlands, with special reference to the Water Basin—(Map. No. 10)."

The new map of Palestine, so long in hand, is now ready. It embraces both sides of the Jordan, and extends from Baalbek in the north to Kadesh Barnea in the south. All the modern names are in black; over these are printed in red the Old Testament and Apocrypha names. The New Testament,

Josephus, and Talmudic names are in blue, and the tribal possessions are tinted in colours, giving clearly all the identifications up to date. It is the most comprehensive map that has been published, and will be invaluable to universities, colleges, schools, &c.

It is published in 21 sheets, with paper cover; price to subscribers to the fund, 24s., to the public, £2. It can be had mounted on cloth, rollers, and varnished for hanging. The size is 8 feet by 6 feet. The cost of mounting will be extra (*see* Maps).

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Branch Associations of the Bible Society, all Sunday School unions within the Sunday School Institute, the Sunday School Union, and the Wesleyan Sunday School Institute, will please observe that by a special Resolution of the Committee they will henceforth be treated as subscribers and be allowed to purchase the books and maps (by application only to the Secretary) at reduced price.

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The income of the Society, from March 23rd to June 17th, was—from annual subscriptions and donations, including Local Societies, £178 19s. 6d.; from all sources, £281 15s. 6d. The expenditure during the same period was £513 0s. 10d. On June 18th the balance in the Bank was £519 15s. 7d.

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Subscribers are begged to note that the following can be had by application to the office, at 1s. each:—

1. Index to the *Quarterly Statement*, 1869–1880.
  2. Cases for Herr Schumacher's "Jaulân."
  3. Cases for the *Quarterly Statement*, in green or chocolate.
  4. Cases for "Abila," "Pella," and "'Ajlûn" in one volume.
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Early numbers of the *Quarterly Statement* are very rare. In order to make up complete sets, the Committee will be very glad to receive any of the following numbers:—

No. II, 1869; No. VII, 1870; No. III, 1871; January and April, 1872; January, 1883, and January, 1886.

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It having again been reported to the Committee that certain book hawkers are representing themselves as agents of the Society, the Committee have to caution subscribers and the public that they have no book hawkers in their employ, and that none of their works are sold by itinerant agents.

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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.

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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.

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The only authorised lecturers for the Society are—

- (1) The Rev. Thomas Harrison, F.R.G.S., Member of the Society of Biblical Archæology. Address: Rev. Thomas Harrison, Hillside, Benenden, Staplehurst, Kent. His subjects are as follows:—

- (1) *Research and Discovery in the Holy Land.*
- (2) *In the Track of the Israelites from Egypt to Canaan.*
- (3) *Bible Scenes in the Light of Modern Science.*
- (4) *Eastern Palestine.*
- (5) *The Dead Sea and the Cities of the Plain.*

- (2) The Rev. Charles Chidlow, M.A., Caio Vicarage, Llandilo:—

*Recent Discoveries in Bible Lands.*

Application for Lectures may be either addressed to the Secretary, 24, Hanover Square, W., or sent to the address of the Lecturers.

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It has been asked why Mr. St. Clair's name has been omitted from the list of lecturers. The reason is that during the last season Mr. St. Clair has been lecturing on his own responsibility. His relations with the Committee are, and always have been, of a cordial character, and the Committee desire to express their sympathy with him in his efforts to awaken and sustain interest in "Eastern Exploration."

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## REPORTS FROM JERUSALEM.

LETTERS FROM HERR SCHICK.

JERUSALEM, *February*, 1891.

## DISCOVERIES IN "SOLOMON'S STABLES."

SOME years ago the Moslems began to clear the earth from the so-called "Solomon's stables." Then the work rested for some time, and has recently been completed. After the removal of the earth some things of interest for the student came to light. First, that the north wall C, of the substructions consists of very large dressed stones. Second, that the west wall D, also consists of large stones, all, or at least the lower ones, *in situ*, and that there on the flooring the rock is visible. East of it, close to the wall E, are a few stone mangers. The wall E also has large stones; the wall F has stones of all sorts, and certainly of later period than the others mentioned. I think these walls were built up by Herod as a foundation for his grand hall or threefold cloister on the south side ("Antiq.," Joseph. xv, 11, 5) reaching to "the west and east valley," and just here (as the section will show) the slope of the valley begins. Under this part a *passage* was recently found by the Rev. J. E. Hanauer, and according to his description and measurements, I have laid it down on the accompanying drawing.

For what purpose this passage was made is not easy to say. One thinks first of water (aqueduct), but certainly this passage has never been made as such; and as there are under the Triple Gate similar passages which were found long ago, and are shown in all the plans published by the Exploration Fund, I have thought it well to make a copy of this part of the Ordnance Survey Plan, scale  $\frac{1}{5000}$ , of the Haram at Jerusalem, in order to show upon it the exact site of the new-found one, and also the others.

Both branches of one marked A A under the Triple Gate end in the north abruptly, and one wing has a crevice at the end.

It is tunnel-like, hewn in the rock, descends towards the south, and where its two branches are connected, comes out from the rock scarp, and further on is made of rough masonry. The rocky part was never for water, but it may be that in later time, especially at the time of the Crusaders<sup>1</sup>, its walled prolongation was used as a sewer. Not so the other marked B, which was certainly intended for water—first to bring surface water to the cistern H by the upper branch, and when the cistern became full, to carry off the superfluous water by the lower

<sup>1</sup> According to Arabic writers the Crusaders had here the common water closets, which the Muhamedans, when again in possession of the Haram, removed.





branch into the same aqueduct B, which crosses the first channel marked A, being cut at a higher level, and taking an easterly direction, comes out from the rock on its eastern scarp, where there was once a kind of arched room, perhaps formerly a cistern. It then goes further (all masonry) to a point where it might meet the other, but the junction has not been ascertained. South of this suggested meeting point, about 65 feet distant, and in the same line, the Ordnance Survey plan, and others, show a conduit discovered by Sir Charles Warren when he found the underground rock-hewn stables. In front of the Triple Gate there was a *podium* formed of rock, scarped down on three sides and covered with very large, flat, and finely-chiselled flagging stones, as shown in the drawings. These channels or passages come out through this podium.

#### SPRING OF AN ANCIENT ARCH.

When the heap of earth in one of the corners at Solomon's Stables (marked I) was removed, there were seen, on the western wall of this corner three layers of large stones, and over them a fourth, put a little backward, which formed the spring of a former arch, in some degree similar to "Robinson's Arch." The height of this spring is about 4 feet, and its length visible for 11 feet 6 inches, but it is, very likely, still longer, going behind the block of masonry, which is apparently of a later date than the arch. The spring of the arch is about 14 feet from the ground or the present floor of the substruction. I hear that Mr. Lees has photographed the whole and sent a copy to the Exploration Fund, which certainly will afford a complete explanation.

#### VARIOUS NOTES.

JERUSALEM, *March 16th*, 1891.

I am sorry to say the history of the Siloam inscription has already, as I feared, produced evil consequences. I last week resumed the work of clearing the second Siloam aqueduct, but after a few days someone gave notice to the local authorities, and immediately the workpeople were arrested and put in prison. On my explaining the matter they were set at liberty, for "my sake," as they said, but going on with the work cannot be allowed, and I was directed to apply for a paper permitting such work.

Monsieur P. M. J. Lagrange, Principal of the Dominicans' place, near Jeremiah's Grotto, made a journey beyond the Jordan. A description of it in French, by Delhomme and Briguel, Paris, was printed under the title, "Au delà du Jourdain." In it mention is made of inscriptions which were recently found, one being Nabatean, from Medeba, and another, a text of Scripture in Samaritan, from Amwas.<sup>1</sup>

The winter rains have been very heavy, and severe storms occurred. A large steamer was stranded at Jaffa, and the bridge over the Jordan was destroyed and washed down to the Dead Sea, so that for a long time

<sup>1</sup> Photographs of these inscriptions are in the offices of the Fund.

the river could not be crossed except by the old bridge below the Galilean Sea. Bir Eyúb here was flowing for several weeks.

A few months ago, I heard that in the village Sháfât an ancient church was found. As at the time I was not well, and there was nearly continually rain, I could not go there till *now*, but found no church, simply an old Crusading building with two preserved windows. The walls are about 6 feet thick, against which the fellaheen houses are built and so not easy to recognise. It was a kind of khan built in the usual Crusading way, with a vault a little higher in middle than semi-circular.

The Latins having got possession of a house in the Via Dolorosa or Tarik Es Sarai, on Sir C. Wilson's plan called "Veronica's house," have pulled down parts of it and intend to rebuild the whole, preserving some old parts. I examined the place but found nothing of interest, but will watch, and go there from time to time.

Inside the city, close to the town wall, at the corner between the newly-opened gate and the school of the brethren (the ancient Kälát al Jalúd), the ground has been cleared away to the rock, as a new building will be erected there. Nothing of interest was found except large hewn stones and heavy rough boulders, a small cistern, some unimportant walls and *débris*. The rock is about 11 feet under the present surface of the ground.

Pool of Bethesda.—In consequence of the heavy rains some of the arches over this pool gave way, and so some vaultings and the part of the neighbouring houses fell and filled the pool.

The new buildings on the northern part of Mount Olivet for Mr. Gray Hill are advancing, and give to the scenery round Jerusalem a new feature. It will certainly be more agreeable and interesting when on the hill-tops round Jerusalem there will be buildings instead of bare hills.

#### THE NEWLY DISCOVERED ARCH IN "SOLOMON'S STABLES."

*April*, 1891.

I have been at the "Haram Es Sherif," and inspected what has been done there by the Moslems during the last three or four months. All the earth heaps, which were in those places where there is an opening in the roofing of the substructions, commonly called "Solomon's Stables," have been removed, and the floor of the substructions levelled. The eastern part is now not so high as before, the bottom having been brought up to a higher level, so that the holes on the corners of the piers once used to fasten animals and the mangers between the piers have disappeared, *i.e.*, are buried in the ground; so these substructions look now more clean and regular, but much less interesting. Some windows have been made in the south wall, and there is now full light even in the "triple passage." One of the three passages is walled up, and its northern part no more visible, and the middle one is opened at its northern end, so that people may go in and out there. Besides the arch and underground passage, for the greater part hewn in the rock, discovered by Mr. Lees and Mr. Hanauer, nothing else of interest has been found.

The visible portion of the arch extends about 12 feet north and south,

but the arch was once much broader, as I could easily observe. According to my measure, it was 38 feet from its southern commencement (G) to the northern corner, and very likely also goes some feet behind the corner, as the masonry there is more modern. The southern edge of this arch will have been 80 feet from the outer surface of the south wall of the Haram, and its north end about 120 to 125 feet from the same point. Robinson's arch is, from the south-west corner of the Haram wall 39 feet, and being 50 feet wide, ends at 89 feet. The spring of the arch in the eastern wall is 79 feet from the southern corner, and being 23 feet wide ends at 102 feet from the corner.

Mr. Lees measured the curve of the remains of the arch, and found in a 4-feet segment a curve of  $3\frac{1}{2}$  inches, which would give for the arch a span of about 13 feet.

I am sorry to say that the opening to the newly-discovered rock-cut passage I found walled up, so that I could not take the bearings. Nothing else can now be done in the stables.

#### EXCAVATIONS AT THE GOLDEN GATE.

The building of this gate stands now on three sides quite free, as the earth round it has been removed to a depth of about 30 feet, and for about 20 feet wide. Against the earth beyond a wall will now be built to keep it up. This wall will be about 16 feet distant from the building, so that one may walk round the three sides. In the portion of earth removed *a great many graves* were found, in a level a few feet above the flooring of the gate. All these graves are in a direction from west to east; all are lined with stones round about, and covered with stone slabs. All of them had still bones and mould, and seem to have been made in time of peace—not in haste or a time of tumult. So I am inclined to think they are very likely Christian, and from the time of the Crusaders. The workpeople told me that nothing else than bones were found in them; no crosses or any such things.

#### TOMBS AND OSSUARIES AT RUJM EL KAHAKIR.

In the Jerusalem volume, Part ii., pages 342 and 343, under the number 29,<sup>1</sup> this heap of stones is mentioned without further notice. Recently the proprietor of the ground, a Muhammedan of the city, being about to enclose his property with a dry wall, opened the "Rujm," or stone heap, and made a deep trench in it, in order to get stones for the wall, but found nothing but rather small stones, the largest such as a man may carry. It is now clear that there are no "ruins" under it, but rock-cut tombs, and that others are also in the immediate neighbourhood, of which I will now report.

No. 1 is a rock-cut tomb, of which I send plan and section.<sup>2</sup> There is a way 7 feet 6 inches wide and about 15 feet long, cut horizontally into

<sup>1</sup> See also Jerusalem sheet of the large map.

<sup>2</sup> The map, plans, and sections which accompanied this report are in the office of the Fund.

the rock. This leads to a usual door a couple of feet high and wide, in a rock wall only 15 inches thick. I found it locked with a new iron door, but the proprietor opened it for me. It was full of those little stone cases with human bones and mould. The room is 11 feet long and 8 feet wide and about (on an average)  $5\frac{3}{4}$  feet high. It has on its west side one *loculus* 7 feet 6 inches deep, and on its north side two 7 feet deep; the one in the north-western corner is a little declining. The cases were not all found here, but several in other places, and now simply stored here. They are of the usual form, and with the already well-known ornaments on the front, some of the lids are flat, others domed or pyramidal. I found no inscriptions on them. The largest is 2 feet 8 inches long,  $11\frac{1}{2}$  inches broad, and 1 foot  $2\frac{1}{2}$  inches high; the smallest 1 foot 2 inches long, 8 inches broad, and 9 inches high.

Thirty-nine feet north is another group of tombs. The first room is 9 feet each way sunk into the rock, and once arched or vaulted, but now broken down. It has at the south-western corner two ordinary *loculi* 6 feet 6 inches deep, one on each side, and on the eastern side also two of the same kind. Towards the north is a door leading downwards into another chamber of the same size, but with benches on three sides, 2 feet 3 inches high, and 2 feet 6 inches and 3 feet 6 inches broad. Towards the east are two *loculi* and one opposite in the west; also one in north wall, but only 4 feet 6 inches deep. The roof is rock. This room had been plastered inside with lime and chippings of Kakooli stone, which gives a curious appearance. As the rock is soft and brittle, it seems the plastering was made to protect it. On the field round about these tombs I saw many pieces of broken "stone cases," such as described above; also several of the closing stones of the *loculi*; they are heavy blocks, pinned on one side, so as just to fit the opening of the *loculi*, and some had been used for doors.

At No. 3 on the map, just under the large "Rujm," are very old rock-cut tombs, of which Sheet iv gives a section and plan. The entrance is from south, going northwards, and a few steps down into an open court 30 feet long; its breadth I cannot tell, as there is a large heap of stones in it, but I estimate it at 20 feet. In its middle, towards the north-west wall, is a square opening leading into a rock-hewn chamber 8 feet wide, 16 feet long, and 8 feet high, without any *loculus*. Opposite the door is (close to the following) another door leading to a second room, which is 14 feet long,  $12\frac{1}{2}$  feet wide, and 7 feet 6 inches high. Its flooring is 4 feet 2 inches lower than the first. On each of three of its sides are two *loculi*, which are rather unusually deep, from 8 to 10 feet (the deepest or longest which I have ever seen), and on the fourth side again a similar door leading into a further chamber, the third, 11 feet 3 inches by 12 feet 6 inches wide and 6 feet 6 inches high, its flooring 2 feet lower than the former. It has one *loculus* on the left wall, and two in the right; one is in a slightly slanting direction, the other is rather short (6 feet) and very wide (5 feet) and high (3 feet 9 inches). On the inner wall, also close to the following, a similar, but narrower door, leads into the fourth chamber,



which measures 8 feet in each direction, and is 6 feet high, and looks somewhat rough, as if not quite finished. Its flooring is also 2 feet deeper than the former, so the sun rays may at a certain time of the day fall even into the innermost. I could not find or see any bones, so this tomb must have been rifled long ago. Shepherds keep their flocks during stormy nights in it. In some places the rock is damaged.

About 200 feet south of this (marked No. 4 on map) is another site of tombs, shown on Sheet v in section and plan. A flight of rock-cut steps leads northwards down into an open court, 10 feet wide each way, and with rock walls round 7 feet high. Close to the western wall, on the lowest step, which is broad and high, is a small rock-cut pool, 2 feet 7 inches wide each way and the same deep. In the flooring is on, and partly under, the eastern wall of the court, an oval-shaped cistern 6 feet deep, in diameter 6 feet, and 3 feet 6 inches at the middle of its height, where it narrows upwards.

From the court in the north wall, and close to the flooring, an ordinary tomb door leads 2 feet 6 inches by three steps down into a chamber, 10 feet 3 inches wide each way, and 6 feet 6 inches high, all cut in rock. It has in the west wall one common loculus, and three in the north and three in the east wall, in which were found several of the well-known stone cases (*ossuaires*), and some broken slabs with inscriptions. The proprietor of the ground took me to his house, marked *d* on the map, the first of the new houses, and there showed me these things, also some pottery, small jars, &c. A piece of a slab or flat stone  $1\frac{1}{5}$  inch thick,  $9\frac{1}{2}$  inches broad, which apparently was originally 12 inches broad, and at least 1 foot long, bears engraved letters in two lines, as the copy will show.<sup>1</sup> As I had no paper with me for making a proper squeeze, and heard that Mr. R. Lees had already made such, and sent it to the Palestine Exploration Fund, I thought it not necessary to do more than simply to report on it.

Another is a hard reddish-looking and somewhat thicker piece of a flagstone, with a very incomplete inscription in Greek letters. It measures 7 inches long by 6 inches broad. The letters are large and deeply engraved.



INSCRIBED SLAB FROM RUJM KAHAKIR.

No. 3 is a soft stone slab, having apparently once formed the side of one of those repeatedly mentioned stone cases.

<sup>1</sup> See Professor Clermont-Ganneau's paper, page 240.

As shown on the Ordnance Survey Plan  $\frac{1}{10000}$ , there is a kind of plateau, or a high level ground, enclosed within a series of stone heaps made of small stones, which appear to have been gathered from the surrounding ground, and arranged in regular lines on the declivity of the plateau. Of which heaps the "Rujm Kahakir" is the largest and highest (*i.e.*, most prominent) and the most southerly; from its top the land is level northwards, and also north-eastwards on the top of the stone heaps, and the whole is artificial, I cannot help thinking that *this is the Roman camping ground of Titus!* According to Josephus' description (Bell. Jud. 5, 2, 3) it was a "plain," not the top of a hill or ridge; the temple to be seen there, and 7 furlongs from the city. The "Rujm Kahakir" is (according to the Ordnance Survey map) 5,200 feet distant from Damascus Gate. If we take for the outer works of the city, as ditch, &c., 200 feet, there remains 5,000. And as a furlong, according to Smith's Bible Dictionary, was 607 feet, it makes about  $8\frac{1}{2}$  furlongs. The top of the ridge at the Nâblus road is 1,500 feet farther distant. It has also to be noted that the southern row of the said stone heaps extends exactly eastwards to the Nâblus road, and that there seems east of this road a similar place, as if the camp had been divided into two parts.

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LETTERS FROM THE REV. J. E. HANAUER.

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A SUBTERRANEAN PASSAGE IN SOLOMON'S STABLES.<sup>1</sup>

The earth that had accumulated during centuries in the vaults at the south-east angle of the Haram area has been removed, and a portion of a massive wall, built of stones like those underneath the "Cradle of Jesus," was observed by Mr. Lees to have been uncovered. It is of four courses, each about 4 feet high, the upper course forming the spring of an arch. It runs northwards parallel to, but about 86 feet to the east of, the arched passages running northward from the Triple Gate. I think that this discovery is important, and will have a bearing on the arguments concerning the real site of the Temple. At Mr. Lees' invitation I accompanied him to the spot, and was so fortunate as to make a discovery, which I will endeavour briefly to describe.

Whilst examining the large stone, I noticed at the foot of the wall, and at a point 18 feet from its northern end, a hole about 15 inches long and 10 inches high, and looking as if a small dog or jackal had been burrowing there. It seemed to be of some depth. Having succeeded in obtaining a small candle-end, I lay down on my face, and, on looking in, found that I was peering into a passage below me, running with a slight downward slope towards the south-west. The passage was about 8 feet high, and wide enough to allow a person to walk along it with ease. I threw off my coat, and, after considerable difficulty, succeeded in squeezing myself, feet foremost, through the hole, and then climbed down into the passage. The side walls were formed of rough rubble, uncoated

<sup>1</sup> See Plan, page 198.

with cement, the roof of flat stones, "sawakeef," laid across. Following it for 13 paces (say about 39 feet), it suddenly widened, and I found myself inside a long artificial cave gallery, or tunnel, roughly hewn in the rock, and turning slightly more to the left—that is, southwards. Stalactites were hanging from the roof, and the floor was covered with a snow-white calcareous deposit. Pick-marks were plainly visible on the walls, and from their curve downwards, it was clear that the miners had tunnelled in the direction of the passages under the Triple Gate. The place was certainly not part of an underground quarry, for, though I looked, I nowhere found traces of beds from which blocks had been removed. Such beds are common in ancient quarries throughout the country. Seven paces (21 feet) further I found a large recess on the left. It may have been the entrance to a side gallery, which had been blocked up.<sup>1</sup> Twelve paces further (36 feet) brought me to the end of the tunnel. It was an unfinished work, very roughly hewn, as if made in great haste. At this spot it was 8 feet 8 inches in width; at the farthest end a long, low horizontal crevice, probably made with crowbars, tapered away into the rock wall. I cannot help thinking that what I found may be a trace of the unsuccessful tunnelling operations of the stone-cutters of Simon the Tyrant, the son of Gioras (Jos., "Wars of the Jews," vii, 2). The masonry tunnel, now blocked up at its eastern end (under the hole I entered by) by a rough wall built across, would strikingly answer to the description: "Now, as far as had been digged of old, they went onward along it without disturbance," whilst the unfinished rock-cut gallery, with its steady downward slope, was undoubtedly like the place where "they dug a mine underground, and this in hopes that they should be able to proceed so far as to rise from underground, in a safe place, and by that means escape; but when they came to make the experiment, they were disappointed of their hope, for the miners could make but small progress, insomuch that their provisions, though they distributed them by measure, began to fail them."

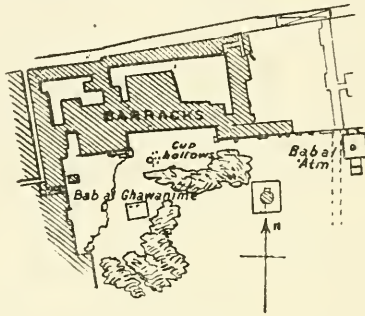
Retracing my steps, I called to my companions (Mr. Lees and Mr. C. Hornstein), and advised them to come down. They did so, and after examining the place and taking the measurements, we found it necessary to retire, as our candle-end was nearly used up. If it was rather difficult to get in, it was much more so to get out. I was the stoutest of the party, and after climbing up to the entrance hole and putting my head and one arm through, I was caught like a snake in a noose. I could neither get backwards nor forwards, and though several days have elapsed since then, my ribs, elbows, and knees still ache in consequence of that fearful final wriggle to get out. In fact, I might be wriggling still had not the sheikhs of the Haram caught hold of me by the head and shoulders and pulled me through. The sheikh of the mosque told me he was going to close the hole up next day, and asked me to tell Mr. Schick about it.

<sup>1</sup> Just here a hole in the rock roof, as if of a narrow shaft leading upwards was noticed. It was blocked with a stone.

## CUTTINGS IN THE ROCK IN THE HARAM-AREA.

When Dr. Lansdell, of Siberian and Central Asian fame, was here a few weeks ago, I had the pleasure of accompanying him to the Haram-Area.

Whilst we were looking at the rock-scarp on which the present Turkish barracks stand, I noticed that the earth lying on a part of the rock levellings (about twenty-five paces to the south of the spot where it appears that the entrance to a rock-tunnel in the scarp has been blocked up with masonry), had, as it seemed, quite recently been cleared away, revealing a circular rock-cut hollow or basin, about five feet in diameter,



PLAN OF NORTH-WESTERN CORNER OF HARAM.

(Showing Position of Cup Hollows.)

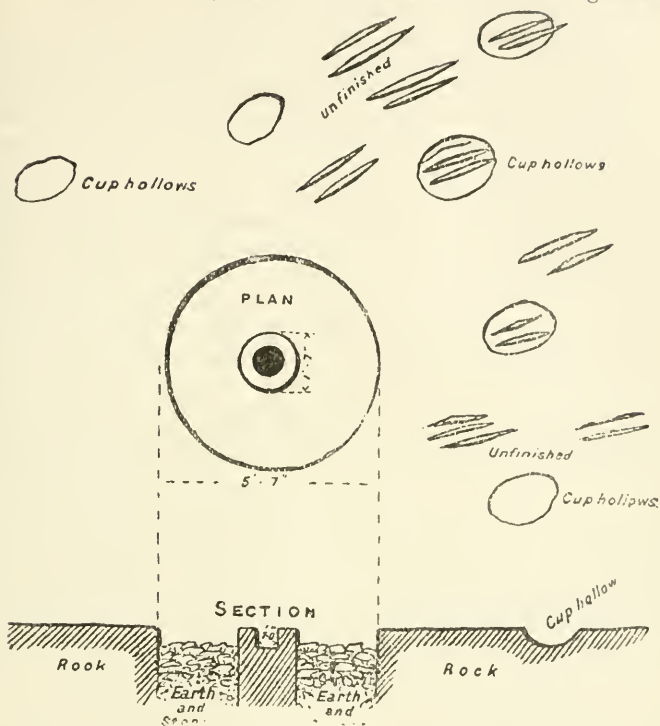
and surrounded by a large number of cup-shaped hollows, excavated in the rock.

Some of these had only just been commenced, and others were in a more or less advanced stage of completion, when the work of making them was relinquished perhaps centuries ago, so that it was possible to see how they had been scooped out. The method adopted was to cut two or three parallel gashes, about seven or eight inches long and about two inches apart, in the hard rock surface, then to remove the stone between these, and gradually to enlarge the hollow thus made.

In some of these hollows you can still see the bottoms of the gashes. In other spots the gashes alone scar the face of the rock. The rough sketch will give an idea of what I mean. As I had never noticed these curious cuttings before, and did not know whether anyone else had, it struck me that perhaps it would be as well to mention them, though, of course, in a place like the Haram, where at every step you notice something interesting, it seems absurd to call attention to such insignificant details. The enclosed rough tracing of the north-west corner of Haram shows approximately the position of these cuttings.

It seems to me that these hollows cut in the rock were made (as Mr. Schick told me I would find) by abrasion. I could not detect any

sign of chisel or iron tool, and the insides and bottoms of the gashes and



PLAN AND SECTION OF CUTTINGS IN THE ROCK IN HARAM AREA.

hollows are perfectly smooth and rounded, almost polished. I got measurements of the fountain-like cutting, and I enclose a sketch of it.

REPORTS FROM MR. F. J. BLISS.

TELL EL HESY, April 6th, 1891.

You will see by the account that I have had to buy out a lot of crops, and got them for the price paid only after a tremendous amount of talk and bother. The beans we got cheap, but the barley was dear. You see the crops are rich this year, and the owners justly wish to be recompensed for the damage done to the adjacent crops not bought by us, and yet more or less encroached upon by our workpeople, who number about 100 at times.

The work has now gone on for three weeks. The first eight days I worked over the north section of the west town. I turned up all the

varieties of Amorite pottery; found burials of Phœnician jars similar to those found in Petrie's "cemetery," only very much deeper—quite 6 feet—found painted Phœnician pottery at all levels, except the lowest, with Archaic Amorite above it in some cases; thought I was finding walls over and over again, but a careful investigation always failed to prove face and direction in the consolidated and ruined mass of brick; uncovered a concrete wine press two or three feet deep, and found one house at the same level.

The consolidated state of this place, together with the failure to find small objects, decided me to leave it and attack the Tell. I had made the general investigations of the west town thoroughly, and to turn over the whole mass, *i.e.*, to investigate it particularly, would have taken all my time and money for this season. Starting at the *Well* on the Tell, I ran a line 60 feet to the west, and from thence a line 110 feet to the north, *i.e.*, above Manasseh's wall, and in the rectangle, bounded by the two lines, the wall, and the Tell east edge.

I placed my men in squares of 10 feet with orders to go down—the earth being taken to the edge by girls and women who throw it 100 feet and more into the river bed. First we uncovered a cemetery, apparently Arab from the bracelets, glass, &c. The cemetery being on top is, of course, later than any dwellings, and was probably used by the Bedawin. At a depth of 4–6 feet we came on traces of a town very much ruined, but with a few frail walls which I have planned. The town contained a lot of deep circular ovens such as are now used. The pottery continued Greek and Phœnician. We are now uncovering a second town, part of it was burned by a fierce fire, but at the north end we have found walls in a capital condition, with a smooth brick face. In one room were several bushels of burned barley. In another place we find burned wheat. The pottery does not change much, and the red and black Greek pottery still turns up. There seems to be much more of it than Petrie supposed. The workmen are doing splendidly; I have seen Petrie's Egyptians at work, and I can still praise ours.

My father was astonished at the amount of work they do. I have the advantage of Petrie's picked workmen, and of a capital foreman who is most clever in tracing walls. Then they all work together and are not scattered about, as they were last year to be visited only once or twice a day. In ten days we have got to a depth in some places of over 10 feet, having worked 60 squares with rather less than 30 men. Each man has two girls to carry off the earth. When the tram comes we shall move west, and go down to the same level, thus uncovering the northern half of the Tell, as far down as we can.

The Effendi is very nice and friendly, and we get on very well. The Arabs are quiet, and we have almost no small worries. I have not been four miles from the tent since I arrived. Of course I shall visit Tell es Sâfi. To-day the weather is clearing, but we have had a horrible sirocco. I should mention that the item for wages includes a few shillings for backsheesh for small finds of pottery.

TELL EL HESY, *April 21st, 1891.*

I keep very busy. The tram has been set up and is a help, although, owing to the contracted condition of the hill, and the single track, it does not carry earth as fast as we can dig it up.

Nothing new since I last wrote, only more of the same thing—unearthing interesting rooms, with pottery, seeds, &c., &c., which of course I am planning. So many granaries and weavers places this old town must have had. One rude Greek inscription—a few letters; Greek pottery abundant. The harvest this year is early and rich—last year it was late and poor, owing to Arab wars. I fear we will have hard work to keep men, who are already deserting. We shall get men from the other villages, and may have to raise the wages a trifle.

If the Committee desire to make an autumn season here, it will hardly be safe before October (so Dr. Elliott thinks), but then work might go on if the rains were slight until near to Christmas. It is important for me to know before I leave, for the tram and tents, &c., should be stored at Gaza with the good Doctor if the work is to go on in October, so as to avoid the expense of carrying them up to Jerusalem and bringing them down again.

Of course I hope to stay on till the 1st of June, but the heat and the lack of workpeople may stop the work before.

I have decided not to uncover the whole of the north half of the hill, but the north-east quarter of it, as it is very difficult to get rid of the earth. So in a day or two we will be *going down* again, and I hope my next letter may report something interesting.

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TELL EL HESY, *April 24th, 1891.*

We are pushing the work hard this week before the harvest sets in; have to-day 39 men at work, each with two girls to throw away the earth, for now the earth carrying is the great problem. For Ramadan they are working splendidly. By to-morrow or Monday we shall begin to go down into the fifth period, as I distinguish now—

- (1) The Arab graveyard at the surface.
- (2) Rough stone dwellings, all fallen, with rough pottery.
- (3) The town of the ovens.
- (4) A lower town, full of granaries.

Number 4 had still some very good walls, all of which are planned. I think we have destroyed no wall unwittingly, as the men always cry "wolf" if the ground gets hard, and my man Yusif (who is a perfect treasure—intelligent, keen, honest, politic and enthusiastic), is very clever at detecting brick *in situ*, fallen brick and brick decay. The weather for the past ten days has been delicious.

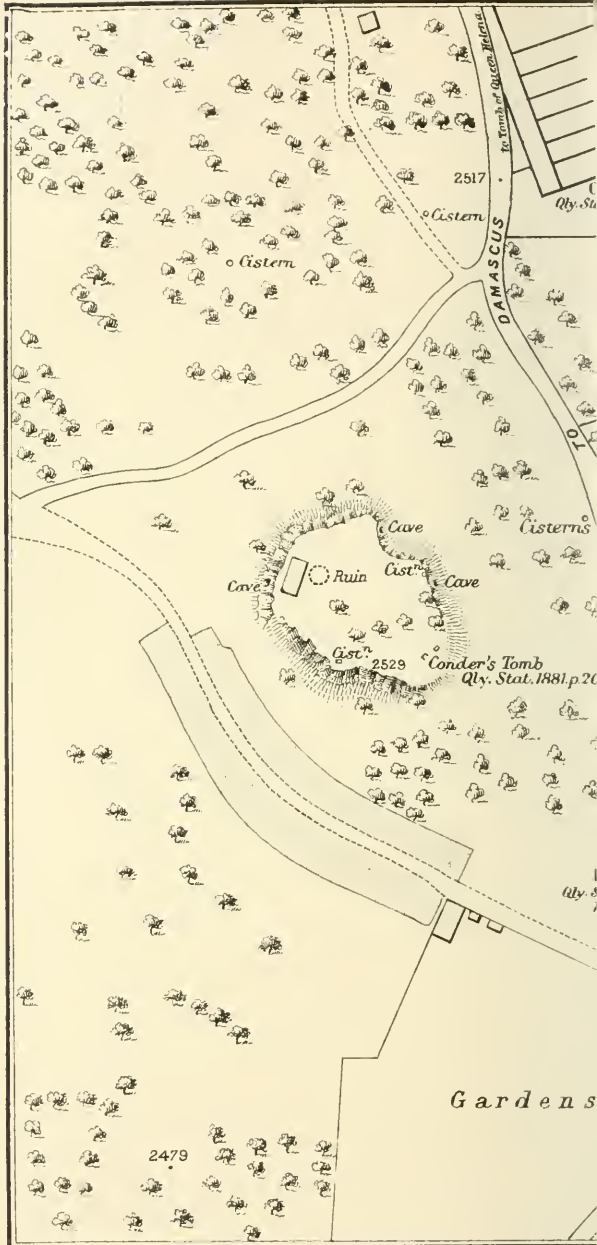
GAZA, *May 23rd*, 1891.

I am very sorry to report that I have been reluctantly obliged to close the work for the season. The harvest has proved a fatal rival to the work. As early as April 22nd we were obliged to fill our broken ranks of trained workmen with raw material from another village, and on April 25th (a Saturday) I announced that I would raise the wages from 9 Gaza piastres per day for a man to 11 $\frac{3}{4}$  piastres—over 30 per cent.—with a corresponding rise in the girls' wages. Well, even this increase failed to keep my trained workmen, of whom only seven came back on Monday, April 27th, and in their place we were obliged to put a lot of new raw workmen; a most unsatisfactory state of things it was, this seeing inferior labourers profiting by the rise in the wages, but I believe that it would have been hard to have secured a sufficient number even of these at the old price. At any rate, on Monday, May 4th, their numbers were much depleted, many having gone off to the barley harvest. Monday, May 11th, only nine men came, with the girls to carry the earth, and the quality had fallen off quite as much as the quantity—old men and little girls, the maimed and the aged. The work got most unsatisfactory. We were digging in a section more than 100 feet square, which had to be lowered pretty evenly, and which, at any rate, had to be left even, for the sake of next year's crops. Of course the Fund expects to return in the autumn, but in the meantime the owners of the land have a right to demand that the place be kept in a state for ploughing—indeed, I would not have felt it right to leave it otherwise. This hampered the work at the end, for in our uncertainty from day to day as to how many men might come the day after, we hesitated to go deep in any one spot for fear we would be left with an irregular plot of land with no one to level it. With a number of trained workmen back again in the autumn, we will in a couple of days be able to do as much work as was done in the last week and a half—and, of course, at far less cost. Our inability to work as late as Mr. Petrie did is owing to the peace among the Arabs, which has enabled them to sow full crops, which their peasant partners reap. The harvest also is earlier. For weeks past we have seen processions of peasants from distant villages pass the Tell on their way to the Arab encampments. First came the lentil crop, then the barley, and now the wheat has begun. I paid off the men Friday, May 15th. The next day visited Tell es Safi. I should say that the place was in just about the same condition as when Mr. Petrie visited it. But more of this later. We began to send in the tram stuff Monday, and by Thursday everything was in store here. Dr. Elliott is most kind. As to work in the autumn, I have written Mr. Dickson at Jerusalem, asking him if he will kindly represent to the Governor the necessity which occasioned the temporary cessation of the work. The law on excavations says that the Firman is null if the work is stopped for two months, but the blanks for permission say that the Firman is null if the work is stopped for more





PLAN SHEWING POSITION OF



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

100 0 100 200

Nº 1.

TWO CHURCHES N.OF DAMASCUS GATE.

PALESTINE EXPLORATION FUND



Scale 400 500 600 700 800 feet

E. Waller, lith



than two months *without reason*. The harvest, the heat of summer, and the malaria causing typhoid from which the Arabs flee, will be represented to be sufficient reasons for prolonging the vacation to late September. I hope very shortly after my arrival in Beirût, to send in my report for the season.

## RUINS OF CHURCH ON THE SKULL HILL, JERUSALEM.

DURING the last few years building operations to a large extent have been carried on in the environs of Jerusalem, and several objects of interest discovered during the attendant excavations have been duly noted from time to time in our *Quarterly Statements*.

Amongst these discoveries was that of the small Crusaders' Church near the road, north of the Damascus Gate, a full description of which by Lieutenant Mantell, R.E., together with drawings of details of great interest, were given in the *Quarterly Statement of January, 1882*, p. 117. It is marked (CHURCH) in the annexed plan, No. 1.

The remains of the Crusaders' Church still exist as so described, but the stone on which were the very interesting paintings (representing our Lord and His Disciples) has been exposed to the air, and only faint traces of them can now be seen.

The land to the eastward of this Church was purchased some years since by the French Dominican Friars, whose excavations for the erection of their buildings soon exposed one of the most interesting series of tombs near the City.

They have been preserved by the Friars with great care and at considerable expense. Continuing their excavations westward, a trench 8 to 10 feet deep uncovered portions of a tessellated pavement in good condition, and composed entirely of different coloured marbles.

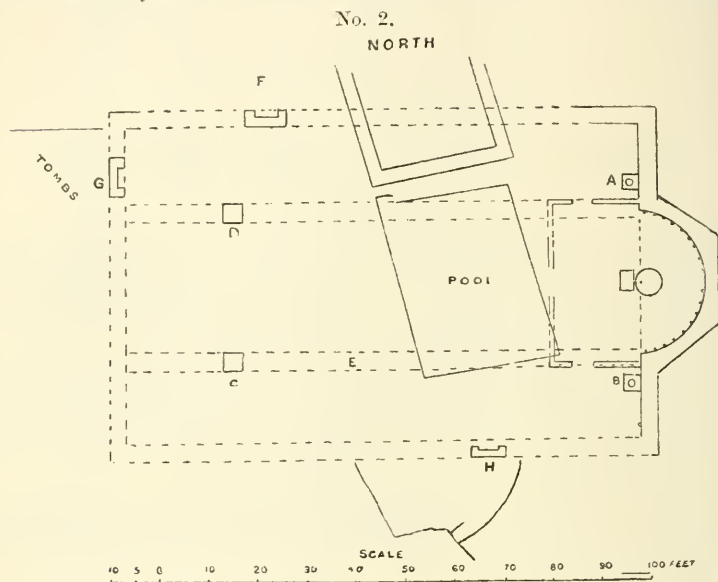
I was enabled to see this in 1886, owing to the kindness of Dr. Selah Merrill, the well-known author and American Consul at Jerusalem, who had specially noted it, and so much of it was then exposed as to show that it was the pavement of one long corridor, or other apartment, at least 50 feet long. But there was nothing in the design of the mosaic or any of its surroundings to disclose the nature of the building.

Since then, however, the excavations have so far proceeded as to uncover the greater portion of it, and when I saw it again last year it was clearly shown to be the remains of a Church, presenting several peculiarities of much interest.

It is on the well-known Skull Hill and north-west of Jeremiah's Grotto, and about north of the tomb suggested by General Gordon, as probably

that of our Lord, and so indicated in the sketch, &c., given in the *Quarterly Statement* of April, 1885.

The remains of the Church are shown to a larger scale on plan No. 2, which is from a careful drawing made by Mr. Schick, and from measurements taken by Mr. Petrie and myself.



It was evidently three-aisled, with an apsidal eastern end to the centre and square ends to the other aisles, the total length, exclusive of apse, being internally about 105 feet and the breadth 65 feet, being thus about the same width as St. James', Westminster, but 20 feet longer. The fine Church of St. Anne at Jerusalem is only 90 feet long.

It will be seen that the site of this edifice has been interfered with in a very singular way by two deep cuttings in the solid rock.

The southern one is cut perpendicularly down to a depth of 16 feet its shape being irregular, averaging about 36 feet by 27 feet. The northern one has only a trench dug round it, and Mr. Schick is no doubt correct in saying that these excavations were intended "to make a tank or pool, and to quarry stone for building at the same time."

It is tolerably certain, however, that the pool was never used as a tank, as a careful examination shows no trace of any cement lining.

It is unnecessary to enter further into the purpose or date of these rock-cut excavations, because they do not seem to affect in any way the description of the Church, except that they were supposed by the Friars to point out the site of St. Stephen's Tomb—but not the slightest trace of this has been found.

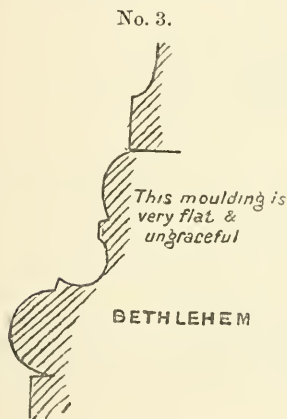
At the western end of the Church the wall has nearly disappeared,

but there are sufficient traces remaining to show its position, which seems to have been fixed by that of some ancient tombs shown near G on plan No. 2. One of them has been closed by a rolling stone.

The positions of the two aisle columns to the west are well marked (their foundations still remaining at c and d), and the Friars assured me that another one had been found at e, although again covered up. I could not, however, fix its *exact* position.

The sites of any other columns on the north side were still unexcavated when I last visited the place, and, of course, the pool (now entirely cleared out) has obliterated all traces of any work on its site.

Very fortunately one moulded base has been found, evidently belonging to the column mentioned below, its section being like those in the Basilica at Bethlehem (*vide* No. 3), the upper torus of which has a peculiar flat and ungraceful form.



A long length of one column has also been preserved; its diameter of 3 feet, supposing it to be Corinthian (as in all probability it was), would give a height, including base and capital, of about 30 feet.

The three door sills at F, G, and H, show the probable place of the old doorways.

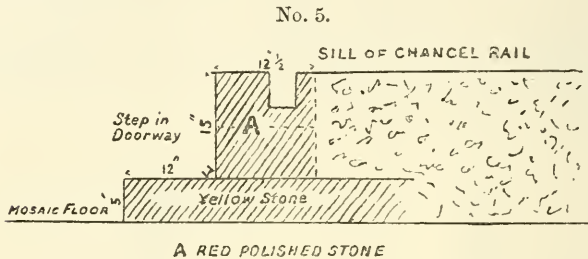
But the most interesting part of the Church, and, fortunately, the best preserved, is the eastern.

The stonework of its walls has been, indeed, to a large extent removed, but their external outline has been curiously preserved by a coating of plaster with which they were originally covered, and which now adheres tenaciously to the *debris* which lies against them, showing with complete distinctness the mark of every stone and joint.

I have not met with such another instance of this in any excavations, but Mr. Petrie tells me that he has found such an one in Egypt. There is not anything to indicate the precise form of the interior, but there can scarcely be a doubt that the centre was the usual circular apse.

At A is a square base of rough stone, but with a moulded marble casing fixed by bronze clips on one side, which still remains as I have drawn. When perfect it would have been 2·7 square.

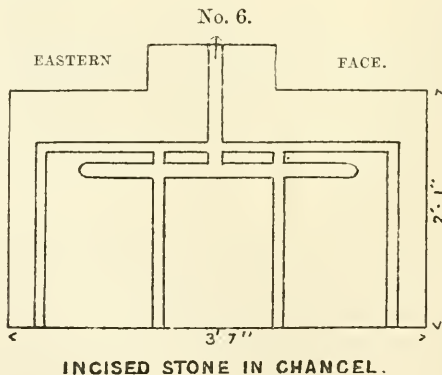
A corresponding base, but stripped of its casing, is at B. A portion of a column of white marble, broken, but 6 feet long, was found near. But it is only 12 inches in diameter, and could not therefore have been one of the aisle columns. Still more interesting are the distinct remains of the chancel rails (V. No. 5), showing the outlines of the choir and the steps leading to it.



The north and south sides of these are evidently *in situ*, but the western end was formerly further to the west than at present, as is clearly shown by the marks on the sills at each side.

The steps from the general level of the mosaic to the chancel floor are *in situ*, and so is, to all appearance, the curious slab in the centre of the apse.

There are no other indications of the original floor of the chancel, but at the east of the slab was found a large stone, roughly cut to a circular form, 5·2 in diameter and 2·7 high. Both its upper and lower surfaces were quite flat and even.



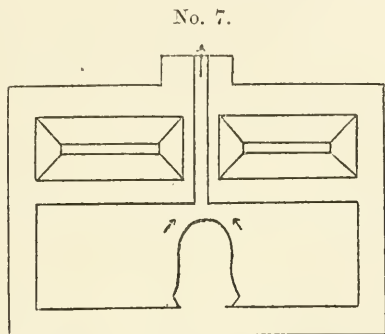
The slab is shown to a large scale in drawing No. 6, and it was found sunk to a somewhat lower level than that of the chancel floor.



The shape of the slab with its curious lip, and the channels made evidently for the purpose of receiving and pouring off liquids, will strike anyone conversant with Egyptian antiquities as having strong resemblance to the tables of offerings, numbers of which are in the Museum at Gizeh, and many also in the Museums of Turin and Paris.

In our own (British) Museum there are several such tables, many of which have a short leg at each angle. But this is not seen generally, and the slab at Jerusalem does not have it.

I append a sketch (No. 7) of one of these Egyptian tables (all of which were connected with Pagan worship), which I made at the Gizeh Museum at Cairo.



**EGYPTIAN TABLE OF OFFERINGS  
FROM MUSEUM, GIZEH.**

It shows the peculiar lip which all these tables have, and also the channels for receiving and running off the liquids.

I know, personally, of no example of such a slab in a Christian Church, and I cannot learn from those of my friends who are best acquainted with Christian antiquities that such another is known in Europe.

Mr. Butler, in his well-known book on the Coptic Churches in Egypt, describes several altar slabs with channels for washing, and also particularly one at St. Pudentiana in Rome of the 4th century. And the "Encyclopédie Méthodique Antiquités, &c.," vol. i, p. 377, also notices that "Quelques autels antiques sont creusés en dessus et percés de côté pour recueillir et laisser écouler ensuite les libations."

But the peculiar lip is absent, and there are no crosses in the Jerusalem slab such as one would expect to find in an altar stone, in any but a Coptic Church.

But Mr. Butler also mentions that beneath the Greek altar there was always a place to carry off the rinsings from the priests' hands, and the water used for washing the sacred vessels, and in reference to this I find many notices in ecclesiastical writers, *e.g.* :—

In Durandus, lib. i, "De Altaris Consecratione"; "Ecclesia quoque iterim aspergitur et aquæ residuum ad basim altaris funditur."

Again, in "Martigny's Dictionary of Christian Antiquities," he describes under the head of Autel (page 60), "A la base de l'autel se trouvait une piscine où le prêtre se lavait les mains, &c., on y jettait aussi l'eau qui avait servi à laver les vases sacrés."

The absence of crosses appears to me to show that the slab was not an altar, but that it was used as our piscina, to receive the washings. But the lip is a form which, so far as I know, is unique in a Christian Church.

The circular stone is equally curious.

Bingham, in his "Antiquities" (vol. ii, section viii), speaking of the French Council in A.D. 509, notices that "whereas before that time (in France) they were in the form of tables, they now began to be erected more like altars, either upon a single foot or pillar in the midst, &c., or upon an edifice erected like a tomb."

Such a tomb-like edifice exists in the subterranean Church of St. John the Baptist at Jerusalem (v. "Notes to Ordnance Survey," p. 59), but I have no recollection of an altar stone "on a foot or pillar."

Professor Middleton, however, states that there is one so constructed at the very early Church of St. Angelo at Perugia.

This example (which has escaped my notice) may certainly be taken as a confirmation of Bingham's statement. Probably, therefore, the circular stone may be considered as used for a similar purpose.

Finally, we have to consider the tessellated mosaic which formed the pavement of the church.

This is made of different coloured marbles, viz., white, black, red, yellow, and blue, there being no terra cotta or stone used anywhere.

The tesserae are  $\frac{1}{2}$  inch to  $\frac{1}{4}$  inch square, according to their position. The border is one of the ordinary Roman paterus, and the rest of the work is only peculiar as being very plain in design for so costly a material, no figures or foliage being introduced. The workmanship throughout to the border is good, but the tesserae to the main portion are laid very irregularly.

It is everywhere, so far as I could see, fitted to the walls, and was, to all appearance, laid after they were built.

For some clue as to the date of the floor we may turn to another example in Jerusalem, viz., in the Church of St. Cross, which is said to have been built by Justinian, and only partly destroyed by Chosroës. I have not seen this pavement, and only know it from a description kindly given to me by Mrs. Finn, and from Pierotti's drawings; but if these be correct it is very debased work, and the design very poor.

Many other mosaics are now being uncovered in the vicinity of Jerusalem, more particularly near the present Zion Gate, and these are of good workmanship, but plain, and much like that at the church which I am describing.

If we turn to other parts of Palestine we shall find, perhaps the best

example in that given by E. Renan in his "Mission de Phénicie," of a Byzantine Church about 2 leagues from Tyre, and said to have been built in the 6th or 7th century ; and there is an inscription which distinctly assigns the mosaic to that date. But in a long and careful treatise on the subject given by Renan it is clearly shown that this inscription is an interpolation, the mosaic itself being of a much earlier date.

We have, then, the following facts, viz. :—

That the church of which we have the ruins on Skull Hill was very ancient, as is shown by its single apse.

That the octagonal form of this apse, externally, proves that it was designed under Byzantine influence before the distinctive features given to it in the plan of St. Sophia at Constantinople, and nearly all later Byzantine works.

That the church was arranged according to the Roman rite, and with very antique arrangements of altar, &c.

That the pavement was Roman, and laid down at a time at which great activity prevailed in ecclesiastical work at Jerusalem generally, as is shown by other large remains of similar mosaic pavements in other parts near the city.

That the marble linings still remaining to the north-eastern base, together with the costly mosaic floor, show that this church was one of great magnificence.

There is no mention of its erection in the account of Justinian's work given by Procopius.

It appears to me that its authorship is explained satisfactorily in the annexed note, given to me for other purposes by Sir C. W. Wilson :—

"I do not think that sufficient attention has been given to the great building period at Jerusalem when the Empress Eudocia was there. She built St. Stephen's Church, and it was, too, about this period, or a little later, that I attribute the many Churches including that, in probatica, the Siloam Church of Antoninus, &c." The history of the Empress is well known. She married the Emperor Theodosius II, in A.D. 421, made a pilgrimage to the Holy Land in 438, and a short time afterwards began the erection of St. Stephen's Church, in which she was buried ; her death taking place in 460.

It appears to me that the remains of this church fulfil the conditions which we might expect at such a time, when Roman work had been influenced by Byzantine.

The position of the Church appears to agree fully with the requirements of this opinion.

It is situate on the commanding hill which is well known as the Place of Stoning, close to the Gate (Damascus) which was formerly known as St. Stephen's, and answers to the description given by the Russian Abbot Daniel (1106-1167 A.D.), who appears to have entered by the Nablûs road : "To the left, near to the road, there is the Church of the first martyr, St. Stephen—it was at this place that he was stoned by the Jews."

There is, however, the fact to be ceded that the pilgrim Theodorich (c. 1172 A.D.) says, in describing his tour from west to east, outside the walls of Jerusalem,<sup>1</sup> “before you reach the Northern Gate you find, upon a hill, the Church of St. Stephen, the protomartyr,” &c., &c.

The pilgrim Antoninus (c. 570 A.D.) makes a similar statement, so that we have his description of the site of the ancient church before the destruction of the churches by Chosroës, and Theodorich’s description to the same effect after its rebuilding by the Crusaders.

These accounts would, apparently, place the church on the hill to the west of the Damascus road and away from the Skull Hill, the position being that suggested by Dr. Chaplin, in the *Quarterly Statement* for 1876, page 9, and very close to the Tomb which Major Conder has suggested as being very probably that of Our Lord.

Some of the other pilgrims appear to support this view, but others place the site of the stoning and of the church in entirely different positions from the above, and the various statements are otherwise singularly confused and at variance with each other.

They are given clearly, and collated, in the Appendix A. to the description by the Abbot Daniel [P. Pilgrims’ Test. Soc.], and I will not attempt to reconcile them.

All that can, I think, be said at present is that we have no remains except those of the church which I have above described, which appear to fulfil the conditions of the Empress Eudocia’s Church.

The sarcophagus which was found on the Western Hill (V. *Quarterly Statement*, 1876, page 9), though of great size, was, I believe, quite destitute of ornament, and not likely to be that of an Empress.

The position of her sarcophagus may possibly be indicated by the chamber to the south of the church entered from it by the door H.

T. HAYTER LEWIS.

## THE HOLY SEPULCHRE.

By MAJOR WATSON, R.E.

IN an interesting note by Mr. Simpson in the *Quarterly Statement* for April, he has alluded to the idea that part of the original rock can be seen in the entrance to the so-called Holy Sepulchre, and has pointed out that this appears to require authentication. Having heard a similar statement made on several occasions, I took the opportunity when recently in Jerusalem, to make a careful examination of the so-called tomb with a view to ascertaining whether any rock was visible or not. After doing so I was

<sup>1</sup> Palestine Pilgrim’s Test. Soc., page 43.

quite convinced that no rock could be seen at any part of the structure. At one point of the arch, above the entrance inside, there is some plaster or cement of a brown colour, which might possibly be mistaken for rock, and perhaps this gave rise to the idea. The attendants at the Sepulchre were positive that no rock was to be seen, and stated that they believed that the tomb was below, and completely concealed from view by the pavement and by the horizontal marble slab, which is well represented in Mr. Simpson's sketch. There is a crack or joint in the centre of the slab, also shown in the sketch, and it is said that the holy fire comes up through this crack from the tomb below. But of this there is no satisfactory evidence.

The true position of the actual rock cannot be ascertained without removing the slab, which of course would not be allowed until it needs repair. It is to be hoped that if it is ever taken up for this purpose, some intelligent resident in Jerusalem may have an opportunity of examining the substructure.

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## ON THE RELATION OF CERTAIN ARCH SPRINGINGS FOUND WITHIN THE AREA OF THE TEMPLE OF JERUSALEM.

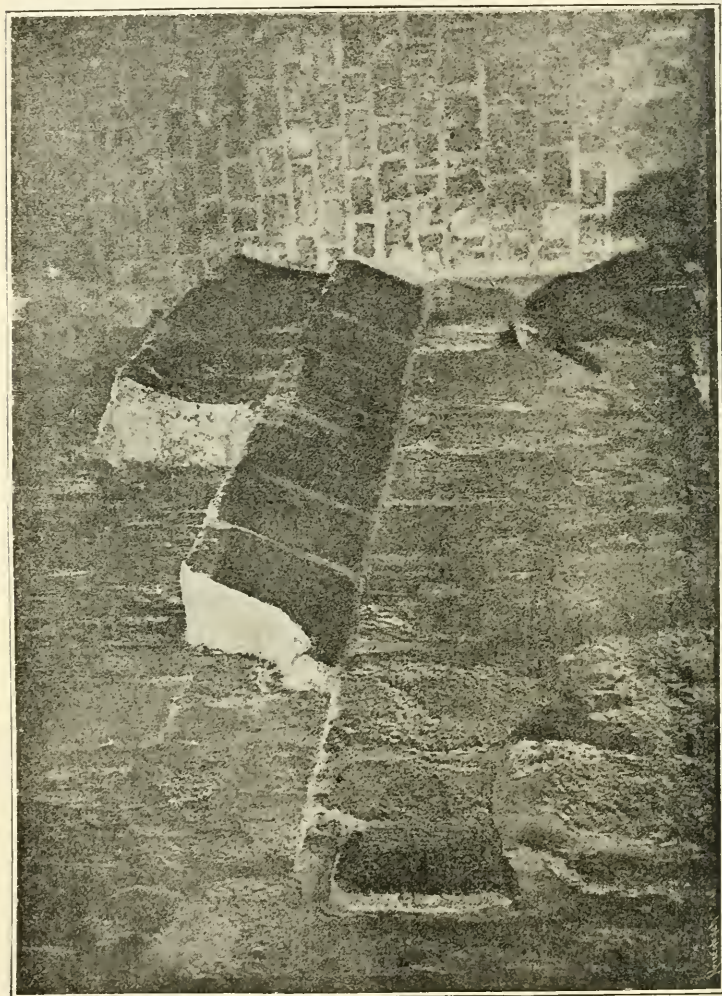
By T. WRIGHTSON, Member Institute Civil Engineers.

ON the 26th February in this year I visited "Solomon's Stables," under the Temple area in Jerusalem, when my attention was drawn to an ancient arch springing, which occupied the position shown at A. B. on the accompanying plan, No. I (which is reduced from the Ordnance Survey.) I was informed by my dragoman that it had only been uncovered by the Turks within a few days, in moving the rubbish from the western to the eastern part of the stables.

The much more ancient appearance of the masonry as compared with the lighter and more recent arching forming the arcades of the stables which in this part rested upon the ancient springing, interested me, and hearing that only one or two Europeans had examined it before my visit, I was led to observe its peculiarities more than I should otherwise have done.

The arch sprang eastwards from a wall running north and south and forming one of the boundary lines of the somewhat irregular area of the "stables." The wall at this part forms a retreating recess 50 feet long, and is shown on the Ordnance plans made by Sir Charles Warren. Its face is parallel to, and 148 feet east of, the western wall of the passage leading north from the Triple Gate and about 187 feet west of the external face of the east wall of the Temple area.

The appearance of this venerable relic, is, I understand, to be described and illustrated by Herr Schick in the *July Quarterly Statement* of the Palestine Exploration Committee, so that I need not do more than



[From a Photograph by G. R. Lees.]  
 SPRING OF ARCH IN "SOLOMON'S STABLES," RECENTLY DISCOVERED.

state that the springing is supported by massive masonry which occupies the whole length of the 50 feet face. Many of the springing stones have been removed, but it is obvious from the character of the supporting

masonry that the south corner was originally the termination of the springing in that direction. At the north end a wall running east and west is built up to the face of the old masonry so that I could not be certain of this angle being the termination of the old arch northwards.

I had not at this time seen the springing at the south-west corner of the Temple area known as Robinson's arch, but when visiting this the following day I was greatly impressed by the similarity of the two springings, so much so that I could not divest my mind of the idea that they had originally formed springings of a continuous series of arches. What appeared to me to be against such a supposition was that the distance from the south end of Robinson's arch was only 39 feet from the outside of south wall at the south-west corner of the Temple boundary, whereas the distance of the south end of the newly discovered arch was 57 feet from the inside of the south wall, or 65 feet from the outside (allowing 8 feet thickness of wall as scaled from the Ordnance map of the Temple area,  $\frac{1}{500}$  scale.)

It seemed difficult to account for such a considerable deviation from parallelism with the present south wall.

In thinking the matter over I came to the conclusion that as the last found springing was stretching forward in an eastward direction it was possible that on the east wall, which was only 187 feet from the springing, there might be some indication of the end of an arcade if such a continuous series had ever existed.

I had to leave this interesting speculation to go down to the valley of the Jordan and the Dead Sea, but in returning a few days afterwards over the Mount of Olives I thought I saw the object of my search in a sharp vertical line near the south-east corner of the Temple wall on its eastern face, a little to the right of what is known as Christ's Cradle.

The same afternoon I obtained a "permet" to again visit Solomon's Stables, and took more accurate dimensions of the position of the new arch. I then went round to the outside of the east wall, and measured the distance of the strong vertical mark (which I had seen from Olivet) from the south-east corner. This mark is formed by a retreating offset in the masonry, which has been thought by some to mark the limit of a supposed tower at the corner of the Temple, but which resembles a similar offset at the west wall which marks the limit of the southern end of Robinson's arch. On laying down upon the Ordnance Survey the three positions, viz., the southern end of Robinson's arch, the southern end of the lately discovered arch, and the offset in the east wall, I found that they were exactly in a straight line on the plan. On examining the stones to the north of this offset I was surprised to find another ancient arch springing,<sup>1</sup>—two stones only remain, occupying 23 feet of length,

<sup>1</sup> See "Ordnance Survey of Jerusalem," Notes, page 25, and *Quarterly Statement*, 1880, pages 9-65.—[ED.]

and coming within a few feet of the offset, and had apparently, at one time, extended to the offset. The springing was sailing out eastward, in the direction of the Mount of Olives. I afterwards found that this arch springing and the offset had been fully illustrated in the splendid set of drawings of the Temple wall by Sir Charles Warren. (Jerusalem volume of the "Memoirs.")

What I wish to draw attention to is the remarkable fact that the southern ends of these three springings are all in one line, and in a line quite out of parallel with the south wall, being 71·6 from the south wall at the eastern end, and only 39·3 from the south wall at its western end.

Another observation I have made appears to lend additional importance to this fact. Following my line westward it will be seen that it cuts the western side of the Triple Gate passage 60 feet 6 inches north of the exterior of the south wall. (See Plan I.) I have also marked the position on Plan No. II., which is a section of the Triple Gate, taken from "The Recovery of Jerusalem," page 230. It will be seen that the point of intersection comes immediately above a large stone, which is described as the foot of an engaged column, and considered to be *in situ* by Sir Charles Warren. It is illustrated in the same plate in detail.

This western wall of the Triple Gate passage is very ancient, and I think the explanation of this curious stone may be that one of the arches of the supposed series sprang from this wall eastwards, and formed an arched gateway into the Temple area, and that the peculiar shaped stone is the lowest and only left course of a pilaster or architrave designed to hide the more homely outline of the arch, and to give the entrance to the Temple a more noble and imposing appearance. We have therefore four interesting points, viz., the southern ends of the three arch springings described, and the curious stone in the Triple Gate entrance, all in an exactly straight line, about 922 feet long. We also have the fact that the breadth of Robinson's arch, 50 feet, corresponds with the depth of the recess from which the newly found arch springs.

These facts, coupled with the similarity in the appearance of Robinson's and the recently found arch springing, seem to favour the theory of a continuous series of arches having joined the eastern and western walls of the sanctuary at some early period.

If such a continuous arcade existed, whether this were a substructure or otherwise, it seems difficult to imagine that the builders could have erected so large a work without reference to the line of the sanctuary wall (an equally great work) lying only a few yards to the south, and if subsequent research proves the theory of the continuous arcade it will probably justify the view that the present southern wall was built at a later period and that it was an extension of the area of an older temple.

The level of Robinson's arch springing is 2387·5, that of the new arch springing taken by scale from Herr Schick's sketch 2397, or 18 feet above the level of floor of "Solomon's Stables."







The level of the springing from east wall ....	....	....	....	2372
„ floor of Solomon's Stables ....	....	....	....	2379
„ sanctuary area at this point ....	....	....	....	2418

With regard to the difference of level between the first two, viz., 9.5 feet. This is not at all incompatible with the floors which each arch supported being at the same level.

In crossing the deep Tyropean valley a longer span would be much more economical of material where the piers supporting the arches were so tall.

As the face of the rock rises, the piers supporting the arches would get shorter, and it would be much more economical under such circumstances to make the spans less; besides which shorter spans would be more convenient for supporting the weight of buildings above, which consideration would not apply to the valley arches. In making the spans less the springings would rise in level.

From Herr Schick's plan it appears there is a vertical distance of 21 feet from the level of the newly found springing to the level of the temple area.

If we assume semi-circular arches (as in the case of Robinson's and Wilson's, *see* plates on pp. 81 and 119 "Recovery of Jerusalem") this 21 feet would be made up of the thickness from crown of arch to level of Haram area, added to the radius of the arch span.

If we assume 10 feet of thickness we should want 11 feet of radius, or 22 feet span. If we assume a greater or less thickness, it reduces or increases the span accordingly. Thus, if we assume 12 feet thickness, we have 9 feet radius left, or an 18 feet span.

With regard to the springing from the eastern wall: Sir C. Warren explored the ground opposite up to 50 feet from the wall, in the hope of finding a pier as had been done in the case of Robinson's arch.

He says ("Recovery of Jerusalem," p. 151): "We were not far from the rock when searching for this pier, but not quite on it; it cannot, therefore, be said for certain that there was no pier for a bridge at this point, but the probabilities are against it." Colonel Wilson in his paper on the Masonry of the Haram Walls, Palestine Exploration, *Quarterly Statement*, January, 1880, says: "A few feet to the north of the offset there are two stones which form the springing of an arch and extend over a length of 18 feet. These stones do not appear to be *in situ*," and he dismisses the idea that they could have formed part of a bridge over the Kedron.

If a distinct relation of position is proved as between Robinson's arch and this eastern wall springing, it is a question whether Colonel Wilson's conclusion that the stones are not *in situ* can be maintained, and this taken in connection with Sir C. Warren's admission that he had not gone down to the rock, and could not say for certain that there was no pier, appears to rob the investigation of its conclusiveness.

I would only remark that if ever the question should be again

seriously investigated, the springing being 46 feet below the Haram area level would imply a longer span of arch than that of Robinson's, unless the roadway were at a lower level than the Haram area or the thickness over the crown of the arch much greater.

The chief observations in the above paper were communicated to the Palestine Exploration Secretary, also to Mr. Hanauer, in Jerusalem, in a letter dated March 6th.

Norton Hall,  
Stockton-on-Tees,  
May, 1891.

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COMPARISON OF THE MONTHLY MEAN HIGHEST  
AND MONTHLY MEAN LOWEST DAILY TEM-  
PERATURES OF THE AIR, AND MONTHLY  
MEAN DAILY RANGE OF TEMPERATURE IN  
PALESTINE AND ENGLAND IN THE TEN  
YEARS ENDING 1889.

By JAMES GLAISHER, F.R.S.

THE following discussion of the temperature observations at Sarona and Blackheath is in continuation of those published in the *Quarterly Report* for April, 1891, pages 163—178.

TABLE VII.—Monthly Mean of the daily Maximum Temperature at *Sarona*.

Months	Years.												Means of 10 years.
	1880.	1881.	1882.	1883.	1884.	1885.	1886.	1887.	1888.	1889.	1890.		
January ..	58·5	71·0	61·1	64·4	60·2	62·3	64·7	63·4	61·7	64·2	63·2	63·2	63·2
February ..	65·5	61·8	55·7	62·8	60·3	65·3	67·0	61·3	66·1	67·2	63·9	63·9	63·9
March ..	66·4	68·4	68·8	70·5	66·5	70·1	67·7	67·9	77·5	73·8	69·8	69·8	69·8
April ..	75·2	77·6	72·3	72·8	77·8	73·2	73·0	78·0	74·7	74·1	74·9	74·9	74·9
May ..	80·9	80·1	75·3	76·7	77·2	83·4	76·5	80·2	78·2	82·2	79·1	79·1	79·1
June ..	83·8	83·2	79·6	83·1	84·4	82·8	86·0	83·9	82·4	84·4	83·3	83·3	83·3
July ..	87·3	86·2	81·4	84·4	85·0	85·7	86·0	85·9	88·5	88·4	86·1	86·1	86·1
August ..	89·0	89·9	86·6	88·2	86·0	87·1	87·9	88·5	88·4	88·3	88·0	88·0	88·0
September ..	88·3	88·1	87·2	87·7	83·7	87·1	87·2	86·0	87·1	86·8	87·1	87·1	87·1
October ..	84·7	83·3	83·3	81·1	81·8	85·6	84·1	88·2	88·1	86·8	85·0	85·0	85·0
November ..	79·9	75·0	76·5	74·3	72·8	76·5	73·2	77·8	69·5	70·3	74·6	74·6	74·6
December ..	61·8	66·2	68·9	65·7	70·9	70·1	68·3	70·1	63·8	66·6	67·5	67·5	67·5
Means ..	77·0	77·8	75·0	76·2	75·6	77·4	76·8	77·9	77·2	77·8	76·9	76·9	76·9

The extreme monthly mean high-day temperatures in each month are as follows :—

	the lowest was		the highest was	
In January	...	58·5 in 1880	...	and 71·0 in 1881
February	...	55·7 „ 1882	...	„ 67·2 „ 1889
March	....	66·4 „ 1880	..	„ 77·5 „ 1888
April	....	72·8 „ 1882 and 1883	„	78·0 „ 1887
May	....	75·3 „ 1882	...	„ 83·4 „ 1885
June	....	79·6 „ 1882	...	„ 86·0 „ 1886
July	....	84·4 „ 1882 and 1883	„	88·5 „ 1888
August	....	86·0 „ 1884	...	„ 89·9 „ 1881
September	....	83·7 „ 1884	...	„ 88·3 „ 1880
October	....	81·8 „ 1884	...	„ 88·2 „ 1887
November	....	69·5 „ 1888	...	„ 79·9 „ 1880
December	....	63·8 „ 1888	...	„ 70·9 „ 1884

Thus the mean high day temperature has varied, the most 12°·5 in January, the next in order, 11°·5 in February, and 11°·1 in March ; and the least 3°·9 in August, 4°·1 in July, and 4°·6 in September. The lowest reading in the 10 years was 55°·7 in February, 1882, and the highest, 89°·9, in August, 1881.

The numbers at the foot of the columns show the yearly mean of the high day temperature, the lowest, 75°, was in 1882, and the highest, 77°·9, in 1887.

The highest monthly mean high day temperatures in each year have been as follows :—

In 1880, in August	....	....	....	....	....	89·0
1881 „ August	....	....	....	....	....	89·9
1882 „ September	...	....	....	....	....	87·2
1883 „ August	....	....	....	....	....	88·2
1884 „ August	....	....	....	....	....	86·0
1885 „ August and September	....	....	....	....	....	87·1
1886 „ August	....	....	....	....	....	87·9
1887 „ August	....	....	....	....	....	88·5
1888 „ July	....	....	....	....	....	88·5
1889 „ July	....	....	....	....	....	88·4

So that the maximum has been—

Twice in July.  
Seven times in August.  
Twice in September.

TABLE VIII.—Monthly Mean of the daily Maximum Temperature at *Blackleath*.

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Months.	Years.											Means of 10 years.
	1880.	1881.	1882.	1883.	1884.	1885.	1886.	1887.	1888.	1889.	1890.	
January ..	37·6	36·0	44·1	45·3	47·5	40·3	39·7	39·0	40·9	40·4	41·1	0
February..	47·5	41·9	46·8	47·7	47·5	49·6	37·0	43·6	38·9	41·9	44·2	0
March ..	54·2	50·9	54·2	44·2	52·1	48·0	44·7	44·2	43·8	47·7	48·4	0
April ..	55·8	55·4	56·6	57·3	53·7	57·8	52·8	52·7	51·3	54·3	54·8	0
May ..	63·8	64·6	65·4	63·0	61·7	60·9	69·8	58·2	63·9	66·7	63·2	0
June ..	67·6	69·1	64·9	69·8	67·2	72·1	66·7	72·2	68·8	72·3	69·1	0
July ..	72·1	76·0	70·4	69·0	72·9	76·3	72·7	77·8	67·4	70·9	72·6	0
August ..	71·7	67·6	69·3	72·0	76·5	68·5	70·7	72·9	68·8	70·9	70·9	0
September.	68·9	63·1	63·2	65·1	68·2	63·1	66·7	61·9	63·1	63·9	64·7	0
October ..	52·5	51·6	56·8	56·4	55·7	51·2	59·5	51·1	52·9	54·8	54·3	0
November	47·7	51·6	48·1	48·7	47·2	47·1	48·7	43·9	50·6	49·0	48·2	0
December .	47·1	43·5	43·8	43·8	45·0	41·8	40·4	40·4	44·5	40·9	43·1	0
Means ..	57·2	55·9	57·0	56·8	58·2	56·4	55·0	54·8	54·2	56·1	56·2	0

The extreme monthly mean high-day temperatures in each month are as follows:—

	The lowest was °		The highest was °	
In January	36·0	in 1881	and 47·5	in 1884.
February	37·0	1886	„ 49·6	1885.
March	43·8	1888	„ 54·2	1880, 1882.
April	51·3	1888	„ 57·8	1885.
May	58·2	1887	„ 66·7	1889.
June	64·9	1892	„ 72·3	1889.
July	67·4	1888	„ 77·8	1887.
August	67·6	1881	„ 76·5	1884.
September	61·9	1887	„ 68·9	1880.
October	51·1	1887	„ 59·5	1886.
November	43·9	1887	„ 51·6	1881.
December	40·4	1886, 1887	47·1	1880.

Thus the mean high-day temperature has varied, the most 12°·6 in February, 11°·5 in January, and 10°·4 in March, agreeing very nearly with the changes at Saronia in the same months; and the least, 6°·5 in April, 6°·7 in December, and 7°·0 in September, not agreeing with Saronia.

The lowest monthly reading in the 10 years was 36° in January, 1881, being 19°·7 lower than the lowest reading at Saronia; and the highest was 77°·8 in July, 1887, being 12°·1 lower than the highest at Saronia.

The numbers at the foot of the columns show the mean high-day temperature for each year. By comparing them with those at the foot of the columns in corresponding table at Saronia, it will be seen those at Saronia are much higher. The year of least difference, 17°·4, was in 1884, and that of greatest difference, 23°·1, was in 1886. The mean excess of the 10 years was 20°·7.

By comparing the numbers in Tables VII. and VIII. month by month, it will be seen that the readings at Saronia were higher in every month than at Blackheath, and the excess varied, in—

	from	°	in	to	°	in
January	from	12·7	in 1884	to	35·0	in 1881
February	„	8·9	„ 1882	„	30·0	„ 1886
March	„	12·2	„ 1880	„	33·7	„ 1888
April	„	15·4	„ 1885	„	25·3	„ 1887
May	„	9·9	„ 1882	„	22·5	„ 1885
June	„	10·7	„ 1885	„	19·3	„ 1886
July	„	8·1	„ 1887	„	21·1	„ 1888
August	„	9·5	„ 1884	„	22·3	„ 1881
September	„	10·5	„ 1886	„	25·0	„ 1881
October	„	24·1	„ 1886	„	37·1	„ 1887
November	„	28·9	„ 1888	„	33·9	„ 1887
December	„	17·7	„ 1880	„	29·7	„ 1887



By taking the difference between the numbers in the last columns of Tables VII. and VIII., the mean monthly excess of high-day temperature at Saronia over that at Blackheath in—

January	....	..	..	..	was	22·1
February	....	..	..	..	..	19·7
March	....	....	..	..	..	21·4
April	....	....	....	..	..	20·1
May	....	....	....	..	..	15·9
June	....	..	..	..	..	11·2
July	....	....	..	..	..	13·5
August	....	....	..	..	..	17·1
September	....	..	..	..	..	22·4
October	....	....	..	..	..	30·7
November	....	..	..	..	..	26·1
December	....	....	....	..	..	24·4
And the mean yearly daily excess	....	..	..	..	..	20·7

TABLE IX.—Monthly Mean of the nightly Minimum Temperature at *Sarona*.

Month.	Years.										Means of 10 years.	
	1880.	1881.	1882.	1883.	1884.	1885.	1886.	1887.	1888.	1889.		
January ..	42·9	43·0	43·7	48·7	40·9	46·6	49·3	44·9	44·9	49·0	°	45·9
February..	45·8	47·6	44·0	45·6	46·2	45·6	48·7	44·0	49·1	47·8		46·4
March ..	46·9	48·1	47·1	49·4	48·3	48·9	49·0	46·6	53·1	52·3		49·0
April ..	52·0	56·9	51·9	50·0	53·4	53·2	51·8	52·9	54·8	51·5		52·8
May ..	57·0	56·8	55·4	55·2	57·0	60·0	56·0	56·3	58·1	60·8		57·3
June ..	63·5	58·9	59·3	63·6	63·7	64·8	63·5	62·7	63·2	64·0		62·7
July ..	67·0	67·1	65·5	67·0	66·0	68·8	65·6	66·1	69·2	69·5		67·2
August ..	69·0	70·3	68·7	69·4	68·9	68·3	69·2	69·1	70·3	70·3		69·4
September	65·2	68·1	66·3	61·0	64·3	67·1	66·3	67·3	67·3	69·7		66·3
October ..	62·6	61·5	60·6	61·8	60·5	63·3	60·6	63·8	67·5	63·0		62·5
November	57·6	55·9	56·0	54·5	52·9	53·9	52·9	57·2	53·1	50·2		54·4
December	49·0	47·4	50·9	46·6	48·6	51·9	48·1	50·9	48·2	48·9		49·0
Means ..	56·5	57·2	55·8	56·1	55·9	57·7	56·7	56·8	58·2	58·1		56·9

The numbers in this table showing the monthly mean of the low night temperatures are all high ; the following shows the extremes in every month in the 10 years. It varied in

January	from	....	40°9	in 1884	to	49°3	in 1886
February	„	....	44°0	„ 1882 & 1887	to	49°1	in 1888
March	„	....	46°6	in 1887	to	53°1	in 1888
April	„	....	50°0	„ 1883	„	56°9	„ 1881
May	„	....	55°2	„ 1883	„	60°8	„ 1889
June	„	....	58°9	„ 1881	„	64°8	„ 1885
July	„	....	65°5	„ 1882	„	69°5	„ 1889
August	„	....	68°3	„ 1885	„	70°3	„ 1881, 1888, 1889
September	„	....	61°0	„ 1883	„	69°7	„ 1889
October	„	....	60°5	„ 1884	„	67°5	„ 1888
November	„	....	50°2	„ 1889	„	57°6	„ 1880
December	„	....	46°6	„ 1883	„	51°9	„ 1885

Thus the low night temperature has varied the least 2° in August, the next in order 4° in July, and the most 8°·7 in September, and the next in order 8°·4 in January. The lowest mean reading in the 10 years was 40°·9, and the highest was 70°·3.

The numbers at the foot of the columns in Table IX. show the yearly mean of the low night temperature, the lowest, 55°·8, was in 1882, and the highest, 58°·2, was in 1888.

The lowest monthly mean low night temperature in each year was as follows :—

In 1880	....	....	....	....	was	42°9	in January.
1881	....	....	....	....	„	47·4	„ December.
1882	....	....	....	....	„	43·7	„ January.
1883	....	....	....	....	„	45·6	„ February.
1884	....	....	....	....	„	40·9	„ January.
1885	....	....	....	....	„	45·6	„ February.
1886	....	....	....	....	„	48·1	„ December.
1887	....	....	....	....	„	44·0	„ February.
1888	....	....	....	....	„	44·9	„ January.
1889	....	....	....	....	„	47·8	„ February.

Therefore the lowest monthly mean has occurred—

Four times in January.  
 Four times in February.  
 Twice in December.

TABLE X.—Monthly Mean of the nightly Minimum Temperature at *Blackheath*.

Months.	Years.										Means of 10 Years.
	1880.	1881.	1882.	1883.	1884.	1885.	1886.	1887.	1888.	1889.	
January ..	27·4	27·3	36·1	37·0	38·9	31·3	30·1	30·2	31·6	30·0	32·0
February..	35·6	34·3	37·2	37·6	36·8	38·0	28·8	32·8	29·4	30·8	34·2
March ..	36·3	36·3	38·9	30·6	38·0	32·6	33·1	30·9	31·8	32·3	34·1
April ..	39·1	38·5	41·0	39·5	38·4	38·8	39·1	34·8	35·5	38·3	38·3
May ..	41·9	45·6	46·2	45·7	45·1	41·8	44·2	42·1	42·9	48·0	44·4
June ..	48·3	51·1	49·9	51·2	50·3	50·0	49·0	50·5	49·6	51·9	50·2
July ..	52·1	56·0	53·7	52·8	54·7	54·2	53·8	54·9	50·4	53·3	53·6
August ..	54·4	52·3	53·5	54·4	55·2	50·7	53·8	52·0	50·5	51·3	52·8
September	50·6	50·0	48·3	50·8	52·6	48·2	51·6	46·3	47·9	47·9	50·4
October ..	39·0	40·2	45·3	44·9	42·9	40·4	46·5	37·5	35·9	41·2	41·4
November	36·0	41·8	39·0	37·7	37·2	38·1	37·5	34·9	40·7	37·8	38·1
December	37·0	35·0	36·0	36·0	36·7	32·9	32·0	31·2	33·3	31·1	34·1
Means ..	41·5	42·4	43·8	43·2	43·9	41·4	41·6	39·8	40·0	41·2	42·0

These numbers are a great contrast indeed to those in Table IX. They have varied in each month as follows:—

January	from	...	...	27°3	in	1881	to	38°9	in	1884
February	"	...	...	28°8	"	1886	"	38°0	"	1885
March	"	...	...	30°6	"	1883	"	38°9	"	1882
April	"	...	...	34°8	"	1887	"	41°0	"	1882
May	"	...	...	41°8	"	1885	"	48°0	"	1889
June	"	...	...	48°3	"	1880	"	51°9	"	1889
July	"	...	...	50°4	"	1888	"	56°0	"	1881
August	"	...	...	50°5	"	1888	"	55°2	"	1884
September	"	...	...	46°3	"	1887	"	52°6	"	1884
October	"	...	...	35°9	"	1888	"	46°5	"	1886
November	"	...	...	34°9	"	1887	"	41°8	"	1881
December	"	...	...	31°1	"	1889	"	37°0	"	1880

Thus no month has been so uniform in temperature as the corresponding month has been at Sarona. The month of June has varied 3°6; the next in order was August, 4°7. The month of greatest change, 11°6, was in January, and the next in order, 10°6, was in October. The lowest mean reading in the 10 years was 27°3, being 13°6 below the lowest at Sarona; and the highest was 56°0, being 14°3 below that at Sarona, viz., 70°3 in August.

The lowest monthly mean of low night temperature in each year at Blackheath was as follows. In—

1880	...	...	...	27°4	in	January.
1881	...	...	...	27°3	"	January.
1882	...	...	...	36°0	"	December.
1883	...	...	...	30°6	"	March.
1884	...	...	...	36°7	"	December.
1885	...	...	...	31°3	"	January.
1886	...	...	...	28°8	"	February.
1887	...	...	...	30°2	"	January.
1888	...	...	...	29°4	"	February.
1889	...	...	...	30°0	"	January.

Therefore the lowest monthly mean of low night temperature has occurred—

Five times in January.  
 Twice in February.  
 Once in March.  
 Twice in December.

The numbers at the foot of the columns in Table X. show the yearly mean of the low night temperature at Blackheath. The lowest was  $39^{\circ}8$  in 1887, and the highest was  $43^{\circ}9$  in 1884, being  $16^{\circ}0$  and  $14^{\circ}3$  respectively colder than those at Sarona.

By taking the difference between the numbers in the last columns of Tables IX. and X., the mean monthly excess of low night temperature at Sarona over that at Blackheath in—

January	....	....	....	....	....	was	13·9
February	....	....	....	....	....	„	12·2
March	...	....	....	....	....	„	14·9
April	....	....	....	....	....	„	14·5
May	...	....	...	....	....	„	12·9
June	....	....	....	....	....	„	12·5
July	....	....	....	....	....	„	13·6
August	....	....	....	....	....	„	16·6
September	....	....	....	....	....	„	15·9
October	....	....	....	....	....	„	21·1
November	....	....	....	....	....	„	16·3
December	....	....	....	....	....	„	14·9
And the mean excess for the year	....	....	....	....	....	„	14·9

TABLE XI.—Monthly Mean daily range of Temperature at *Sarona*.

Months.	Years.												Means of 10 Years.
	1880.	1881.	1882.	1883.	1884.	1885.	1886.	1887.	1888.	1889.	1890.		
January ..	15·6	23·0	17·4	15·7	19·3	15·7	15·4	18·5	16·8	15·2	17·3	17·3	
February..	19·7	17·2	11·7	17·2	14·1	19·7	18·3	20·3	17·0	19·4	17·5	17·5	
March ..	19·5	20·3	21·7	21·1	18·2	21·2	18·7	21·3	24·4	21·5	20·8	20·8	
April ..	23·2	20·7	20·9	22·8	24·4	20·0	21·2	25·1	19·9	22·6	22·1	22·1	
May ..	23·9	23·3	19·9	21·5	20·2	23·4	20·5	23·9	20·1	21·4	21·8	21·8	
June ..	20·3	24·3	20·3	19·5	20·7	18·0	22·5	21·2	19·2	20·4	20·6	20·6	
July ..	20·3	19·1	18·9	17·4	19·0	16·9	20·4	19·8	19·3	18·9	18·9	18·9	
August ..	20·0	19·6	17·9	18·8	17·1	18·8	18·7	19·4	18·1	18·0	18·6	18·6	
September	23·1	20·0	20·9	27·7	19·4	20·0	20·9	19·3	19·8	17·1	20·8	20·8	
October ..	22·1	21·8	22·7	22·3	21·3	22·3	23·5	21·4	20·6	23·8	22·5	22·5	
November	22·3	19·1	20·5	19·8	19·9	22·6	20·3	20·6	16·4	20·1	20·2	20·2	
December	15·8	18·8	18·0	19·1	22·3	18·2	20·2	19·2	15·6	17·7	18·5	18·5	
Means ..	20·5	20·6	19·2	20·2	19·7	19·7	20·1	21·1	18·9	19·7	20·0	20·0	

The mean daily range in each month has varied in 10 years as follows :

January	from	....	....	15.2	in	1889	to	23.0	in	1881
February	,,	....	....	11.7	,,	1882	,,	20.3	,,	1887
March	,,	....	....	18.2	,,	1884	,,	24.4	,,	1888
April	,,	....	....	19.9	,,	1888	,,	25.1	,,	1887
May	,,	....	....	19.9	,,	1882	,,	23.9	,,	1880, 1887
June	,,	....	....	18.0	,,	1885	,,	24.3	,,	1881
July	,,	....	....	16.9	,,	1885	,,	20.4	,,	1886
August	,,	....	....	17.1	,,	1884	,,	20.0	,,	1880
September	,,	....	....	17.1	,,	1889	,,	27.7	,,	1883
October	,,	....	....	20.6	,,	1888	,,	24.4	,,	1887
November	,,	....	....	16.4	,,	1888	,,	22.6	,,	1885
December	,,	....	....	15.6	,,	1888	,,	22.3	,,	1884

The smallest range in any month was 11.7 in February, 1882, and the largest was 27.7 in September, 1883.

The greatest monthly mean daily range of temperature at Sarona in

1880	....	....	....	was	23.9	in	May.
1881	....	....	....	,,	24.3	,,	June.
1882	....	....	....	,,	22.7	,,	October.
1883	....	....	....	,,	27.7	,,	September.
1884	....	....	....	,,	24.4	,,	April.
1885	....	....	....	,,	23.4	,,	May.
1886	....	....	....	,,	23.5	,,	October.
1887	....	....	....	,,	25.1	,,	April.
1888	....	....	....	,,	24.4	,,	March.
1889	....	....	....	,,	23.8	,,	October.

The greatest monthly range of temperature in 10 years, therefore, has occurred—

Once in March.  
 Twice in April.  
 Twice in May.  
 Once in June.  
 Once in September.  
 Three times in October.



TABLE XII.—Monthly Mean daily Range of Temperature at *Blackheath*.

Months.	Years.										Means of 10 Years.
	1880.	1881.	1882.	1883.	1884.	1885.	1886.	1887.	1888.	1889.	
January ..	10·2	8·7	8·0	8·3	8·6	9·0	9·6	8·8	9·4	10·4	9·1
February..	11·9	7·7	9·6	10·1	10·7	11·6	8·2	10·9	9·5	11·1	10·1
March ..	17·9	14·6	15·3	13·6	14·1	15·4	11·6	13·3	14·0	15·4	14·3
April ..	16·7	16·9	15·6	17·8	15·3	19·0	13·7	17·6	15·8	15·9	16·4
May ..	21·9	19·0	19·2	17·3	19·6	19·1	16·6	16·2	21·0	18·7	18·8
June ..	15·3	18·0	15·0	18·6	16·9	22·1	17·7	21·7	19·2	20·4	19·0
July ..	20·0	20·0	16·7	16·2	18·2	22·1	18·9	22·9	17·0	17·6	19·0
August ..	17·3	15·2	15·8	17·6	21·3	17·8	16·9	20·9	18·3	19·6	18·0
September	18·3	13·1	14·9	14·3	15·6	14·9	15·1	15·6	15·2	16·0	14·3
October ..	13·5	11·5	11·5	11·5	12·8	10·8	13·0	13·6	17·0	13·7	12·9
November.	11·7	9·8	9·1	11·0	10·0	9·0	11·2	9·0	9·9	11·2	10·2
December.	10·1	8·5	7·8	7·8	8·3	8·9	8·4	9·2	11·2	9·8	9·0
Means ..	15·7	13·6	13·2	13·7	14·3	15·0	13·4	15·0	14·2	14·9	14·3

The monthly mean daily range of temperature has varied in 10 years

In	Month	from	Year	to	Year
In	January	from	8°0	in	1882 to 10°4 in 1889
	February	,,	7°7	,,	1881 ,, 11°9 ,, 1880
	March	,,	11°6	,,	1886 ,, 17°9 ,, 1880
	April	,,	13°7	,,	1886 ,, 19°0 ,, 1885
	May	,,	16°2	,,	1887 ,, 21°9 ,, 1880
	June	,,	15°0	,,	1882 ,, 22°1 ,, 1885
	July	,,	16°2	,,	1883 ,, 22°9 ,, 1887
	August	,,	15°2	,,	1881 ,, 21°3 ,, 1884
	September	,,	13°1	,,	1881 ,, 18°3 ,, 1880
	October	,,	10°8	,,	1885 ,, 17°0 ,, 1888
	November	,,	9°0	,,	1885 & 1887 to 11°7 in 1880
	December	,,	7°8	,,	1882 & 1883 ,, 11°2 ,, 1888

The smallest mean daily range of temperature in any month was 7°·7 in February, 1881, and the largest was 22°·9 in July, 1887.

The greatest monthly mean daily range of temperature at Blackheath in—

1880	...	...	...	...	was	21°9	in	May.
1881	...	...	...	...	,,	20°0	,,	July.
1882	...	...	...	...	,,	19°2	,,	May.
1883	...	...	...	...	,,	18°6	,,	June.
1884	...	...	...	...	,,	21°3	,,	August.
1885	...	...	...	...	,,	22°1	,,	June and July.
1886	...	...	...	...	,,	18°9	,,	July.
1887	...	...	...	...	,,	22°9	,,	July.
1888	...	...	...	...	,,	21°0	,,	May.
1889	...	...	...	...	,,	20°4	,,	June.

Therefore the greatest monthly mean daily range of temperature has occurred—

Three times in May.  
 Three times in June.  
 Four times in July.  
 Once in August.

By comparing the numbers in Tables XI. and XII., it will be seen that the monthly mean daily ranges of temperature at Sarona in the years 1880, 1882, 1883, and 1886, were all larger than those at Blackheath. The differences, however, were small in the months from May to August. In each of the remaining years—one month, at least, in each year—the range was larger at Blackheath than at Sarona.

The difference between monthly mean of daily ranges at Sarona and Blackheath varied in—

January	from	....	+ 4·8	in 1889	to	+ 14·3	in 1881
February	„	....	+ 2·1	„ 1882	„	+ 10·1	„ 1886
March	„	....	+ 1·6	„ 1880	„	+ 12·4	„ 1888
April	„	....	+ 1·0	„ 1885	„	+ 9·1	„ 1884
May	„	....	- 0·9	„ 1888	„	+ 6·7	„ 1887
June	„	....	- 4·1	„ 1885	„	+ 6·3	„ 1881
July	„	....	- 3·1	„ 1887	„	+ 2·3	„ 1888
August	„	....	- 4·2	„ 1884	„	+ 4·4	„ 1881
September	„	....	+ 1·1	„ 1889	„	+ 13·4	„ 1883
October	„	....	+ 3·6	„ 1888	„	+ 11·8	„ 1883
November	„	....	+ 6·5	„ 1888	„	+ 13·6	„ 1885
December	„	....	+ 4·4	„ 1888	„	+ 14·0	„ 1884

The sign + implies greater range at Sarona than at Blackheath, and the sign - that the range at Sarona was smaller than at Blackheath.

By taking the difference between the numbers in the last columns of Tables XI. and XII., the mean difference between the daily ranges of temperature at Sarona and Blackheath in every month is shown, and are as follow :—

The mean range of daily temperature in—

January	is greater than at Blackheath by	8·2
February	„ „ „	7·4
March	„ „ „	6·5
April	„ „ „	5·7
May	„ „ „	3·0
June	„ „ „	1·6
July	is smaller	0·1
August	is greater	0·6
September	„ „ „	6·5
October	„ „ „	9·6
November	„ „ „	10·0
December	„ „ „	9·5

Thus the greatest differences are in the winter months ; the next in order are the spring months, and the least are in the months from May to August.

## NOTES ON HEBREW AND JEWISH INSCRIPTIONS.

By Prof. CLERMONT-GANNEAU.

I.



THE HEBREW INSCRIPTION FROM TELL EL HESY.

“I HAVE just read in the last *Quarterly Statement* (1891, April, p. 158) a note relating to the inscription from Tell el Hesy, for a squeeze of which I asked you some time ago, but have not yet received.

“I have had, on two occasions, to discuss publicly this very curious inscription, at a meeting of our Academy of Inscriptions and Belles Lettres, towards the end of the year 1890, and at the Collège de France, in my lectures upon “*Épigraphie et Antiquités Sémitiques*.”

“Major Conder, M. Sayce, and your anonymous correspondent have, in my opinion, quite missed the true reading of this little inscription. It is impossible to read, as these gentlemen propose, להבנד (Conder), or לסנד (Sayce), or להבנד (Anonymous). The true reading is לחשך: the letter *schîn* is closely joined to the letter *khet*, but this accidental contact should not be taken into account in its deciphering.

“Four characters of an excellent form are obtained thus, the paleography of which is entirely archaic *Hebrew*; the hook of the tail of the *kaph* is, in this last respect, altogether demonstrative. חשך is a proper name of a man, derived from the root חשך, in the sense “to save, to preserve, to spare” (= post-Biblical Hebrew, חסך); the name should probably be vocalised *Husoûk* (חש(ו)ך), and the inscription, as a whole, should be translated thus: “belonging to Hasoûk.”

“I repeat my request for the squeeze of this very interesting little text.

“I should like to know at the same time if it has been traced on the clay before baking, or cut afterwards in *graffito*.”

## II.

## JEWISH INSCRIPTIONS ON OSSUARIES.

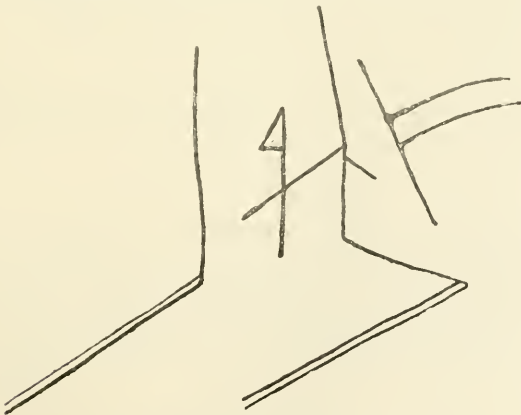
a.

“The examination of the squeeze of the Hebrew inscription which I have made, confirms the opinion I expressed in my preceding note to you. It is unquestionably a Hebrew inscription in square cursive characters, bearing the greatest resemblance to those of the ossuaries from the Mount of Offence.<sup>1</sup> The first letter is certain, it is a *schin*. The second is most probably a *lamed*, the tracing of which has been interrupted by the slipping of the tool of the stone-cutter. The third looks like a *vau*; on the tracing you first sent me it was reduced to a simple vertical stroke, but the squeeze plainly shows its little triangular head, which removes any doubt one might have of it.

“The only doubtful character is the last; I am disposed to consider it as incomplete, and think that a final *mem* must be seen in it; the restoration [שלום] forcibly suggests itself. One may possibly see in the word thus read the substantive *Schalom*, “peace,” or perhaps the proper name of a man, *Schalloum*, or, better, the proper name of a woman, *Schalom* = *Salomé*.

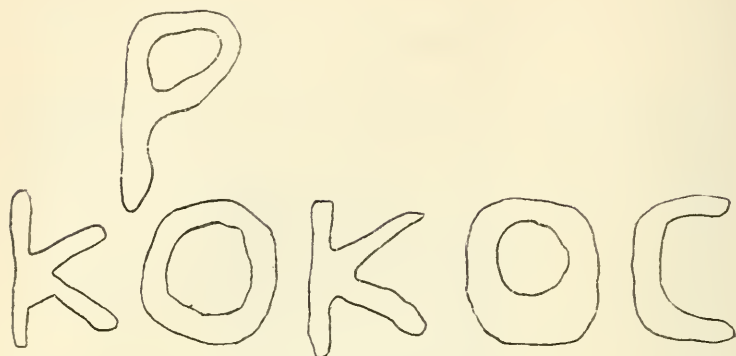
“I am inclined to think the last explanation correct, having already found on the ossuaries from the Mount of Offence, the woman’s Hebrew name *Salome* so written. Moreover, another accessory particularly tends to show that the ossuary was destined to receive the remains of a woman rather than those of a man, namely, the triangular form of the lid. Generally this form of lid in Palestinian ossuaries and even in sarcophagi seems rather to point out the funeral monument of a woman.

“Here is the inscription as I read it from the squeeze:—



<sup>1</sup>See my memoir, “Epigraphes Hébraïques et Grecques sur des Ossuaires Juifs inédits,” Paris, 1883.

b.



Κρόκος.

“THE stone cutter had at first written **KOKOC**, having omitted the **P**, which he afterward superadded. The masculine proper name *Κρόκος*, of which the etymological meaning is *saffron*, has already been met with in a Greek inscription in Egypt (proscynème at Wad Fawakher, *Corp. Inscript. Graecar.*, III, *Add.* No. 4716 d 44, p. 1197). One of the ossuaries from the Mount of Offence (No. 15 of the memoir before quoted), an ossuary remarkable for its small dimensions, apparently indicating that it was designed to receive the remains of a child, bears the Hebrew name קרקס. I had supposed that this strange name concealed a transcription of a Greek name such as *Κύρικος*, *Κούρικος*, *Κυριακός*, &c. I now think that קרקס is no other than *Krokos*; the transcription is strictly that which may be expected according to the rules of Hebrew transcription of Greek, and, on the other hand, we now have positive proof that the name of *Κρόκος* was really in use in the Greco-Jewish onomastics.

c.

“I was unable to make anything of the tracing you sent me, but the squeeze which I now have before me enables me to arrive at the following reading which I consider as almost certain :—

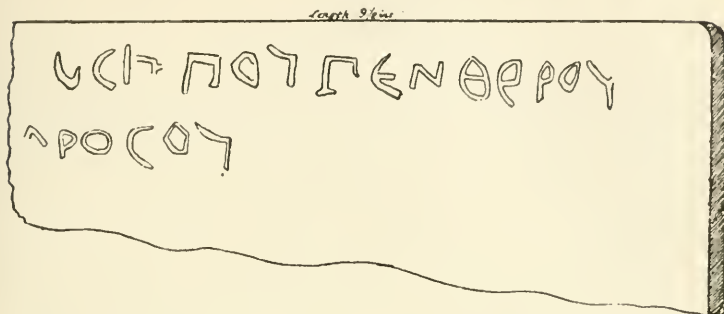
[Ἰω]σήπου πενθεροῦ  
[Δρ]όσου

(*belonging*) to *Joseph*, father(?)-in-law of *Drosos*.

“The inscription is incomplete on the left by reason of a fracture of the monument which cuts off the commencement of the two lines. On the first line the fracture has caused the whole *I* to disappear and part of the *ω* of the name Ἰωσηπος (*genitive case*), an exact and well-known transcription of the Hebrew name *Joseph*. I have often met with the letter *η* under this cursive form in Greek inscriptions on Jewish ossuaries. The *υ*, in spite of the singular form that it affects three times, is not doubtful; this form is interesting for the history of Greek paleography.

“The word *πενθερός* indicates in Greek a relationship with parents by

alliance which is variable: generally it is father-in-law, the father of the wife, sometimes also it is the son-in-law, or even the brother-in-law



"The reading of the second name *Δρόσος* is partly conjectural, the  $\Delta$  and the  $\rho$  are disfigured by a fracture, but I believe I have recovered them by a careful examination of the squeeze.

"The man's name, thus obtained by restoration, has good guarantee = *Δρόσος* (Orelli, No. 1260 K). Compare the feminine names *Δρόσιον* and *Δροσίς*. I am inclined to think that *Δρόσος* is meant for *Δροῦσος*, an ordinary transcription of a well-known Roman name *Drusus*; similarly *Δρόσυλλα* (Nicet. Eng., I. 74-353) is for *Δρόσυλλα*, *Drusilla*, a woman's name derived from *Drusus*. (cf. *Δρόσυλα*, on an Umbrian vase, *Raoul-Rochette, lettre à M. Schorn*, 15).

"The names of *Drusus* and *Drusilla*, which were borne by many Romans belonging to the "gens Livia," appear, from the records, to have been in favour among the Jews about the time of Herod Agrippa I. This prince, desiring to flatter the Romans by taking the names of the imperial family, gave that of *Drusilla* to one of his daughters (who afterwards married the procurator of Judea, Felix, and is mentioned in the History of St. Paul, *Acts xxiv*, 24), and that of *Drusus* to one of his sons, who died before attaining the age of manhood. (*Josèphe, Antiq. Jud. xviii*, 5 : 4.)

"Consequently the name of *Drusus* was rather in vogue among the Jews in the first century of our era, which would well accord with the probable date of our ossuaries, and render so much the more probable the reading I propose for the mutilated name, *Δρόσος* = *Δροῦσος* = *Drusus*.

"There is mention in the Talmud (j. *Joma*, IV., 41d., j. Schabb, I., 4a, &c.) of a *Rabbi Derosa* or *Derosai* (דרוסא, דרוסה, דרוסא) whose name appears to be the Hebrew transcription of the Greco-Roman name *Δρόσος*. It is known that the use of these foreign names was very common among the ancient rabbis, even those who were most attached to their religious faith."

## MAHANAIM.

By MAJOR CONDER, R.E.

THIS city, one of the most important and interesting in Gilead, has usually been placed far north at *Birket Mahneh*, but, as I have attempted to show in "Heth and Moab," considerable confusion arises from such an identification (chap. vi, pp. 179-181, 1st edition); and I have proposed, therefore, to seek it much further south, somewhere east of Es Salt. After meeting Laban at Mizpeh (probably *Sáf*), Jacob went on his way to Mahanaim (Gen. xxxii, 2). Thence he went to Penuel (v. 30), and afterwards rejoined his family, which had crossed the Jabbok (v. 22), and journeyed to Succoth (Gen. xxxiii, 17). If, then, Succoth be where Dr. Selah Merrill has shown it to be—at Tell Der'ala, north of the Jabbok—Mahanaim should be sought somewhere south of the same, and near Penuel, which I have proposed to place at Neby Osh'a.

In Joshua xiii, 26-30, Mahanaim appears as the capital of a district, and as the east limit of Gad, as contrasted with "the border of Debir," or "limit of the ridge." It was a city of refuge (Josh. xxi, 38); the refuge of Ishbosheth beyond the "gorge" (*Bithron*), and evidently on the highlands (2 Sam. ii, 8, 12, 29). A man could thence be seen running on a plain, by David, when finding refuge there (2 Sam. xviii, 24-27; cf. 2 Sam. xix, 32; Kings ii, 8), and it was at some distance from the wood of Ephraim, which was beyond Jordan (2 Sam. xviii, 6; cf. xvii, 26). It was not in the same region with Ramoth Gilead (*Reimân*), since it was the capital of another province (1 Kings iv, 14; cf. 1 Chron. vi, 80). Finally, in Canticles (vi, 13), we read of the "company of two armies" (*כַּמְחַלַּת הַמַּחֲנִים*), which has been variously rendered, "dance of Mahanaim" and "dance of a double choir." The word is thus derived from the root *חול* *حول* "to be round;" (*מַחְוֵלָה*), which is a common geographic term for a circular basin or a "circuit," as, for instance, in the case of Abel Meholah (now *Ain Helweh*).

The name Mahanaim (*מַחֲנֵיִם*) is also geographical, meaning "camp" or "camps" (Gesén); compare the Mahaneh Dan, or "plain of the camp of Dan," near Zorah and Eshtaol. In Arabic it becomes *Mukhnah* (*مُخْنَه*), as in the case of the well-known plain so called near Shechem, and the term would seem to indicate a plain.

On the newly issued map with ancient nomenclature will be found marked, east of Es Salt, the curious depressed plain of circular shape, which is called *El Bukie'a*, "the little vale," or, in the vulgar Bedu dialect, *El Bef'a*. This is the position in which I have supposed Mahanaim to lie. A main road from Salt runs on the west side of the plain northwards, which I followed in 1882, going to Jerâsh. Here will be found marked the ruin *Mukmah* (*مُكْمَه*), which appears to me to



preserve, somewhat distorted, the name of Mahanaim. The substitution of *m* for *n* is not a very strong objection, since in Syrian speech these two letters are often interchanged. The plain is several miles across, about 2,000 feet above sea level, with hills from 1,000 to 1,500 feet higher round it. The soil is sandy and fertile, the hills are of limestone. There is an important ancient ruin called *El Basha*, about a mile to the south with a fine clear spring. The ruins consist of a tower and round arched vaults, such as occur in many other ancient sites in Gilead, but which are probably of the second to fifth century A.D. Here, I think, we may therefore place the long lost Mahanaim, in a fertile district, near Penuel, south of the Jabbok, and east of the woods whence Salt (*Saltus Hieraticus*) took its name. The runners could be seen at some distance on the level road west of the plain, and the "circle" of Mahanaim would be the circle of the curious basin in which it stands. The northern site should be abandoned as not suiting the geographical requisites of the case.

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## ALTAIC LETTER FROM TELL AMARNA.

By MAJOR CONDER, R.E.

AMONG the 300 letters from Tell Amarna (1500-1450 B.C.) the longest of all is written to Amenophis III, by Dusratta, King of Mitani, or the region immediately east of the Euphrates, opposite the Hittite city of Carchemish. The first seven lines are in Assyrian, but, after this introduction, follow 505 lines in his own language. Dusratta wrote other letters in Assyrian which have been translated, and one of which refers to the same persons, Gilias and Manis, who are mentioned in this letter, of which many paragraphs are fairly well preserved, though others are too much broken to be read. The writing is syllabic, in an old cuneiform character, with a few determinatives.

Although the letter has not been translated, the meanings of a few words have been determined by Dr. Sayce and other scholars, and judging from these words, and from the terminations of verbs and nouns, it appears to me to be clear that the whole is written in a Mongol dialect, akin to the Akkadian and Medic. I am unable to find any resemblance to the Aryan language of the Vannic tribes, nor has Dr. Sayce pointed out any, save a termination which also occurs in Akkadian. The known words are also not the same that stand for the same sense in Vannic. The vocabulary is very large, and great difficulties will no doubt arise in attempting to render the meaning, without the aid of bilinguals, but many of the words at once recall well-known Medic and Akkadian terms, and the same may be said of the commoner terminations.

The Assyrian introduction is much damaged, but the names of Amenophis and of Dusratta have already been recognised, with the

usual invocation of peace and prosperity for the receiver of the tablet. It appears roughly to have run as follows:—

“To Amenophis the third the [King] of Egypt, from Dusratta King [of Mitani]. I am at peace . . . may there be peace to . . . . . to thy ladies, to thy nobles, to thy horses, to thy land, and to all that is thine exceedingly.”

The words which frequently recur, and of which the meaning is supposed to be known, are as follows:—

- Atta*, “Father.” Akkadian, *Adda*; Medic, *Ate*; Turkish,  $\text{آتا}$ , *ata*.  
*Amat*, “grandfather;” *Am-at*, “father’s father.” Compare the Tunguse *ama*, “father.”  
*Sen*, “brother.” Compare the Turkic *yin*, a “younger brother,” the *s* being often softened to *y*. In Cantonese we have *hing*, “brother.”  
*Dubsar*, “scribe.” Akkadian, *dub*, “tablet,” and *sar*, “master.”  
*Tsalam*, “image” (used in Assyrian). Medic, *zal zalnu*, “image.”  
*Enippi*, “God.” Medic and Susian, *annap*.  
*Ti*, “word.” Turkic, *tia*, “say.”  
*Pireta*, “I have sent.” Turkic, *pir*, “to go,” *pirat*, “to despatch.”  
*U*, “I” (or *Hu*). Medic, *U*, *Hu*, “I.”  
*Nikharî*, “written.” Turkic, *khar*, “to engrave.”  
*Talamî*, “interpreter.” Turkic, *talamis*, “interpreter.”  
*Atinîn*, “these.” Turkic, *Atin*, “that,” “this.”  
*-na*, plural ending. Mongol, *-na*; Akkadian, *-ene*.  
*-s*, termination of the nominative, as in Hittite and Cassite.  
*Tissan Tissan*, an adverb. Probably the Turkic *tis*, “quick,” meaning “very quickly.” Dr. Sayce renders it *vehementer*.  
*Tip*, “to send.” Medic, *tîp*, “send.”

To these words, which all point in one direction, I think we may add others which are equally suggestive, and of which a careful study of the text, as given by Dr. Winckler, shows the occurrence to be in accordance with the proposed interpretation. As instances may be cited—

- Paza*, “moreover.” Turkic, *paza*, “again,” “anew.”  
*Khakhani*, “Princes.” Turkic, *Khakhan*, “Prince.”  
*Khîarukka*, “contracted.” Turkic, *Khîar*, “to bind,” “to wed.”  
*Umun*, “Lord.” Akkadian, *Umun*.

The name of the land of Egypt in this letter is written either *Mazri* or *Mizri* in different passages, and the Egyptians are called *Mizrippi* like the Medic, *Muzzariyap*, “Egyptians.” The country whence the letters are despatched appears to be called KUR U, *Minippi*, “Land of the race of the Minni.” This agrees with the position of *Mitani*, which is the name given to his country by Dusratta in the last part of the letter

The Minni or Minyans were well known to the Assyrians as an Asia Minor people, and to the Egyptians as the *Men* or *Menti*, who are described in Egyptian records as dwelling in Assyria, "East of Syria." They were indeed the same race who, in the Hyksos period, had seized on Egypt itself, but had been driven out some two centuries before the date of the letter under consideration. They seem to have been friendly with the Hittites, since in another of the Tell Amarna letters we read of a Hittite prince who fled to the land of Mitani, where he was captured. Dusratta was allied by marriage with Amenophis III, and his translated letters show that an alliance had also existed in the days of his grandfather or of his father, *Suttarna*, whose name suggests that he was a worshipper of *Sut* (or *Set*), the well-known Hittite god. The language of his letter also seems to indicate that he was of the same race with the Hittites and Akkadians. In modern Turkish this name *Menuu* is applied to the Turks of Asia Minor.

The cases of the nouns, and the terminations of the verbs, also serve to show the Mongolic character of the language, as follows :—

Nominative, <sup>1</sup>	-s (as in Cassite, and in some instances in Akkadian).
Genitive, "of,"	-n, Akkadian, -n, Turkish, -n.
Dative, "to,"	-a, " " -ch.
Locative, "at,"	-da, " " -da, " -deh.
Accusative	-i, " " -a, -i.
Ablative, "from,"	-dan, " " -den.
Instrumental, "by,"	-la, " " -leh, -li.
Comitative, "with,"	-laan " " -ailan.
Causative, "for,"	-ikku, Medic, -ikku, -ichun.

The verb would require much study to understand with certainty, but the following seem to be probable :—

*Infinitive*, a prefixed *ni* occurs for the active, as in Akkadian : the passive appears to be *-man*.

*Past tense*, 1st singular, *-ta* (Medic, *-ta*), 3rd singular, *-sa* (Medic, *-s*).

*Subjunctive*, 3rd singular, *-sena* (Medic, *-sne*).

*Imperative*, 3rd singular, *-s* (Medic, *-s*).

The greater part of the syllabary is also the same used later in Medic.

<sup>1</sup> NOTE.—The suffix *ippi*, added to the nouns, seems to form the definite case. It does not appear to be a plural. It is to be compared with what Lenormant calls the "absolute case" in Akkadian, which he compares with *-b*, the Lappaccusative, Samoyed *-p*, Mongol *-ben*. Castren derives it from the pronoun of third person, which is the Akkadian demonstrative *b*. In our letter, however, *-ippi* may also be the termination of the third person of verbs in a certain tense, as in Medic also, and apparently in Akkadian. This does not,

In some passages the number of proper names renders the explanation somewhat more easy, but the number of words used is very great, and many of them are probably new, and not to be found in the small stock of inscriptions in cognate languages already understood. It is clear that the general subject relates to the sending of messengers, and to the interpretation of the letter; and the presents sent are also mentioned, while the last part seems to refer to the marriage of a lady. There are also passages in which, as Dr. Sayce has pointed out, the gods are invoked, including *Ammon* of Egypt, and the Akkadian god *Ea*, with *Tessub*, who is already known to have been a god compared by the Assyrians with *Rimmon*.

If, as seems to me certain from the considerations above noted, the language is one like Akkadian and Hittite (and indeed several of the words are the same used by the Hittite prince Tarkondara in writing to Amenophis III), it is clear that the syntax of a Turanian language must be strictly followed, the verb always standing at the end of the phrase, and not, as in Aryan speech, often first. None of the known words are Aryan, which it is almost unnecessary to say that they are not Semitic. The language, when fully understood, is likely to be of great value in the study of Hittite; and it appears to me that some of the words, and nearly all the pronouns and terminations, are the same found on the Hittite monuments. This view as to the language being Hittite is, I understand, also held in Germany.

I venture on a tentative translation of some of the passages which are most perfect, though these may be subject to revision. The pious invocations are in the same tone found in passages in the Assyrian letters of Dusratta. Thus early in the letter (line 85-90) he prays to "Ammon and Simigin, to Ea, the King of Life," that they "may hasten very speedily . . . assisting also my speech to be spoken in wisdom."

The letter appears to open with good wishes for the countries of the two kings of Egypt and of Mitani in the native language, and then refers to what had happened in the time of Suttarna.

Dusratta introduces his messengers, Manis and Gilias, in separate paragraphs, and proceeds to say: Amenophis, my Egyptian friend, knows that I live far off. I dwell in the city of *Ikhîbin* (or *Idhîbin*), which is the city of the god Simigin, whom my father adored as a deity." The next passage (99) seems to mean, "let these whom I have sent (so far?) be received, soon to approach the hall of thy palace." "Gilias . . . I have despatched who will add what does not appear in writing." "The god Simigin I have besought to prosper these things, prospering these . . .

however, show, as some have argued, that there was no real distinction of verb and noun—which would be impossible in so fully developed a language. In English we do not consider that we have no distinction of these parts of speech, because we use *s* as a termination for both, and also for the possessive. This suffix seems to be the Hittite *-Pe*, represented by a long vase as distinguished from the round pot, *-a*.

from the Land of the Minyan race, with the god Ammon, and with Ea the King of Life."

After various compliments a paragraph referring to "tablets" occurs, and apparently Dusratta asks for an answer. Dr. Sayce renders the word *gipanu*, "papyrus" (Akkadian *gi*, "reed," *pa*, "leaf," *nu* "letter," would be the explanation in such case I should suppose, *i.e.*, "a letter on the pith of the reed"). Further on (col. 2, line 60), Dusratta appears to speak of the treasures sent with the messengers, "Invoking the gods to guard the presents with him," "an account being taken." "Gold" is here mentioned, "heaped up before you in abundance, bountifully given, let the gold be received as a gift." He proceeds: "By word of mouth, by writing, by interpretation, . . . replying soon . . . answering my request quickly."

The writer then again (line 75) invokes the gods, Rimmon and Ammon, "may they cause my words to be received, through their wisdom, if I speak not clearly." This subject occupies a good many lines which follow, after which the writer returns to the question of Manis and the letter, which he apparently is to explain.

Another important passage, well preserved, is at the beginning of the back of the tablet. This refers to the "interpretation" or "translation" of the strange tongue. Dusratta then proceeds to speak of something connected with the letter which was to be done by Manis "with Giliat," and again invokes the assistance of the gods: this section ends up with the names of additional envoys, "also besides Manis, the envoy, to my brother, also besides Giliat, Artesupas and Asalinas are messengers. Asalinas, the interpreter of Giliat, my secretary" (this last clause is due to Dr. Sayce) "since he speaks this language together with my brother's language . . . in my embassy to my brother I have sent."

The next paragraph refers to a present of a gold throne (this has been pointed out already by Dr. Sayce) which was sent with the envoy. Dusratta then begins to reach the subject of his letter, which regards the affiancing or marriage of a lady. The expression, *nin es ie*, clearly means "twenty-three months" (line 60), *ie* being the Akkadian *ai*, "month," "moon" (Turkish آي in some dialects, *ye*), and the gods are again invoked in this connection, after which the tablet is much injured. When it again becomes more perfect other deities are mentioned, including *Sin*, the Moon-god, and Ammon. Dusratta's own name occurs lower down (line 127) with the distinctive word *umun*, "Lord," preceding it, followed by the name of Amenophis III, of Egypt." In the next section a country called *Pal musri* is noticed. The passage seems to refer generally to difficulty in understanding, and to include the sentence, "my brother had ordered a clearly written reply." Then follows a clause possibly referring to the Hittites (line 16) "*uluâ Khati-ma-an danga Esippias dan maan nuukka tilan âpi latakhkha Senippiâhallan uru Kharanu saussena*," perhaps to be rendered, "the chieftain of my people of the land of the Hittites, all


the people whom I conquered with my brother; he rules in the city of Harran."<sup>1</sup> As regards this passage it is to be noted that Egyptian records prove that Amenophis III, at some time during his long reign, had entered the country beyond the Euphrates, where he is said to have hunted lions; and that Harran is usually supposed to have been in the same country, being the abode of Abraham on his way from Babylonia to Syria.

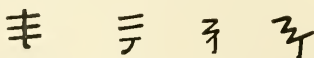
The letter continues to speak of the Land of the Minyans and of Embassies, and apparently of a reply to be sent. It then refers (line 35) to the time of his father and to tablets then written; also (line 53) to Artatas, the grandfather of Dusratta, "before my father," who again is called "my grandfather, my father's father" (as Dr. Sayce has pointed out). It continues (line 67) to refer to Gold in connection with his grandfather and father, and to a contract in the Land of the Minyans "contracted in the presence of the images" (of the gods). This contract seems to refer to a lady (line 90), "the woman my . . . affianced by my brother in the presence of the images," and soon after we read of "my god Sausbe in his presence in the city of Nineveh." The lady's name (line 103) was Tadukhepa, and the passage might perhaps be rendered "Tadukhepa to be taken in marriage, Dusratta of Mitani, ever a friend, desires of his friend Amenophis III., the Egyptian. In the final paragraph there are two references to the "Princes ruling (or living) in the Land of the Minyan race," with a reference to "renewal of friendship and understanding," which no doubt would result from the marriage. Such appears to me to be the general subject of the longest and perhaps most interesting letter in the Tell Amarna collection.

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## THE LACHISH INSCRIPTION.

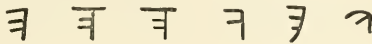
By MAJOR CONDER, R.E.

DR. SAYCE'S proposal (*Quarterly Statement*, April 1891, p. 158) to read *Li Semak*, depends mainly on his understanding of what he supposes to be the Samech. This appears to me to be quite untenable, because Phœnician letters consist of joined strokes, and not of strokes independent of each other, as in the case of the signs  which he renders as Samech. I subjoin the various early forms of the letter Samech.



<sup>1</sup> The Semitic letters from Tell Amarna speak of the Hittites very often. One mentions a Hittite prince fleeing to the land of Mitani. In others they are noticed as rebels seizing the city of Tunep (Tennib) which belonged to them also in 1360 B.C.

In none of these is there any resemblance to the two letters of the Lachish text, which Dr. Sayce runs into one; whereas, taken separately, they are both well-known forms of the *Heh* and *Nun*. The suggestion of the scholar who does not append his name to his proposal is equally unsatisfactory. He neglects the *Nun* altogether. The *Heh* to which he would give the additional crooked stroke is one of the most constant letters of the Phœnician alphabet.



The early forms are as shown. None of them have more than four strokes. Both the proposed readings must therefore, I think, be rejected, as unsupported by any extant evidence—so far as I am aware. Both scholars seem to me to be puzzled by the last letter but one, which they render *Mim*, though it is closely like a form of *Nun* known from the seals of 8th cent. B.C.

## THE HEBREWS ON THE TELL AMARNA TABLETS.

By MAJOR CONDER, R.E.

IN the excellent translations of some of these invaluable letters by Father A. J. Delattre, S.J., it is noticed that the name of Canaan is spelt with the same sign which is used in the name of Gaza, to represent the Hebrew guttural *y*, not with the value *Kh* or *Gh*, but with the value 'a. This agrees with what I have already published as to the 'A *biri* in these letters being the Hebrews. As the task of translation goes on it becomes apparent that the language and the system of characters used by the chiefs of Phœnicia and Canaan who were subject to the King of Egypt are neither of them purely Assyrian or Babylonian, but represent the Phœnician or Amorite language and writing of the age of Joshua.

## BAAL GAD.

By MAJOR CONDER, R.E.

THIS is a somewhat important place, being the north limit of the Land of Israel according to the Book of Joshua (xi, 17; xiii, 5). Robinson placed it at Baniyas, but its position is defined in the two passages as being "in the valley of Lebanon, under Mount Hermon," and the region inhabited by the Giblites is said to have extended thence to the entrance to Hamath. It seems to me, therefore, more probable that it should be

sought on the north side of Hermon, since Baniás could not be described as being in the valley of Lebanon, being in the Jordan Valley.

There is an important spring called 'Ain Jideideh, on the north of Hermon, on the road from Damascus to Beirut, and the plain here is called the Plain of Jideideh. This is close to the south end of the valley of Lebanon, and is at the foot of the north spurs of Hermon. The name comes from the root  $\text{גִּד}$ , the same from which the Hebrew Gad is taken. It appears to me, therefore, that no position could be more suitable for Baal Gad, and that the name is preserved at a spring, as are the names of several ancient cities in Palestine, such as Chezib, for instance.

## NOTES ON THE QUARTERLY STATEMENT.

By MAJOR CONDER, R.E.

DR. POST'S useful papers on the population sometimes apply rather to the Christian town population of Syria than to the peasantry of Palestine proper, or to the nomadic Arabs. Most of his statements I am able to confirm, as far as my six years' experience goes, but at times his experience is different to my own.

Pp. 110-111. The word *fâs*, pl. *fâs*, was usually applied in my hearing not to a hatchet (an instrument I never remember seeing among the peasantry), but to the common hoe.

For the axe the Turkish word *Balta* I found to be commonly employed.

P. 114. The form *murej* instead of *murej* for the threshing sledge can hardly be considered a "corruption," because it is the older form, being the Hebrew *moreg*, and this is a proof of the archaic character of the peasant dialect.

P. 117. One custom in connection with the harvest, which may be regarded as superstitious or religious, Dr. Post does not mention, namely, leaving the corner of the field unreaped. Such a custom existed among the Celts in our own islands, and exists among the peasantry in India. In both cases the untilled part was sacred to the genius of the ground.

P. 121. The hyssop is often identified with the *Origanum*, as Dr. Post proposes, but Dr. Chaplin pointed out to me that the plant called *Miriâmîtyeh* is used to the present day much as hyssop was used, and grows on the walls of ruins as the hyssop is described to have grown in the Bible. This is the *Satureia*, a kind of plant resembling mint, and believed by scholars to be the  $\text{ῥῖσσωπος}$ , or hyssop of the Greeks. The *Zâter*, which is properly the thyme, never, as far as I know, grows on walls, and is therefore hardly to be identified with hyssop. It is very common on the soft chalky hills throughout Palestine.



Many of the plants enumerated show their foreign derivation by their names, and probably came into Syria in post Christian times—such as the orange, potato, and perhaps the mulberry. Others mentioned in my recent paper on Greek words used by the Jews are also foreign, such as the lupine, pea, rice, tomato. Tobacco is in colloquial speech *Dokhân*, “smoke.” The strong tobacco for the water-pipe is called *Tumbak*. The beech is unknown in Palestine itself. The *Derdâr* in the south is not a plane, but a thorny tree of the desert.

P. 126. As regards features, we observed that each village, as a rule, had its characteristic physiognomy, due to inter-marriage of the villagers, as I should suppose. In the north the type resembles that of the Assyrian monuments, in the south it approaches the Egyptian. The pure Arab type beyond Jordan is far more aquiline, and purely Semitic. The Christian population has probably much Greek blood in its veins, and often a good deal of Italian blood also. The peasantry may have Turanian blood of various stocks—from the Hittite down to the Turk. The Arab proper, in type and in speech, approaches nearer to the true Semitic type of Arabia. As regards height, I have met a good many very tall men in Palestine, especially in Philistia and beyond Jordan. The ugly ears of the Moslems—often bent down and always standing out—are accounted for by the great weight of the turban. The *temper* of Christian women is not, so far as I know, superior to that of the Moslem women. The recriminations of Christian women at the Well of Nazareth, for instance, are quite equal to those of their Moslem sisters. The beauties of Nazareth and Bethlehem are believed to have much Italian blood in their veins. Among the Druzes of Carmel I have seen a good many women quite as beautiful as any of the Christians, and others among the Adwân (who do not wear the veil) superior in type of aquiline beauty to any of the Christians. I have also personal experience of the very great muscular strength of many of the men, both among peasants and Arabs. Dr. Post’s remark on this point (p. 127) seems rather to apply to the townfolk. The keenness of eyesight and power of rapid observation, among the lower classes, is also worthy of notice.

I do not think that artists will agree with Dr. Post as to the want of taste among Syrians. The Oriental conception of colour is superior to that of most western peoples, as evinced both in costume and also in their fabrics.

The reasons for the position of towns and villages standing on heights appear to me to be: 1st, for security; 2nd, because the low ground near water is usually feverish. I doubt its being influenced by any particular love of scenery.

P. 134. Although the Syrians are very unpunctual, my experience always was that they were remarkably faithful to agreements, whether sealed or verbal. I have often entrusted muleteers with large sums of money, and never once lost any so entrusted. The sanctity of a trust is one of the strongest sentiments of the peasantry.

P. 137. The remarks as to the virtue of married women do not agree with what I have heard from other residents. Many clandestine meetings are arranged, in remote fields or unfrequented spots, and the lepers are often the means of conveying such messages. The poisoning common among women in Damascus is said to be mainly due to such irregularities. The morality of the herdsmen is also said to be notoriously bad.

The common word *Yallah*, used in all cases when "haste" is desired has, I believe, nothing to do with the name of God, or the invocation *Ya-allah*, "O God," though this is the common explanation. It is originally a Turkish word from the root *yel*, "to hasten," and is probably adopted from the Turks, who are the persons usually most accustomed to "hurry" their Semitic subjects.

P. 145. The assertion that "religion is universal" is not my experience. The Arabs have little religion, beyond a belief in the presence of their ancestral spirits, and of demons in general. They very rarely are found to pray. The peasantry also are very ignorant of the tenets of Islam, and their beliefs belong to the old superstitions of earlier days. Of these superstitions Dr. Post has as yet told us nothing.

P. 187. I must apologise for supposing Herr Schumacher's tomb at Shefa 'Amr to be the same I explored. The similarity is remarkable.

P. 189. As regards the derivation of *Millo*, we may with advantage refer to the derivation given by Gesenius, who does regard the *mim* as servile. He derives it from the common Hebrew and Arabic root "to fill," מִלֵּא, and renders it "mound," or "rampart."

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## THE GUTTER NOT NEAR THE FULLER'S FIELD.

By REV. W. F. BIRCH.

IN the astounding identification of "the conduit of the upper pool which is in the highway of the fuller's field" (2 Kings, xviii, 17), with the top of the Ophel shaft (*i.e.*, the gutter) Mr. St. Clair finds *good* (!) evidence (p. 190) that "the shaft was *outside* the wall." As this would ruin my gutter, let me apply a little healthy criticism to his paper.

He says, "The upper pool is believed to be the Virgin's Fountain." Commonly, the worse the error the more it is believed; yet he omits to add by whom or on what evidence such a thing is believed. He and I agree that the Virgin's Fountain represents Gihon, but that Gihon was identical with the upper pool is (so far as I know) only a conjecture of Mr. St. Clair's, improbable for at least two reasons. (A) Names of places are not interchanged in the Bible without a note of explanation; and

(ii) the remains of the old conduit (*Quarterly Statement*, 1872, 48 ; 1884, 71) in the rock east of the Damascus gate (where I should place Golgotha), which conduit must have carried water to or from some pool, imply that an old pool existed at a *higher* level than Gihon. Such a pool towards the northern part of Jerusalem would more suitably be named "the upper pool." Josephus also speaks of *the fuller's monument* east of the Damascus gate, quite counterbalancing Eusebius' quotation from Hegisippus about *the fuller's club*. The commonly accepted site for the upper pool, west of the Jaffa gate, is also far more suitable than Gihon.

To strengthen his case, Mr. St. Clair observes that "The place spoken of is not really stated to be *in* the highway of the fuller's field ; for in the Hebrew text the word *in* is not found," and so he renders the words as at "the end of the channel of the upper pool, the stairway of the fuller's field." Here, surely, Mr. St. Clair trusts to his memory instead of *verifying* his reference, or else he goes to the Greek version for his Hebrew, since Is. vii, 3, gives לִשְׁבִיל before *M'sillah*, while Is. xxxvi, 2, and 2 Kings xviii, 17, both prefix בּ.

Further, one might ask why it should be probable that Hezekiah lived in David's former house rather than in Solomon's palace ; and why the Hebrew word that suggests (p. 189) that Isaiah went outside the city to meet Ahaz should not again suggest that Eliakim did the same to meet Rab-shakeh.

It is needless, however, to press even one of these objections until someone can devise answers to the fatal questions asked in *Quarterly Statement*, 1889, 207, where I pointed out that the gutter and the Siloam tunnel both refuted Mr. St. Clair's theory. *If* the entrance to the Ophel shaft had been *outside* the wall of the city, *i.e.*, if the city wall did not reach as far south as that entrance—

1. Why do we read in 2 Chron. xxxiii, 14, of "a wall without the city of David on the *west* side of Gihon, in the valley" ?
2. Why should Hezekiah stop "the upper spring of the waters of Gihon and bring them by a subterraneous course" (1890, 210) . . . to Siloam, where the enemy could draw the water just as easily, not to mention his going down by "the stairway" or Ophel passage (if outside the city wall) ?
3. What possible object could there be in making this rock-cut passage ? Why grope in the dark when you can walk in the light ?

It is pleasing to see (p. 190) that to suit the son of Amoz, Mr. St. Clair no longer objects to the Ophel wall extending "a little more southward than the wall found by Warren, though he objected to its extension (1890, 48) to suit the son of Zeruiah. Might it not be well at once to forgive the latter, and concede as many "little mores" as will reach to the Ophel shaft ? This single concession would remove the greatest blot from his theory. When he leaves the entrance *outside* the wall merely to

spite Joab and Araunah, Mr. St. Clair overlooks that the sole gain to any Jew or Jebusite using the passage would be that, while he was in it, he would not on a wet day miss his umbrella. In every other respect, to trip along the hill would be more enjoyable than to tramp through the gloomy dangerous passage.

Mr. St. Clair, nevertheless, is a good step ahead of my other opponents on the question of the age of the shaft. They with one voice attribute it to Hezekiah; he regards it as already existing in the time of Ahaz; but *why*, and *when*, and *by whom*, it was made, he prudently passes over in silence, though since 1878 only one answer has seemed to me possible.

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THE  
PALESTINE EXPLORATION FUND.

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NOTES AND NEWS.

At the annual meeting of the General Committee held at the Office of the Fund on July 21st, the following gentlemen were unanimously elected members of the General Committee, namely, Lieut.-Col. Goldsmid, Joseph Sebag-Montefiore, Esq., Isidore Spielman, Esq., C.E., John Dickson, Esq., Rev. R. Appleton, W. M. Flinders Petrie, Esq., G. F. Watts, Esq., F. D. Mocatta, Esq.

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More than one speaker at the meeting referred to the importance of the work of the Fund being made more widely known in public schools and other educational establishments, and to the desirability of arranging for periodical lectures, in order to draw attention to the valuable results which have been obtained. The latter suggestion is engaging the attention of the Executive Committee, and it is greatly to be hoped that friends throughout the country who may be connected in any way with schools and colleges will endeavour to introduce regular instruction with respect to the work of the Fund and its results.

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Herr Schiek has sent an interesting report of his observations during the quarter, including an account of the many changes which have taken place in modern Jerusalem during the past few years. His further report on excavations at the pool north of the Damascus gate, near the tombs of the kings, will be published in January.

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Mr. Bliss's report of his excavations at Tell-el-Hesi will be found in the present number. The work will be renewed there in the course of the present month. *Contributions are urgently needed towards the expense.* Mr. Bliss also furnishes an interesting letter on "Excavating from its picturesque side."

The museum of the Fund, at 24, Hanover Square, is now open to subscribers between the hours of 10 a.m. and 5 p.m., except on Saturdays, when it closes at 2 p.m.

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Mr. G. R. Lees writes that the tombs mentioned at page 89 of the *Quarterly Statement* for April last as being "350 yards north of Damascus Gate," are situated "850 yards north of the so-called tombs of the kings." Mr. Schick has noted in his report that the tombs are numbered 29 on the plan in the Jerusalem volume of the *Memoirs*, page 343. The squeezes from ossuaries reported on at page 241 of the July number were those sent home by Mr. Lees.

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The Committee will be glad to receive donations of Books to the Library of the Fund, which already contains many works of great value relating to Palestine and the Holy Land.

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It may be well to mention that plans and photographs alluded to in the reports from Jerusalem and elsewhere cannot all be published, but all are preserved in the offices of the Fund, where they may be seen by subscribers.

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The first volume of the "Survey of Eastern Palestine," by Major Conder, has been issued to subscribers. It is accompanied by a map of the portion of country surveyed, special plans, and upwards of 350 drawings of ruins, tombs, dolmens, stone circles, inscriptions, &c. The edition is limited to 500. The first 250 subscribers pay seven guineas for the three volumes; subscribers to the "Survey of Western Palestine" are privileged to have the volumes for this sum. The price will be raised, after 250 names are received, to twelve guineas. The Committee are pledged never to let any copies be subscribed for under the sum of seven guineas. Mr. A. P. Watt, 2, Paternoster Square, is the Sole Agent. The attention of intending subscribers is directed to the announcement after Maps and before Contents of this number.

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Mr. H. Chichester Hart's "Fauna and Flora of Sinai, Petra, and the Wâdy 'Arabah" has been completed and sent out to subscribers.

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The Rev. Prof. Theodore F. Wright, Ph.D., of Cambridge, Mass., U.S., has been appointed by the Executive Committee, Lecturer and Honorary General Secretary for the Fund in the United States.

The following gentlemen have kindly consented to act as Honorary Local Secretaries :

Rev. F. C. Norton, Ditchling Vicarage, Sussex.

Rev. Camden M. Cobern, Ph.D., 309, S. Warren Avenue, Sagnion Michigan, U.S.A.

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The books now contained in the Society's publications comprise an amount of information on Palestine, and on the researches conducted in the country, which can be found in no other publications. It must never be forgotten that no single traveller, however well equipped by previous knowledge, can compete with a scientific body of explorers, instructed in the periods required, and provided with all the instruments necessary for carrying out their work. The books are the following (*the whole set (1 to 13) can be obtained by subscribers to the Fund by application to the Head Office only (24, Hanover Square, W.), for £3 0s. 0d., carriage paid to any part in the United Kingdom only*):—

By Major Conder, R.E.—

- (1) "Tent Work in Palestine."—A popular account of the Survey of Western Palestine, freely illustrated by drawings made by the author himself. This is not a dry record of the sepulchres, or a descriptive catalogue of ruins, springs, and valleys, but a continuous narrative full of observations upon the manners and customs of the people, the Biblical associations of the sites, the Holy City and its memories, and is based upon a six years' experience in the country itself. No other modern traveller has enjoyed the same advantages as Major Conder, or has used his opportunities to better purpose.
- (2) "Heth and Moab."—Under this title Major Conder provides a narrative, as bright and as full of interest as "Tent Work," of the expedition for the *Survey of Eastern Palestine*. How the party began by a flying visit to North Syria, in order to discover the Holy City—Kadesh—of the children of Heth; how they fared across the Jordan, and what discoveries they made there, will be found in this volume.
- (3) Major Conder's "Syrian Stone Lore."—This volume, the least known of Major Conder's works, is, perhaps, the most valuable. It attempts a task never before approached—the reconstruction of Palestine from its monuments. It shows what we should know of Syria if there were no Bible, and it illustrates the Bible from the monuments.
- (4) Major Conder's "Altaic Inscriptions."—This book is an attempt to read the Hittite Inscriptions. The author has seen no reason to change his views since the publication of the work.
- (5) Professor Hull's "Mount Seir."—This is a popular account of the Geological Expedition conducted by Professor Hull for the Committee of the Palestine Fund. The part which deals with the Valley of Arabah will be found entirely new and interesting.

- (6) Herr Schumacher's "Across the Jordan."
- (7) Herr Schumacher's "Jaulân."—These two books must be taken in continuation of Major Conder's works issued as instalments of the "Survey of Eastern Palestine." They are full of drawings, sketches, and plans, and contain many valuable remarks upon manners and customs.
- (8) "The Memoirs of Twenty-one Years' Work."—This work is a popular account of the researches conducted by the Society during the past twenty-one years of its existence. It will be found not only valuable in itself as an interesting work, but also as a book of reference, and especially useful in order to show what has been doing, and is still doing, by this Society.
- (9) Herr Schumacher's "Kh. Fahil." The ancient Pella, the first retreat of the Christians; with map and illustrations.
- (10) Names and Places in the Old and New Testament and Apocrypha, with their modern identifications, with reference to Josephus, the Memoirs, and *Quarterly Statements*.
- (11) Besant and Palmer's "History of Jerusalem."—The "History of Jerusalem," which was originally published in 1871, and has long been completely out of print, covers a period and is compiled from materials not included in any other work, though some of the contents have been plundered by later works on the same subject. It begins with the siege by Titus and continues to the fourteenth century, including the Early Christian period, the Moslem invasion, the Mediæval pilgrims, the Mohammedan pilgrims, the Crusades, the Latin Kingdom, the victorious career of Saladin, the Crusade of Children, and many other little-known episodes in the history of the city and the country.
- (12) Northern 'Ajlûn "Within the Decapolis," by Herr Schumacher.

By Henry A. Harper—

- (13) "The Bible and Modern Discoveries."—This work, written by a Member of the Executive Committee of the Palestine Exploration Fund, is an endeavour to present in a simple and popular, but yet a connected form, the Biblical results of 22 years' work of the Palestine Exploration Fund. The writer has also availed himself of the discoveries made by the American Expeditions and the Egyptian Exploration Fund, as well as discoveries of interest made by independent travellers.

The Bible story, from the call of Abraham to the Captivity, is taken, and details given of the light thrown by modern research on the sacred annals. Eastern customs and modes of thought are explained whenever the writer thought that they illustrated the text. This plain and simple method has never before been adopted in dealing with modern discovery.



To the Clergy and Sunday School Teachers, as well as to all those who love the Bible, the writer hopes this work will prove useful. He is personally acquainted with the land; nearly all the places spoken of he has visited, and most of them he has moreover sketched or painted. It should be noted that the book is admirably adapted for the School or Village Library.

By Guy le Strange—

- (14) "Palestine under the Moslems."—For a long time it had been desired by the Committee to present to the world some of the great hoards of information about Palestine which lie buried in the Arabic texts of the Moslem geographers and travellers of the Middle Ages. Some few of the works, or parts of the works, have been already translated into Latin, French, and German. Hardly anything has been done with them in English, and no attempt has ever been made to systematise, compare, and annotate them.

This has now been done for the Society by Mr. Guy le Strange. The work is divided into chapters on Syria, Palestine, Jerusalem, and Damascus, the provincial capitals and chief towns, and the legends related by the writers consulted. These writers begin with the ninth century and continue until the fifteenth. The volume contains maps and illustrations required for the elucidation of the text.

The Committee have great confidence that this work—so novel, so useful to students of mediæval history, and to all those interested in the continuous story of the Holy Land—will meet with the success which its learned author deserves.

By W. M. Flinders Petrie—

- (15) "Lachush" (one of the five strongholds of the Amorites).—An account of the excavations conducted by Mr. Petrie in the spring of 1890, with view of Tell, plans and sections, and upwards of 270 drawings of the objects found.

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By Trelawney Saunders—

- (16) "An Introduction to the Survey of Western Palestine, describing its Waterways, Plains, and Highlands, with special reference to the Water Basin—(Map. No. 10)."
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The new map of Palestine, so long in hand, is now ready. It embraces both sides of the Jordan, and extends from Baalbek in the north to Kudesh Barnea in the south. All the modern names are in black; over these are printed in red the Old Testament and Apocrypha names. The New Testament, Josephus, and Talmudic names are in blue, and the tribal possessions are tinted in colours, giving clearly all the identifications up to date. It is the most comprehensive map that has been published, and will be invaluable to universities, colleges, schools, &c.

It is published in 21 sheets, with paper cover; price to subscribers to the Fund, 24s., to the public, £2. It can be had mounted on cloth, rollers, and varnished for hanging. The size is 8 feet by 6 feet. The cost of mounting will be extra (*see* Maps).

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Branch Associations of the Bible Society, all Sunday School Unions within the Sunday School Institute, the Sunday School Union, and the Wesleyan Sunday School Institute, will please observe that by a special Resolution of the Committee they will henceforth be treated as subscribers and be allowed to purchase the books and maps (by application only to the Secretary) at reduced price.

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The income of the Society, from June 18th to September 18th was—from annual subscriptions and donations, including Local Societies, £158 5s. 5d.; from all sources, £563 1s 5d. The expenditure during the same period was £737 3s. 2d. On September 22nd the balance in the Bank was £345 13s. 4d.

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Subscribers are begged to note that the following can be had by application to the office, at 1s. each:—

1. Index to the *Quarterly Statement*, 1869–1880.
  2. Cases for Herr Schumacher's "Jaulân."
  3. Cases for the *Quarterly Statement*, in green or chocolate.
  4. Cases for "Abila," "Pella," and "'Ajlûn" in one volume.
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Early numbers of the *Quarterly Statement* are very rare. In order to make up complete sets, the Committee will be very glad to receive any of the following numbers:—

No. II, 1869; No. VII, 1870; No. III, 1871; January and April, 1872; January, 1883, and January, 1886.

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It having again been reported to the Committee that certain book hawkers are representing themselves as agents of the Society, the Committee have to caution subscribers and the public that they have no book hawkers in their employ, and that none of their works are sold by itinerant agents.

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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.

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.

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The only authorised lecturers for the Society are—

- (1) The Rev. Thomas Harrison, F.R.G.S., Member of the Society of Biblical Archaeology. Address: Rev. Thomas Harrison, Hillside, Benenden, Staplehurst, Kent. His subjects are as follows:—

- (1) *Research and Discovery in the Holy Land.*
- (2) *In the Track of the Israelites from Egypt to Canaan.*
- (3) *Bible Scenes in the Light of Modern Science.*
- (4) *Eastern Palestine.*
- (5) *The Dead Sea and the Cities of the Plain.*

- (2) The Rev. Charles Chidlow, M.A., Caid Vicarage, Llandilo:—

*Recent Discoveries in Bible Lands.*

- (3) Professor Theodore F. Wright, Ph.D., Cambridge, Mass, Honorary General Secretary of the Palestine Exploration Fund for the United States. His subjects are as follows:—

- (1) *The Building of Jerusalem.*
- (2) *The Overthrow of Jerusalem.*
- (3) *The Progress of the Palestine Exploration.*

Application for Lectures may be either addressed to the Secretary, 24, Hanover Square, W., or sent to the address of the Lecturers.

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It has been asked why Mr. St. Clair's name has been omitted from the list of lecturers. The reason is that during the last season Mr. St. Clair has been lecturing on his own responsibility. His relations with the Committee are, and always have been, of a cordial character, and the Committee desire to express their sympathy with him in his efforts to awaken and sustain interest in "Eastern Exploration."

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## ANNUAL MEETING.

THE Annual Meeting of the General Committee of this Society took place at the Office, 24, Hanover Square, W., on July 21st. James Glaisher, Esq., F.R.S., occupied the Chair. Among those present were Major-General Sir F. J. Goldsmid, Surgeon-General Hutchinson, M.D., the Revs. C. D. Ginsburg, D.D., W. J. Stracey, W. Henry Rogers, D.D., and A. Löwy, J. D. Crace, Esq., H. C. Kay, Esq., Wm. Simpson, Esq., B. Woodd Smith, Esq., Dr. Chaplin, &c.

The Chairman mentioned that he had received letters regretting inability to attend from Viscount Sidmouth, J. R. Barlow, Esq., Sir William Muir, D. MacDonald, Esq., Rev. Joseph Angus, Henry S. Perry, Esq., Rev. W. F. Birch, Jas. Melrose, Esq., Major Conder, R.E., &c.

The Annual Report of the Executive Committee for the past year was then read.

## GENTLEMEN,

Your Executive Committee, elected at the last General Meeting on July 1st, 1890, beg now, on resigning their office, to render an account of their administration during their term of office for the past year.

They have held twenty-one meetings since the last Annual Report was issued.

They have to deplore the loss by death of the late Archbishop of York, the President of the Society for twenty-four years, of the late Dean of Wells, and of the Rev. Henry Geary, who was for more than twenty years one of the Lecturers for the Fund.

They have great satisfaction in announcing the acceptance by His Grace the Archbishop of Canterbury of the Presidency of the Fund.

The main work of the year has been the excavations at Tell-el-Hesy. Some delay occurred in resuming the work. Mr. Flinders Petrie's old love for Egypt was so strong that your Committee had to look afield for a fresh explorer. It was no easy matter to find one suitable, for, as you well know, so many qualifications combined in one man are necessary.

Mr. Bliss, the son of the President of the American College at Beirout, being highly recommended by the Rev. Dr. Post for the position, was appointed, and proceeded to Egypt, where he underwent a course of instructions with Mr. Petrie in conducting excavations.

In February he arrived at Jaffa, and at once began arrangements for starting work, his several letters reporting progress will be found in the *Quarterly Statement*.

His detailed report of the season's operations has just come to hand, and appears in the present number.

Herr Schick continues to report on all newly discovered objects in or near Jerusalem. His endeavours to find the continuation of the rock-cut channel south of the Virgin's Fountain were at last rewarded by success, though not before sinking several shafts over 30 feet in depth. On striking the channel, which is partly a rock-cut tunnel, he followed it for over 200 feet. What this channel or drain belongs to, or where it comes from or leads to, has not yet been decided. Unfortunately, the work was put a stop to by order of the Governor, owing, it is thought, to the lamentable removal of the Siloam inscription, which has roused the suspicions of the Turkish authorities.

Everyone interested in the archæology of Palestine will have learned with regret that this famous inscription was cut out of the rock tunnel and carried away some time during last year. It was broken in removal and the fragments sold to a person in Jerusalem. On receiving this intelligence your Executive Committee immediately forwarded to His Excellency Hamdi Bey a resolution expressing their regret and their hope that steps would be taken to secure the fragments. A few weeks later Mr. Kayat, Acting British Consul at Jerusalem, reported that through his endeavours the inscription had been recovered and handed over to the Turkish authorities for transmission to Constantinople.

About the time of the removal of this inscription another "Siloam inscription" was produced, and copies of it sent to several persons. There is one in this office. It is a clumsy forgery in seven lines of Phœnician characters.

Among the more important discoveries of the year are:—

An elaborate rock-cut tomb, and an ancient bath and cistern near Bethany.

Some fine mosaic work in three colours at the so-called "House of Caiaphas."

Another rock-hewn chapel with a Greek inscription at Silwân.

The springing of an arch in "Solomon's Stables" by Mr. Lees. The lower masonry and the part of the arch left are similar to Robinson's Arch and the fragment of an arch near the south-east corner. A paper on this subject by Mr. Wrightson, C.E., a report with plans by Herr Schick, and a photograph of the arch by Mr. Lees, have been published in the *Quarterly Statement*.

Herr Schick and Mr. Lees sent some squeezes and tracings of Hebrew inscriptions and ornamentation found on some ossuaries that were deposited in rock-hewn tombs lately opened up north of the city, on the west side of the Damascus road. These were forwarded to Professor Clermont-Ganneau, who has contributed valuable notes respecting them, which will be found in the current number of the *Quarterly Statement*.

Herr Schumacher, acting on instructions from the Committee, proceeded to Kana, a village east of Tyre, and photographed (we believe for the first time) and examined the sculptured figures mentioned by Guérin and Renan. No inscriptions were found. Major Conder believes the figures to be of the Roman or Greek period.

Your Chairman has continued his valuable papers on the "Comparison of the Atmospheric Pressure and Temperature in Palestine and in England in the Ten Years ending 1889." These papers are teeming with information on the climate of Palestine.

An important paper on the Maronites by Mr. F. J. Bliss was received early in the year. The Committee hope to publish this early in the coming year.

The Rev. Dr. Post has contributed an account of his trip to Palmyra, and his second valuable essay on the "Seets and Nationalities of Palestine."

Dr. Chaplin reported the discovery, at Samaria, of a Hebrew weight, having an inscription of two lines, in ancient Hebrew characters, which, translated by Professor Sayce, reads: "Quarter of a quarter of a Netzeg." It is believed to belong to the 8th century B.C.

Professor Hayter Lewis obtained, through the kindness of Miss Amy G. Smith, a squeeze of an inscribed Assyrian tablet, which was found many years ago, when the Sisters of Zion were making excavations near the Via Dolorosa. Mr. E. Wallis Budge reports that it is a fragment of an inscription of Sargon (705-721 B.C.), and came from that monarch's palace at Khorsabad.

The premises in Adam Street being now too small for the purposes of the Fund, the commodious rooms in which we are met have been taken.

Your Executive Committee are pleased to report that the collection of objects of interest brought home by officers of the Fund is now entirely in their own hands, and is being arranged for exhibition at the Office of the Fund.

The Rev. Greville J. Chester has rendered valuable assistance in arranging these objects, and Mr. Flinders Petrie has classified and dated the pottery, &c., found during his excavations at Lachish.

Your Treasurer, Mr. Walter Morrison, has presented to the Fund for Exhibition in the Museum room, six beautiful water-colour paintings by Mr. William Simpson.

1. Bahr-el-Kebir, or the Great Sea (underneath the Haram area).
2. The Well of the Steps.
3. Column found in driving a Gallery.
4. Scarped Rock in Gallery.
5. Fallen Voussoirs of Robinson's Arch.
6. South-east Corner of the Haram Wall.

These paintings are quite unique, owing to most of the places having been filled at the conclusion of Sir Charles Warren's excavations. The best thanks of the Committee are due to Mr. Morrison for his valuable gift.

The Executive Committee have pleasure in reporting that since the last General Meeting 207 new subscribers have been added to the list of annual subscribers.

#### PUBLICATIONS.

The new publications of the year have been—

1. A new, cheap and revised edition of "The Bible and Modern Discoveries," by Henry A. Harper. This edition is very popular, and has met with a steady sale.

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2. Mr. Flinders Petrie's account of his excavations at Tell-el-Hesi was published in January. It is full of detailed information, with many drawings of

the objects found, which are tabulated according to the period they belong to. In the museum room will be found a carefully-classified set of fragments of pottery from Lachish, comprising Phœnician, Amorite, Jewish, and Greek forms, which will be of great value to students of the subject. Corresponding sets have been left by Mr. Petrie at Jerusalem, Jaffa, and Beirât for the instruction of travellers.

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3. "The Fauna and Flora of the Wâdy 'Arabah and Sinai" has been sent out to all subscribers to the first edition in order of application.

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"The Archæological Mission of Professor Clermont-Ganneau." Proofs of the illustrations of this work have been sent to M. Ganneau, who is engaged in arranging them and preparing the letter-press.

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The raised contour map is in progress. Casts of it in three sections have been made, and Mr. Armstrong, when his other duties permit, is closely engaged in working it up for reproduction. It is intended to publish it in plaster of Paris and papier maché. The physical features of the country and Biblical towns will be shown as far as the scale will permit. Fuller information will be given in the *Quarterly Statement*, previous to publication. This very remarkable production of Mr. Armstrong's skill and industry will be of the greatest value for use in higher schools and to students generally.

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Amongst the reports and papers which have been published in the *Quarterly Statements* since the last General Meeting of Committee are the following:—

By Baurath C. Schick—

"The New Road North and East of the City Wall;" "Discoveries at the House of Caiaphas;" "Another Rock-cut Chapel at Silwân;" "Christian Tombs in Jerusalem;" "Excavations on Mount Olivet, at the Second Aqueduct, at the Golden Gate, and at Rujm-el-Kahakir."

By Mr. Flinders Petrie—

"Journals"; "Explorations in Palestine"; &c.

By Mr. F. J. Bliss—

"Letters on the Progress of the Excavations at Lachish."

By the Rev. J. E. Hanauer—

"Proverbs and sayings among the Spanish Jews;" "Notes on Palmyrene Inscriptions;" "A Subterranean Passage in Solomon's Stables;" "Cuttings in the Rock in the Haram Area."

By James Glaisher, F.R.S.—

“Comparison of the Atmospheric Pressure and Temperatures in Palestine and in England in the ten years ending 1889, from Observations taken at Saron, near Jaffa.”

By the Rev. George E. Post, M.D.—

“Narrative of a Trip to Palmyra;” “Land Tenure, Agriculture, etc., in Palestine.”

By the Right Rev. Lord Bishop of Salisbury—

“Note on an Inscription from the Church of St. Stephen’s.”

By Dr. Chaplin—

“An ancient Hebrew Weight from Samaria;” “A Stone Mask from er Râm” (the Hebrew weight and stone mask are to be seen in the Museum); “Gihon.”

By T. Wrightson, M.I.C.E.—

“On Relation of certain Arch Springings found within the Area of the Temple of Jerusalem.”

By Dr. Selah Merrill—

“On the Pits in the Shittim Plain;” “Castle at Khan Minieh;” “Visits to Umm Shita;” “The Natural Bridge at Pella;” and “Inhabitants of Bashan.”

By Major Conder, R.E., LL.D., D.C.L., M.R.A.S.—

“The Sculptured Figures near Kana;” “The Native Name of Palmyra;” “The Moabite Stone;” “The Battle of Kadesh;” “The Conquests of Rameses in Galilee;” “Jews and Gentiles in Palestine;” “Monumental Notices of Hebrew Victories;” “On the Chronology of Pottery;” “On the Hebrew Weights;” “Lachish Inscription;” “Quotations of Psalms;” “On the Khabiri or Abiri;” “The Sculptured Tomb at Shefa ’Amr;” “The Early Akkadians in Lebanon;” “The Hittite Prince’s Letter;” “On the Altar from Tell Amarna;” “The Hebrews on the Tell Amarna Tablets;” “On Baalgad;” “Mahanaim.”

By Professor Hayter Lewis—

“An Assyrian Tablet from Jerusalem;” “Ruins of Church on the Skull Hill, Jerusalem.”

By Professor R. W. West, M.A.—

“Barometrical Determination of Heights in Lebanon and Anti-Lebanon.”

By William Simpson, M.R.A.S.—

“Entrance to the Holy Sepulchre”

By Major Watson, R.E., C.M.G.—

“The Holy Sepulchre.”



By Rev. W. F. Birch—

“The ‘Gutter’”: “Gihon.”

By George St. Clair, F.G.S.—

“Millo”; “The Fuller’s Field.”

By Surgeon-General Hutchinson, M.D.—

“Notes on Figures in the Cave of Saris, and on Malula and its Dialect.”

By W. C. Winslow, D.D.—

“On Acoustics at Mounts Ebal and Gerizim.”

By Mrs. Finn—

“The Dead Sea visible from Jerusalem.”

By Rev. James Neil—

“Pits in the Shittim Plain.”

By Rev. Greville J. Chester—

“The Stone Mask from er Ram.”

By Rev. J. H. Cardew—

“Note on the Identification of Zoar.”

By Professor Sayce, LL.D.—

“The Lachish Inscription.”

By Henry Gillman—

“On the site of the Holy Sepulchre.”

By J. Stow—

“On Mount Horeb.”

Your Executive Committee desire again to record their special thanks to the Honorary Local Secretaries for their efforts so cheerfully and readily made on behalf of the Society’s work.

It is proposed that the following gentlemen be invited to become members of the General Committee :—

Lieut.-Col. Goldsmid, War Office.

Joseph Sebag-Montefiore, Esq.

Isidore Spielman, Esq., C.E.

John Dickson, Esq., Her Majesty’s Consul at Jerusalem.

Rev. R. Appleton, Trinity College, Cambridge.

W. M. Flinders Petrie, Esq.

G. F. Watts, Esq., Manchester.

F. D. Mocatta, Esq.

The following is the balance sheet of the year 1890 :—

BALANCE SHEET FOR THE YEAR ENDING  
31st DECEMBER, 1890.

RECEIPTS.	£	s.	d.	EXPENDITURE.	£	s.	d.
To Balance in Bank, 31st December, 1889 ..	375	6	5	By Exploration.. ..	550	17	6
Donations and Sub- scriptions .. ..	2,674	18	1	Printing and Binding, including <i>Quarterly Statement</i> .. ..	790	15	10
Proceeds of Lectures ..	26	14	8	Maps, Lithographs, Photographs, Illus- trations, &c., in- cluding those for the <i>Quarterly State- ment</i> .. ..	583	7	9
Sales of Memoirs of Western and Eastern Surveys, and Books published by the Society .. ..	619	17	4	Management, includ- ing Rent, Salaries, Wages, Advertising, Insurance, Station- ery, &c. .. ..	587	6	5
Sale of Maps .. ..	278	16	10	Postage and Carriage of <i>Quarterly State- ment</i> , Books, and Maps .. ..	142	7	10
Sale of Photographs ..	25	9	7	Liabilities paid off ..	535	0	0
				Balance in Bank, 31st December, 1890 ..	811	7	7
	<u>£4,001</u>	<u>2</u>	<u>11</u>		<u>£4,001</u>	<u>2</u>	<u>11</u>

This balance sheet was published in the April number of the *Quarterly Statement*, with the following notes by the Chairman:—

In the absence of our Treasurer, Mr. Morrison, it becomes my duty to make the following remarks on the balance sheet for year ending 31st December, 1890. The subscriptions and donations show a large increase on those of the year 1889. This was due to an appeal for funds for carrying on the excavations in Palestine, which brought in about £1,000.

The expenditure amounts to £3,189 15s. 4d. This sum is made up as follows:—

	£	s.	d.
Exploration .. .. .	550	17	6
Publications .. .. .	1,374	3	7
Management .. .. .	587	6	5
Postage of Books, Maps, and <i>Quarterly Statement</i>	142	7	10
Liabilities paid off .. .. .	535	0	0

The Society was on March 17th practically out of debt. A sum of about £350 was due to the printers. This, however, is a liability which varies considerably from time to time. The apparent discrepancy between the amount received from the sale of publications and that expended upon them, is mainly due to the fact that the *Quarterly Statement* is given to all subscribers—

an arrangement which gives stability to the Society, but costs between £300 and £400 a year. When allowance is made for this, it will be found that the difference is very slight; and indeed it disappears if the stock of maps and books in the hands of the Society be taken into account.

The CHAIRMAN.—The Report, I think you will see, indicates a steady continuance of work under some difficulties. The difficulties do not decrease as time goes on, in fact the Turkish Government becomes a little more suspicious, and the breaking up of the Siloam inscription has increased our difficulties, as suspicion has been created on all sides; yet, considering the nature of our work, I think the Report will be regarded as satisfactory from the large number of persons who have been interested and are steadily working to increase our knowledge in the direction in which we want it to be increased. I shall be glad if any gentleman will make any remarks on the Report before I put it to the meeting.

SIR FREDERICK GOLDSMID.—I venture to say, as a comparative outsider, that the Report appears to me most satisfactory, and especially so in this respect—that I have always considered that where it is necessary to keep a Quarterly Statement of any Society published every year, and certainly one like the Palestine Exploration Fund, in a short time subjects must to a certain extent become more or less exhausted, but I must say that the Palestine Exploration Fund has always struck me as having resources which no other Society that I am aware of can muster. It seems to me never to come to the end of matters of interest, and the last number of the *Quarterly Statement* and the previous number are to me most interesting documents. I see no falling off, no lack of interest in the publications of this Society, so much so that my own impression, without reference or talking to other people on the subject, has been, what a misfortune it is that the work of the Palestine Exploration Fund is not better known among educational establishments in this country. I cannot help thinking that in public schools, and in other educational establishments, something more ought to be known of the work of this Fund. I believe that it would draw young men to the study of the Bible in what I may term a pleasing and agreeable way, instead of this being done by compulsion, as it were. Unfortunately, one must use the word “compulsion” even with so great a subject as the Bible, but in works like that of the Palestine Exploration Fund you draw students towards the Bible almost imperceptibly, and therefore if it were possible to introduce it into the curriculum of schools or of educational establishments a very great advantage would be conferred. I must beg pardon for being perhaps rather irrelevant and even for getting up and speaking at all; for although you have done me the honour to put me on the General Committee, and I think it a very great honour, still I am a comparative outsider, because as I live in the country I have not been able to attend the meetings of the Society, and I can only feel my interest in the distance, as it were. (Cheers.) I beg in conclusion to move the adoption of the Report.

The REV. A. LÖWY.—As one of the old men in this room—one of the oldest men in this room, I venture to say a few words. In the first place this Report, which is so highly interesting, certainly deserves every possible support. The previous speaker has hit upon a point which has very often struck me as a matter of regret. There is no question that this Society does a great service underground and overground. There is an immense amount of knowledge being brought to light which has been hitherto buried under the earth. In addition, I believe, though it is not intended, the Society is really a precursor of an improved state of civilisation in Palestine, because the Society, in its valuable publications, draws attention to the condition of the modern occupants of the country, and many suggestions which are incidentally offered in the publications will help to improve the condition of the people. But I shall call attention to the lack of sympathy which, on the part of the public, seems to exist with regard to this Society. However well it may be supported, it ought to be supported infinitely better. I take the liberty of throwing out a hint—I won't call it a suggestion. It seems to me that if you had periodical meetings, giving lectures on the work of the Society, it would be of very great advantage in every way. I recollect the ancient Mohammedans used to call the Israelites "Ahl el Kitâb," meaning, the religionists, the people who cultivate the Scriptures; but some Mohammedan writers take that as a kind of ridicule. They state that the Israelites confined themselves to writing only, and it seems to me that if this Society, in addition to its valuable writings, were also to offer us, periodically, valuable lectures, not speeches, but lectures, it would draw. There are a great many persons who, in these days, when we are so overdone with literature, would much rather hear a lecture than read one. And so if it should be thought fit on the part of the Executive to give periodical lectures, at most, say, once a quarter—not once a month—it would draw a great many persons who are at present outsiders. With this observation, I cordially second the motion which has been proposed. (Cheers.)

The REV. W. J. STRACEY.—It strikes me, sir, that the change of rooms is a very great improvement. I think it brings the Fund so very much more into public notice than where it was stuck down close to the Thames Embankment.

MR. GUY LE STRANGE.—I venture to make some small suggestion, especially after what Sir Frederick Goldsmid has said. It seems to me that it would be a good thing to have in the *Quarterly Statement* something in the form of "Notes and Queries;" that is to say, that there might be, a little by itself, a part for queries and for answers. Several times latterly in the *Quarterly Statement* questions have been asked and I have often very much regretted that answers have not been given to them, and I think perhaps that more attention would be called to the queries if something in the form of the publication of "Notes and Queries" were adopted, if there was a page of the *Quarterly Statement* set apart simply for queries. I don't know whether that would be possible.

The CHAIRMAN.—The Editor is here, and I have no doubt he will make a note of what you are saying, but we must leave the Editor to deal with that.

Mr. GUY LE STRANGE.—It would certainly bring the Palestine Exploration Fund into greater notoriety if it were known, if it were forcibly brought before people, that through the *Quarterly Statement* they could ask questions on Biblical subjects, and on Archeology.

The CHAIRMAN.—Before putting this motion, I should like to say the gentleman who has moved it has touched upon a subject that has often been before the Committee, how and in what manner we could bring our work before the schools with the view and the object that he has mentioned. Our Treasurer, Mr. Morrison, has often spoken on that subject. It still is in our minds that we want both sides of the Jordan thoroughly explored and mapped for schools; we don't like to see the one side more complete than the other. But there has been a little difficulty, which I daresay it will continue till we shall at last succeed in some way in doing what we want to do. As to the gentleman who has seconded the motion, up to the present moment we have had no rooms to give lectures in. We have now got a room such as we never had before, and we are surrounded by something that is very interesting in our Museum. With those remarks I now put the resolution before the meeting.—Carried unanimously.

The REV. MR. TRACEY moved the re-election of the Executive Committee.

Mr. ROGERS.—I have pleasure in seconding the motion.

The CHAIRMAN, having put the resolution to the meeting, it was carried unanimously.

The CHAIRMAN.—Then, gentlemen, I have to ask you to give your best thanks to Mr. Schick. Mr. Schick neglects no opportunity of doing that which the Committee wishes. There is not a bit of ground opened in Jerusalem, there is nothing found there, but he has his eyes upon it, and, if possible, supplies us with the information quite truthfully. I would ask you then to give Mr. Schick, as you did last year, your thanks for his continued efforts, and the faithful reports which he has made to the Fund.

The resolution was seconded, and carried unanimously.

The CHAIRMAN.—Then, gentlemen, Mr. Bliss has only been one year with us, but his letters tell you that he is earnest. He had some experience with Mr. Petrie in Egypt, before he went to Palestine, and I hope that in the future he may outdo Mr. Petrie himself, but he has got to win his spurs in that respect. I should like to thank him for the efforts he has already made.

This vote of thanks was seconded and carried unanimously.

The CHAIRMAN.—Now, gentlemen, in the Report there is a statement about Mr. Armstrong. I should like you to look in that corner of the room at that raised map. I am deeply indebted to Mr. Armstrong, for

were there no one here in whom I could place implicit confidence, I should have no easy mind. I should be constantly coming here with great effort to myself; but with Mr. Armstrong about it is different. I would therefore ask you to thank one so faithful as Mr. Armstrong has been, to give him your best thanks, and to express our hope that he may continue to discharge his duties to our satisfaction as well as he has done in the past.

This vote was seconded and carried unanimously.

The CHAIRMAN.—Then there is the Honorary Secretary. There are two telegrams waiting for him to-day. Something has prevented Walter Besant being with us. He fully intended to be here, but he is not here. He is a busy man. Sometimes, I think, taking too much upon his hands, for it may close a useful life too soon. I ask you to thank our Honorary Secretary for the time he has given to us, and the interest he still takes in our success.

The vote was unanimously accorded.

The CHAIRMAN.—And lastly, though not least, there is the Editor of our *Quarterly Statement*. Not a word that has been said about the Notes and Queries, or in what way the *Statement* can be improved, will have fallen upon ears that have not listened, and he will think and see whether the proposal can be carried out. I need not say how and in what manner the *Quarterly Statement* is conducted. I was delighted to hear one speaker remark that it is read with interest. The *Statement* ought to have a more extensive reading, but I meet with it at times where I do not expect it, and find that the effects of our *Quarterly Statements* are of the most beneficial character, that they do guide people to the reading of the Bible, and the study of the Bible. Persons who in their schooldays looked upon the Bible as a book of punishment which they were compelled to read are now looking upon it as a book of pleasure to be studied and thought of. It is a great thing that all our work in Palestine has tended to confirm every year the accuracy of the Bible. I wish we could have more subscribers. We should then be more powerful. Every expenditure is made with economy, strict economy. I do look into the expenditure of all monies for every purpose. I am in a position of trust, and if subscribers should call upon me at any time to give an account of that trusteeship, I am always prepared. There is money that has come in for the excavations very well indeed. We have carefully and economically used that money, and we have done a very great deal with the money. I am certain that will be the general impression. Gentlemen, I thank you very much for your attendance to-day. I thank you for the kind observations you have made to help this Society. I do not know that there is anything more to say. Our meeting is completed, and I hope that at our next annual meeting every one of you will be present, and that we shall have a good account to give of the year's work.

The vote was unanimously approved.

Mr. J. D. CRACE.—Before the meeting breaks up I should like to ask

the members who are present to return one more vote of thanks, and that is to our excellent Chairman (cheers), whose energies seem equal to every occasion, and to the members of the Executive Committee. It is the Chairman who has attended every one of our meetings ; at any rate he has attended a majority in excess of any other member of the Committee. I believe he has only been once absent, and that through ill-health. There is hardly a detail, financial or otherwise, with which the Chairman is not more intimately acquainted than any other member of the Committee, and his efforts are just as fresh, as energetic, now as they were so many years ago when he accepted the post, with a diffidence which was quite unnecessary, as events have proved. I shall venture to ask his permission to put that to the vote for him.

The vote was carried by acclamation.

The CHAIRMAN.—Thank you, gentlemen ; thank you, indeed. I feel as I always felt that the thanks to your Chairman is a vote of thanks to your whole Executive Committee. Were it not for them it would be scarcely possible for me to get on with the work, but I have an excellent Committee ; their hearts are in their work, every one of them. I have a Committee of an extraordinary kind. I could hardly repeat all the qualifications of my Committee ; but here I am, and they allow me to be their head, and to assist in their labours. I can assure you that your thanks just given are well earned by every member. I thank you for thanking them, and I will convey to them your thanks. Let me congratulate you on the nucleus of our museum. Look around here ; last year and the year before and for several years it was at the South Kensington Museum, but it was comparatively hidden there, though it was open to the public, and we told everybody. But everyone did not find that little corner where the things were placed. We were compelled to remove them. We had no place to put them in, so for the last two or three years we put them in boxes and deposited them at Taylor's to be taken care of, and now for the first time we have a place in which to exhibit them. Look even at those lamps before me ; what a delight and a charm—a charm that grows upon you. The gentlemen who have taken an interest in this Fund may now take a greater interest in it through seeing our collections. I would ask everyone to take a deeper interest in it, and to enlist as many others as they can, for certain I am that there is not a gentleman or an educated person who will take up our works and read them, but he will be more and more interested in the subjects to which they relate. I thank you in the name of the Committee for the kind vote you have just passed.

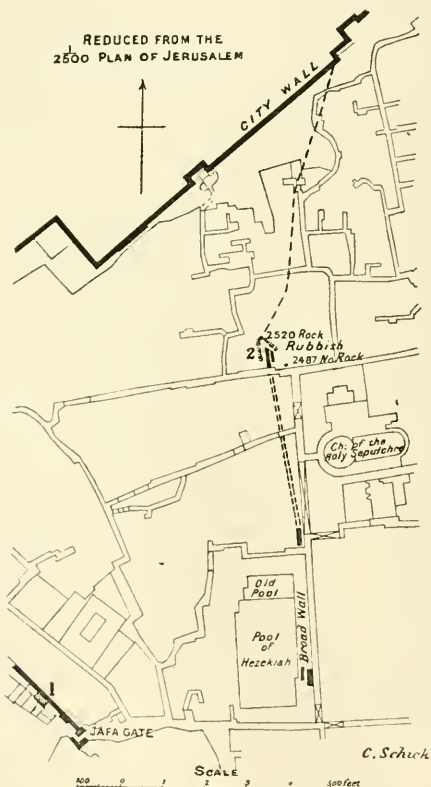
The Committee then adjourned.

## HERR SCHICK'S REPORTS.

JERUSALEM, *July 14th*, 1891.

THERE are several small things which seem to me of some interest to members of the Palestine Exploration Fund, so I think it right to report on them.

1. *Foundation of Present City Wall.*—I have already on two former occasions reported that the present western town wall from the Jaffa Gate northwards is not founded on the rock, but in some places standing simply on earth. I have now to report that I made this observation again at a third place. The building outside the Jaffa Gate, in which had been the office of Her Britannic Majesty's Consul, was taken down and built up



again on a much grander scale, requiring new and better foundations. On digging just in front of the present town wall to a great depth only *black earth* and rubbish were found, no natural soil. They went down about



24 feet below the level of the street and no rock was reached, so it is proved that there the wall stands on a layer of made earth from 25 to 30 feet high. When I saw it I was fearing the wall might fall and bury the workmen. On the map, scale  $\frac{1}{25000}$ , the surface of the road is there given as 2,530 feet above the sea, the rock where now the town wall stands must, therefore, be about 2,480, or perhaps a little more, rising rapidly towards east.

2. *Remains of Old Wall inside City.*—As I have stated in a former report, the Roman Catholics are demolishing a group of houses and building a large new school at the eastern part of the *Harat Deir el 'franji*, north-west of the Church of the Holy Sepulchre, north of the street where on the map the word EFRANJ stands. As several things of interest were found, I send a copy of part of the said map, with the new discoveries marked. The highest point in this square is about 2,520 feet, at other points it is much lower. There was found a kind of passage or road cut into the rock 7 and 8 feet deep and 6 feet wide, its bottom declining towards the Church of the Holy Sepulchre, in which direction it runs. It was laid bare for a length of about 15 feet; it ends abruptly in the east at a wall (with an opening) about 6 feet thick of very well hewn, but not large, only moderate sized, stones. At its eastern front there is a great quantity of rubbish. About 20 feet west of the said wall another and still thicker wall was found of larger stones, even 6 and 7 feet long some of them, and about 2 feet high. The direction of both (running parallel) is towards the south, as shown in the plan. These remains have for me a great interest. By studying the walls of Jerusalem (ancient and modern) I found that some Christian writers say that Constantine's buildings, or the Church of the Holy Sepulchre, reached to the western town wall (see "Tobler Top." Jerusalem, i, p. 135, and "Golgotha," p. 16). This "western town wall" could not be Hadrian's, which was at that time destroyed, and which had to be built by the Christians—the part from the Jaffa to the Damascus Gate—in A.D. 1063, from which time this quarter was assigned to the Christians. Without going into detail and argumentation, I wish only to say that I believe Hadrian's north-western wall decayed, and was for a long time not wanted, as in this quarter there were no houses, or only a few. So when Constantine had built the Church, the Church wanted protection, and a wall was built near to it on the west side, which wall was restored and improved by Eudoxia the Empress. This (western) wall began either at the corner of the so-called ancient "second" wall, or as I rather think started from the northern end of the ancient "broad wall," which is the dam or mound wall on the eastern or valley side of Hezekiah's Pool, of which I have in 1846 yet seen a piece, where now a house stands. It consisted of very large stones, which were broken up and used as common mason's stones. Such large stones were met with and broken when Messrs. Bergheim's office was established, north of the said pool and west of the Church of the Sepulchre, and now such a wall is found farther north, as described above. From this latter point it may have gone towards the ancient tower west of Damascus Gate, in some

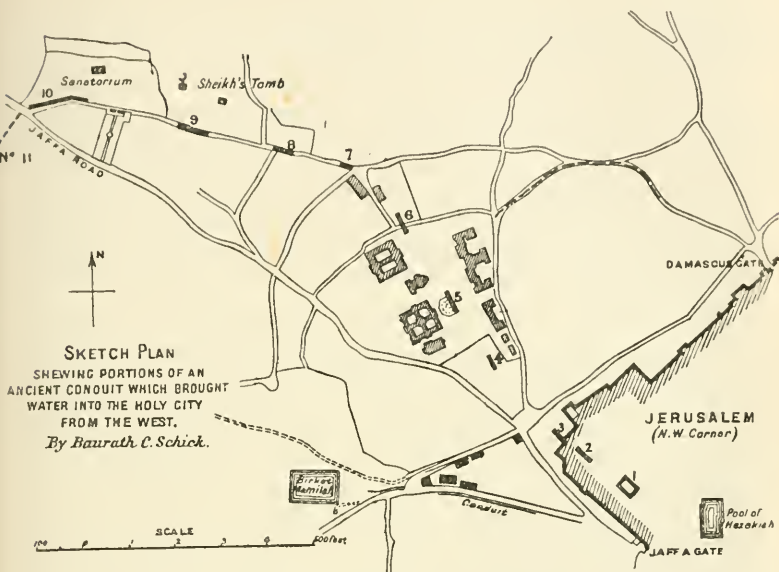
such way as I have indicated with a dotted line. When, afterwards, Hadrian's wall was again restored (as above mentioned) by the Christians, and the space embraced by-and-by filled with houses, the wall immediately west of the Church had no more any importance, and so its stones were used up in building the convents, &c.

3. *Protestant Burial Ground.*—There is an intention to enlarge the buildings of the late "Bishop Gobat's School," for which a portion of the burial ground is asked for, with the promise to give for it a larger piece of ground down in the valley. To effect this change a wall was made by the Church Missionary Society along the road going down to the valley. As this road had to be made somewhat wider, and the wall wanted a proper foundation, the rock which is near the surface was laid bare throughout. At the point where the contour 2,359 crosses the road, the opening of a rock-cut cave appeared. This cave was roundish in shape, about 18 feet in diameter, and more than a man high—as there was much earth in it, I could not get the exact height. It was no tomb, simply a cave, fit for shelter, or to keep things there. I tried to persuade the builders to utilise the cave for some purpose, but as the entrance was situated a little lower than the surface of the road, which caused some difficulty, they walled it up. On the ground lower down I observed very large blocks of rude stones which one might think to be rock, so I made some excavations in the hope to find something of importance, but found simply a kind of dry wall (or fence) along the contour 2,389. These stones are 10 feet or more long and broad, unshaped, not hewn, put upright on the surface of the rock, their smoother sides towards the outside (downwards). As the line kept on the same level, I suppose that a path or road went along (on the out or valley side) eastwards to the road coming down from "Bab Neby Daud," and perhaps even farther eastwards. Such walls, at some distance one from the other, the one nearest the city being always the higher, seem to have girded round the hill slopes of the Holy City, as can be shown also on other sides, and added to the strength of the fortification.

4. *Watercourse providing the ancient City with water from North-west.*—That such a watercourse once existed has been known for a long time. Sir Charles Wilson writes in his Notes: "Ordnance Survey of Jerusalem," 1865, page 81—"There are remains of a conduit coming in on the north-west of the city, first discovered when building the new Russian Convent (5), and since found at some buildings belonging to Mr. Bergheim (4), and also within the town when digging for the foundations of part of the Latin Patriarch's house (1 and 2); at the two last places it was visible during the stay of the surveying party at Jerusalem, but it could not be traced beyond the Russian buildings, or found in the neighbourhood, and it is hard to say from whence the water came. The sketch shows its size and construction."

Since this was written further remains of this conduit were found, and I have always kept an eye upon the matter. In the enclosed plan I give a rough copy of the Ordnance Survey Plan, in which I have

inserted the pieces found until now, and numbered them from 1 to 10, of which 1 to 5 are already mentioned in Sir Charles Wilson's report



above quoted, except No. 3, which was found by a Greek priest, digging in his garden. When in 1865 the English Mission built the boundary wall of their Sanatorium, under my direction, a long piece (No. 10) was found; the continuation towards the town went *under the road* itself, so I could not follow it. When about 18 years ago Dr. Chaplin built a house, a longer piece (No. 7) was found, and the new wall put into it, saving so the foundation diggings. When in 1882 I built my house, and the boundary wall of it, I found a destroyed piece, and also a still preserved piece (at No. 8), and when in 1889 the Russians made the sewer for their building as shown in the enclosed plan with dotted lines, two preserved pieces were met with, No. 5 and No. 6.

Recently the municipality corrected in some degree the road coming from the Damascus Gate, and meeting the Jaffa road at the Sanatorium, when a long piece of this conduit was laid bare (No. 9) into which a branch canal enters, coming from the surroundings of the Sheikh's tomb. Further west, or beyond No. 10, no piece or trace of such a conduit was met with, although there has been much digging and clearing for building houses. From the farthest known point in the west to No. 4, near the town, the decline is very gentle, but enough that the water might run very well. From 4 to 1 the decline is greater, and from 10 westwards, if the conduit continued near the surface, it would rise much, unless there were a tunnel. The

question where the water came from is even, until now, not answered, if one thinks of water from a source or spring. But I think, after taking everything into consideration, that this was not the case, but that the conduit simply acted as a collector of the rain-water, falling on the high, but flat, ground of the north-western plateau, and I hope one day to find traces in the region which I have marked No. 11.

I have also to remark that whilst Sir Charles Wilson's sketch, above referred to, gives slanting sides to the greater part of the conduit, at other places it was found with perpendicular sides, and also in some places deeper, as for instance at my house (No. 8), where it was 30 inches deep : the whole was filled with a very fine earth, the sediment of the once running water. It consisted of *sammaka*, or the common red earth, which was to me a proof that the rain-water of the neighbouring ground flowed in bringing this sediment with it, and that no spring water was running in the conduit.

5. *Some Innovations at Jerusalem.*—As I am not always in a position to report on discoveries of old things, I think it expedient, and interesting, to report also on modern changes and affairs. If one who knew Jerusalem, but has not recently visited it, should now approach it, he would, if coming from the west, hardly recognise it until he enters the Gate. So many new houses have been built, most of them covered with tiled roofs, that the city, and especially the suburbs, have quite a different appearance. Coming out from the so-called Jaffa Gate, one has, on the left hand, a new Custom House, and looking down the valley, towards the south, he sees a large building erected on the heap of rubbish brought there during the last 30 years. It is a kind of playhouse or theatre ; in its lower rooms, horses and carriages are kept. Since the Bethlehem road was made, some years ago, people have built shops and houses along it, and even in the bottom of the valley the Jews have recently erected several houses, small and large. But if the spectator goes on a few steps, looking towards the west, he has, on his left hand, first a khan, and then a row of shops, *all built on rubbish (without foundations)* ; to his right he has a grand building, those which were built 40 years ago, and in which were for many years the Custom House and the English consulate, having been pulled down, and much grander ones erected. Below there are shops and over them lodgings and rooms for offices, &c.

Going on one comes to the point where the road divides. Here is a new building, used as a kind of club house for the upper class and called "casino." Then follow shops, along the upper and lower road. On the left hand of the latter are a few houses, and from the former, a new road or street, going on straight, is made, and just where this begins the Armenian Convent has built a grand new hotel. On the ground floor are throughout shops along both roads. On the upper road there is, at another dividing of the road, a guard-house for soldiers, and further on shops and the coffee house belonging to the municipality. Having come to the crossing of roads, downwards (towards the south) the whole quarter is built over with houses, amongst which is the one belonging to Messrs.

Cook and Son, and a new large, yet unfinished, building of the French Sisters.

On the other or eastern side are some smaller houses, and further on the *new City Gate*, outside of which are new good buildings, and opposite, first the French Hospital, then the very large French Pilgrim Home, and lower down, the new lodgings for the officers of the Russian Consulate.

Farther to the west, along the Jaffa road, are, for a distance, shops on both sides, and behind the more permanent ones belonging to the municipality is the guard-house of the Police and Office of the roads. The remaining empty space there is to be made into a public garden. Behind this are Mr. Bergheim's house and the two hotels, which have by this arrangement greatly diminished in value and convenience. There is no longer a camping place in front of them. On the left is the English Deaconesses' house, the property of the Armenians. Opposite, inside the Russian wall, two buildings have been made: the larger as a hospital for patients with infectious diseases, and the smaller to keep and burn the things of such patients, or of the dead. To the Russian Mission House two additions have been made, and to the Pilgrim's Home also an additional building. Beyond the wall on the west a very grand and costly Pilgrim's Home has been erected by the Russian Orthodox Palestine Society, and further east, inside the wall, a building for the officers of this Society, also to the large Women's Pilgrim's Home an addition has been made, and an upper storey is to be added. The pool, which was formerly open, is arched over and made into a regular cistern. A sewer has been constructed at great expense, carrying off dirty water, &c., from the whole Russian building. It goes down to the Damascus Gate, enters the town sewer inside the wall, and so runs down to Siloah. On the Russian ground this new sewer has two branches, meeting outside in the road going down to the town gate. Opposite the Russian building on the east private houses are now built, in one of which Bishop Blyth resides.

It will be understood that these are only some of the new buildings near the city. Farther out, towards the north-west, many new houses are built, to a great distance. Also on other sides of the city scattered new houses are to be seen, and every year their number increases, especially towards the north.

At present I am making excavations at the ancient pool in the Upper Kedron Valley, or Wâdy el Jôz, of which I will report in my next. The land is now sold to Jews, and I had to measure it, and so I got an opportunity of digging. Leave to do so in other places I have not yet been able to get, and must wait for a better opportunity. The digging for water, and the Siloah Stone affair, have caused all the hindrances.

## REPORT OF EXCAVATIONS AT TELL-EL-HESY DURING THE SPRING OF 1891.

BY FREDERICK JONES BLISS, B.A.

ALTHOUGH Tell-el-Hesy was reached on March 5th, the weather rendered it impossible to begin work until Monday, March 16th. In the meantime some measurements had been taken, and a crop of barley had been bought, which covered the field where we had to dig. Later the crop of beans covering the Tell itself had to be purchased. Following the advice of Mr. Flinders Petrie, with which my judgment accorded, I began my excavations in the northern part of what he marks on his map as the West Town, the section worked being bounded by a line running from the north-west corner of the mount to a point about 350 feet west, and by a line running thence 231 feet south. To have turned over the whole mass of earth in this field would have required the whole season, and though the place was known to be Amorite, I decided to make trial trenches first. In eight days we had examined the field by digging about 30 trenches, my orders to the workmen being to uncover native clay, though in some cases it was not necessary to reach this. The smallest depth of débris was 1½ feet, and the greatest 17. We found all the characteristic varieties of Amorite pottery, as described and drawn by Mr. Petrie, *i.e.*, comb-facing, ledge-handles, thick-brimmed bowls, polished burnishing, peculiar spouts and hole mouths. That the latter were apertures for drinking, I do not feel sure, for later on in the Tell we found similar holes in various vessels, including the thick Greek drab bowls; some vessels contained two holes near together, or a number of holes. The painted Phœnician also occurred, sometimes being found in the lower depths, under archaic looking Amorite pottery. Jars filled with fine earth, and sometimes containing smaller vessels, were found buried, as in the place Mr. Petrie calls the cemetery. These were usually of the Phœnician type, and may belong to a later period than the débris of the field, but one bowl, 17 inches across, having ledge-handles, containing fine earth and a little brass serpent ring, was clearly Amorite. Not far from this we found a human skull with a bowl and lamp evidently placed in front of it. The distance between the two bowls being about the length of a man, suggested that these might have been placed at the head and the foot of a body, but on carefully uncovering the earth, we found that the bones between these were not human, and included the teeth of animals.

We made a most careful search for walls. Brickwork full of straw was often found, and great care was used in trying to determine its face and direction, but though repeatedly we thought we had found a wall in position, further examination always proved it nothing but consolidated ruin and decay. There were many signs of burning, while some of the ruins seemed to be the result of overthrow. I finally dug a pit, 27½ by

17½ feet at the top and about 12 feet deep, where we reached the clay, hoping that by thus uncovering a larger area we might attain more satisfactory results. A study of the sides of this hole revealed a curious irregular stratification, with lines of brick, rough stonework, burning, and decay, which indicated the ruins of three or four towns. Evident brickwork was found here as elsewhere, but in a ruined condition, out of which no order could be evolved. Workmen who, later in the Tell, traced obscure brick walls quite cleverly, and who last year uncovered walls for Mr. Petrie, were quite baffled by the decay in the west town. I was reluctantly obliged to decide that it was in a hopelessly ruined and consolidated condition, and that to spend any more time upon it would be unwise. In the large pit, at a depth of 8 feet, we found the fragment of a clay tray, with a rim an inch or two high, and a diameter of about 4 feet. It had a red face, with the polished Amorite burnishing in crossing lines. It was evidently in position, as it seemed to have been placed in a bed of mud. It was probably a place for baking bread, a fire of twigs being kindled in one part of it, and the dough being placed in the other, or else placed in the heated tray and covered over with ashes. At the bottom of the hole, in the native clay, there was a squared hole, like a grave, about 3½ feet deep, filled with decayed brick.

One and a half feet under the soil in this west town there was found a piece of cement flooring, of an irregular shape, curving upwards for an inch or more at the edges, about 6 feet long and 4 feet wide, with a narrow outlet at one end, descending apparently to a pit. This was probably some sort of a press for wine or dibs. Near by, and hardly more than two feet under the surface, was found a rough room with mud walls, in which there was very little straw, of varying thickness. In the course of digging various objects were found, such as stones with holes, used for weights in weaving, flints, door sockets, fragments of bronze, including a small cow-bell, a stone worn at the side as if by a rope, &c. Rude pavements and irregular masses of rough stones built together were found in various places. Long thin lines of black decay suggested human burials. Out of justice to the owners of the land we filled all trenches and pits dug, and smoothed the surface for the ploughing.

The work on the Tell has been necessarily one of detail. The work of determining the historical periods from a study of the east face, and of tracing the various city walls by a judicious series of trenches having been done with so much skill by Mr. Petrie, there remained for his successor the more laborious task of cutting down the mound itself in search for walls of dwellings which might remain, together with any objects which might happily be found. I saw at once that to cut down the whole mound by layers covering the entire area would be such slow work that at the end of the season but a small depth could be reached without increasing the workmen beyond one's powers of superintendence. If it were merely a question of removing rubbish it would be easy keeping 150 men hard at work, but when each man has to be strictly watched lest he destroy some wall or overlook some small object, I find

35 men quite enough. Our average was under this, as we had to reduce the numbers while waiting for the tram and while laying it down, and the last two weeks the numbers were very small on account of the harvest, which finally compelled us to close the work on May 15th. Thirty-five diggers means over a hundred work-people, for each man has two girls or women or boys to carry the earth to the trucks or to the side of the hill. I chose the northern half of the mound to begin on, because earth could be more easily disposed of at that end. As I wrote the Committee, my original plan was to cut down through the whole northern half, but three weeks' work determined me to further limit the area to the north-east quarter of the mound.

Beginning at the well at the centre of the east side (*see* Plate III, Mr. Petrie's "Lachish") I drew a line to the west, and from a point on this, about 100 feet from the well, I drew another line about 120 feet long, somewhat north-west to the northern slope. Within these limits we have cut down the mound to an average depth of 12 feet 4 inches, the greatest depth (near the well) being 18½ feet.

Accordingly, in round numbers, we have thrown in seven and a half weeks down on the river bed 140,000 cubic feet of earth and stones. Our area of work is now, of course, bounded on the south and west by cliffs of our own making, while at the east we are from 7 to 18½ feet nearer the river bed than when we began. At the north we have almost reached the base of what Mr. Petrie calls Manasseh's Wall, so that following his chronology we have been working in the later Jewish periods. The accompanying tracings of Petrie's plans will give a rough idea of the section worked. I may add that from a distance the Tell now produces a strange effect, having lost so big a slice from its north-east corner. I enclose a poor photograph showing the depth of the excavations.

In the first three or four feet of digging we found many graves, made in the rubbish of the last constructions. One grave was in perfect condition—a space hollowed out in the shape of a coffin with slabs placed across the top. It contained a skeleton, the skull being towards the east, and bracelets made of blue glass, such as are worn to-day. In connection with human bones and other supposed graves, there were bracelets of glass and of twisted brass, with anklets, precisely such as may be bought in any Arab market, beads and agates, such as the Arabs bury with their dead women. Thin glass was also found, also pipe heads, of a somewhat different shape from those in use to-day. A brass medal of the time of Abd el Hamid, notched so as to be tied under the chin, may or may not belong to the grave period, or it might have been dropped by a woman tending the crops on the hill. Another grave had not only slabs laid across it, but was partially lined with stones. This graveyard is undoubtedly Arab, and may not be more than a century or two old. I place it as far back as that as, until we covered it, its existence did not seem to be known, no objection being made to my digging there by the Arabs. The method of burial is such as obtains to-day.



These latest constructions in the rubbish of which the graves were dug were evidently very rough. We found quantities of stones from the river bed, in one or two cases built into rude walls, in others laid in rough pavements, not complete enough to plan. The remains of brick were mouldy and decayed, and very few traces of walling remained. The pottery showed a large quantity of thin, white-faced sherds of the late Phœnician or Jewish type, I should judge. One large jar was found whole, standing on its mouth upon stones, evidently thus placed.

The foundations of the first town of which any sort of a plan could be made were reached at a depth of about  $6\frac{1}{2}$  feet at the south end of the section, and at about  $3\frac{1}{2}$  feet at the north end. As the hill slopes down towards the north in a grade of 1 foot in 10, one would naturally expect that the bases of various towns had a similar incline. Such, however, is not the case, the north and south parts being nearly on a level—if anything, the north end being a trifle higher. Perhaps during the last period the buildings were higher and more numerous in the centre of the hill, thus producing more rubbish, and the rain scouring may have been greater towards the north. This town was in a very ruinous state, hardly worth planning, but I give a drawing to show its condition. As will be seen, the walls were the best in the north-west quarter, where a clean face was obtained and the thickness could be measured. The dimensions of one brick were  $14\frac{1}{2}$  inches by 9 by 5. The dozen tannûrs, or pit ovens, which were found proved that the ancient inhabitants of the Tell baked their bread in the same manner as the modern Syrians bake theirs. A pit is sunk in the floor of the house, or in a hut outside, two or three feet in depth, and is plastered with mud, which is built up for a few inches above the floor. The ground is levelled at the bottom of the pit, and salt is placed upon it before the layer of mud is plastered down. My man, Yusif, found salt in place under the mud. The tannûrs we found were irregularly circular, one having an average diameter of 85 centimetres, another of 80 centimetres. The sides were baked hard, showing use. I may explain that a fire is made at the bottom of the pit, and the dough, flattened out by hand, is stuck against the heated sides to bake. The first tannûr we found had been repaired by potsherds where the mud sides had given way. Fragments of similar ovens had also been found in the first foot or two of soil. A small pit with a diameter of 22 inches, and with thick sides of yellow brick, may have been used for storing corn.

In one place we came across a quantity of fine red earth, such as is used to-day in colouring the mud floors and walls, which are then polished. We found several jars evidently buried with intention. Mr. Petrie suggests a connection with heathen sacrifices in the apostate Jewish times for the jar burials in what he calls the cemetery outside the town enclosure. Near one of the ovens a jar, 24 inches in height, and 44 at its largest circumference, was found lying on its side. It seems to have been filled with fine soft earth after it had been put in position, as the earth seems to have been pressed down by the hand, being lighter on top. It contained bones, a stone, a flint, and a potsherd. Near it was a

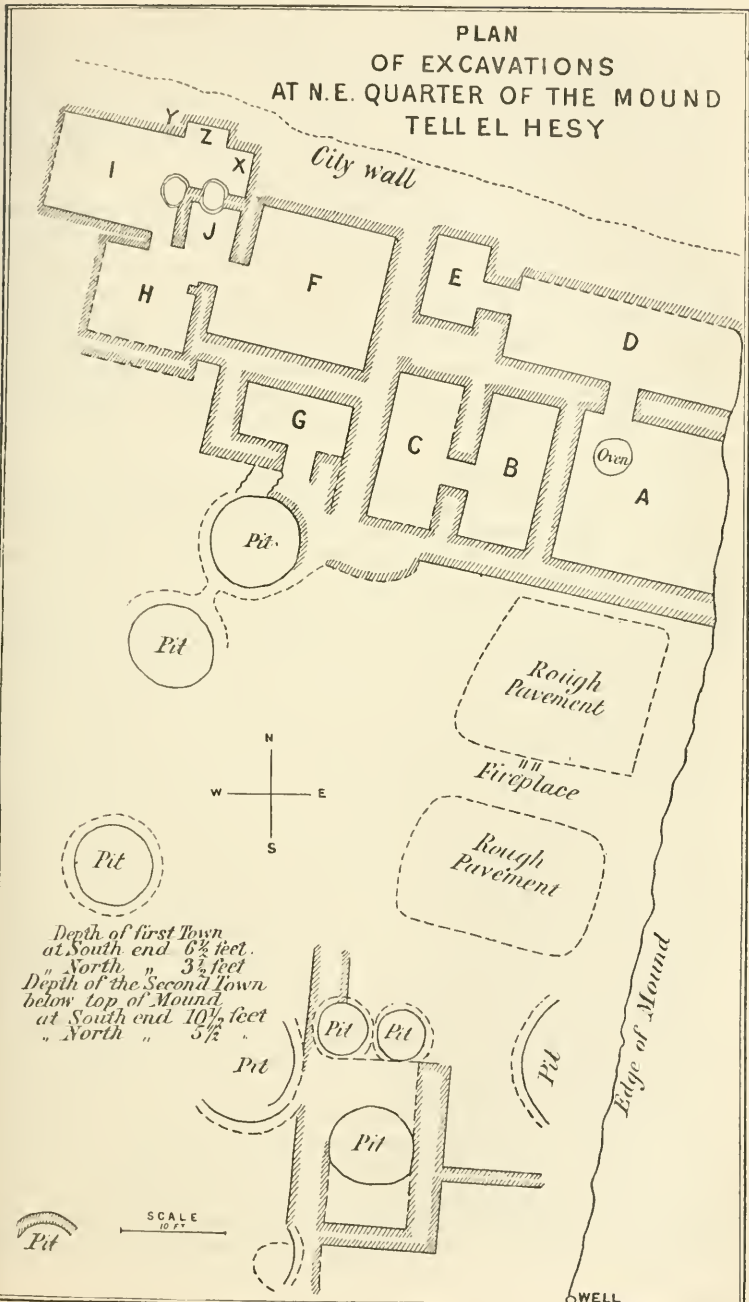
long cylindrical vessel with no handles. I do not feel sure of the purpose for these jar burials. We dug for two days in the "cemetery" and found, as did Mr. Petrie, jars with flasks inside, but no bones. Ibrahim Effendi suggests that they may have been buried by the inhabitants when fleeing from an approaching enemy. The stonework in this period was all rude, only a few squared stones appeared, and these showed no clear dressing. Two stones with markings were found, of which I took a squeeze, and give a rough sketch.

The most characteristic pottery included the Greek drab bowls (*see* No. 222, Plate IX, Mr. Petrie's "Lachish"), the immense loop handles (Nos. 225, 226), small Jewish jars, and a thin brittle ware of purplish black, mostly in the shape of jars with full bodies, short necks, and large mouths, with two small handles reaching from the neck to the mouth. Polished Greek black and red ware was scattered through the town; also fragments of immensely thick vessels, sloping to a point like a walking-stick, or ending in a knob. Hundreds of potsherds were turned up and examined by me every day, in the unfulfilled hope of an inscription, the men having strict orders to throw nothing away.

After planning the remains of the first town we cleared them away, and began to dig towards the foundations of the second, which we found at a depth of  $10\frac{1}{2}$  feet (from the top) at the south, and about  $5\frac{1}{2}$  at the north end. The first thing to be noticed was a curious stratification of fine clear yellow sand near the east side, covering an irregular space 17 feet by 10, on an average 6 inches deep. In some cases the sand over-spread stone pavements. In one place it lay between two strata of burnt stuff. This second town had been fiercely burned, as ashes lay almost everywhere, in some places to a considerable depth. It looks as if the sand had been a heap collected for making mortar, and after the houses had been destroyed by fire and the place deserted for a time, had been blown by the wind into the wavy stratification in which we found it. A new feature in this town consisted in the pits dug in the rubbish of the town below. These were irregularly circular, with diameters varying from 5 to  $9\frac{1}{2}$  feet. In some cases they had been lined with mud, which by a sharp tap of the pick could be made to fall off from the sides. Some had a fine coating of whitewash on walls and flooring. A fine thread of white in the cut made by the blow of the pick sometimes revealed this infinitely fine white coating which had remained for hundreds of years.

At Bureir (six miles from the Tell), pits for storing wheat are still used as in other parts of the country, notably the Hauran, but they usually narrow towards the top to a small mouth which is closed by a stone. The pits in the hill had straight sides, 3 or 4 feet high. I think, however, that they are granaries, the narrowing upper part of their walls having been ruined down. If the original depth of the pits was 10 feet, it is possible that they have belonged to the first and not to the second town. They were usually filled with fine feathery ashes, easily distinguishable from the more conglomerate decay in which they were dug. Much broken pottery was found in them. The sides of one pit showed a curious strati-

PLAN  
OF EXCAVATIONS  
AT N.E. QUARTER OF THE MOUND  
TELL EL HESY



Depth of first Town  
at South end 6½ feet.  
" North " 3½ feet  
Depth of the Second Town  
below top of Mound  
at South end 10½ feet  
" North " 5½ "

fication of burning at an angle of  $50^{\circ}$ . One pit had deep rat holes in its sides. Grains of wheat and barley were found in several of them. However, that these were remains of what had been stored in the pit is not clear, as in this fiercely burned town I found a stratum of burned barley covering a space ten feet square, to a depth varying from two inches to a foot. We also found burned sesame, pulse, grape-seeds, &c. When Dr. Post has examined these I will report his opinion.

In the town above, walls in two cases gave a hint of taking a circular course, showing that similar pits were found there also. From the plan it will be seen that one pit is surrounded by walls. A curious incident in this town was a quantity of snail shells, hundreds in number, forming quite a feature in the stratification. I confess to no theory on this subject. Yusif, however, thought it confirmed the suggestions of Greek influence, as shown by the pottery, as he had heard the Greeks were fond of snails! Several stone door sockets turned up. A ruined fireplace looked as if it might have had compartments on either side for baking. Tannûrs also appeared.

At the north end of the town we uncovered two houses in very fair condition; I speak of them as two, for though contiguous there seems to have been no door between them. The east wall of the room marked A on Plan is worn away by the destruction of the cliff. A brick taken from its outer built wall measured  $20 \times 10\frac{1}{2} \times 6\frac{1}{2}$  inches. The inside bricks were smaller. The bricks were plastered over with a mud coating. Room A contained an oven in the floor. The north and south walls were 3 feet thick, and west wall 2 feet 7 inches. The floor of the room marked B was 6 inches higher, and was spread over to a depth varying from 5 to 8 inches with burned barley. The brick, originally of a brown colour, containing little straw, was burned a salmon colour by the fire which had destroyed the grain stored for some winter hundred of years gone by. Between rooms A and D, D and E, B and C, doorways were found  $2\frac{1}{2}$  to 3 feet wide. Between E and C, and E and F, the walls were 4 feet thick. Between F and H the wall was only 1 foot 8 inches thick. These houses seem to have been built against the north city wall, but in the town below we found the face of the city wall a few feet further in, *i.e.*, to the north. Still, it is possible that the city wall may have been thickened in the later town. The brickwork is much better in shape and material than that found in the modern villages of the district. In room C we found a stone about a yard long, roughly scooped out to hold water, possibly for a smith to dip the iron in. The walls of the rooms F, G, H, and I were built of a redder brick, containing more straw. H had been fiercely burned, and many fallen bricks were found, so hardened by fire that it was difficult to break them with a hammer. To the west of H we found many brick weaver's weights. Some were round, some shaped like pears or turnips, all had a punctured hole by which they could be fastened to the wooden pegs on which the skeins were wound. They varied from the size of a top to that of a large fist. I find in the weavers' places in Beirût rough stones used as weights, but no artificially rounded stones or brick weights

as at Tell Hesi. The only objection to supposing these rounded bricks weights, is that it would take such a quantity to weigh the skeins down. In the photograph of pottery which I send these weights may be seen. In room I there were many jars, mostly broken, some containing seeds. The pottery had a dirty, oily look; possibly oil had been stored in this room, which may have accounted for its fierce conflagration. The recess (Z), in the north wall of this room, had a place like a seat, and to the left of this was a higher recess (Y) like a modern yuk, where beds may be placed in the daytime. In the walls of the recess (X) there were holes scooped out, such as are found at Malula and wherever mud houses are built for storing small objects. The walls here were good to a height of 3 or 4 feet. J is evidently a small storeroom, with a partition which never went to the roof. At first we supposed the round constructions to be pillars, but finally decided that they were originally hollow, evidently places for store. The western partition was of one thickness of large bricks, one which we took out whole being  $20 \times 20 \times 5$  inches. This closet was also filled with burned cereals, some of which were clinging to the mud plastering. Near the foundations of this town was found our only inscribed object, a rude lampstand with a few letters scratched across its base, but out of the centre—**APHEBAP**. The pottery of this second town varied little from that of the town above; the Greek black and red polished ware was quite as plentiful, and if anything the pieces with patterns were more common. A very few pieces with Amorite characteristics turned up, such as ledge handles; also some stray fragments of the painted Phœnician ware.

After clearing away the walls of the second town we dug down for about eight feet at the south end of one section, and some four or five at the north end, nearly to the base of what Mr. Petrie calls Manasseh's wall. So consolidated was the stuff through which we had to dig, that it is difficult to say whether we were working in the débris of one or of two towns. In some places the soil was clayey and of a greenish-grey, very hard to cut through. Rooms A, B, and C, in the plan of the second town, were built on ruins of similar walls in this third period. Signs of other walls were found, but not satisfactory enough to plan. Many pits were found, usually more symmetrical than in the town above. One, with a diameter of  $9\frac{1}{2}$  feet, apparently a perfect circle, had straight sides  $3\frac{1}{2}$  feet high, and contained many potsherds. Another, with a diameter of 13 feet, seemed to have an outlet, as a line of stones led to the edge of the Tell. The stones were fallen upon each other, but from the spaces between it seemed probable there might have been a sort of drain. Against this theory was the fact that the end of the supposed drain was a trifle lower at the pit, but on the other hand it is possible that the stones here may have sunk and settled, as they were placed on light débris, while at their east end they were laid on hard brickwork. Pit ovens were found and a fireplace on which a pot might be rested. The pottery differed little from that above, but the deteriorated form of the Amorite burnishing was rather more common, and some new shapes appeared. The Greek pottery

was as common as ever, and the fragment with the figure was from this period. A stone, 18 inches long by 12 wide, was found with a clean cut in it four inches deep, dressed evidently with the long stroke picking. Also another dressed stone turned up, evidently flaked and pocked. Through all the towns many sea-shells were found, some punctured with holes, evidently intended for ornament. Fragments of iron and bronze appeared—large nails, handles of vases, a knife, &c. Also many flints.

It was a disappointment to find this part of the work so unprofitable. An examination of the east face of the Tell gives some hint in advance of what may be expected below, and if we go on digging in this section we will soon come to a great many stones. Whether these will turn out all to be rough like those above, or hewn and carved like the pilasters found by Mr. Petrie in the south-west part of the mound, it is impossible to say. From the great number of pits found it looks as if the dwellings may not have been so numerous in the part of the Tell where we have been digging, but what is true of the towns above may not be true of those below. Having got so far down in this section it is my plan, if the Committee approves, to continue work in the same area in the autumn, and if everything is favourable, I may hope to get down towards the Amorite period, if not into it, though the latter is improbable, as the amount of stuff to be removed from this fourth of the hill is enormous. When the base of the earliest Amorite town is reached, it can be decided whether the results obtained from this section will justify the additional two years' task of removing the rest of the hill. If the extremely consolidated condition of the west town and the absence of objects therein is any criterion of what may be expected in the Amorite layers of the Tell, the prospects for rich finds are not very bright.

I cannot close my report without expressing my great sense of obligation to my friend, Mr. Flinders Petrie, who, during the month of January at the Pyramid of Meydum in Egypt, gave me instructions in the many details of excavation in general, and of the work at Tell-el-Hesy in particular, with a cordiality and patience that were unflinching. So clearly had he described the place to me, that when I saw the Tell for the first time, its details had a familiar air. Such genius as his for excavation is indeed rare. With Ibrahim Adham Effendi el-Khaldi, descendant of the great Khalid who took Syria for Mohammed, my relations were most friendly from beginning to end. He filled his post in a gentlemanly and honourable manner. In an unsettled country of Bedawin his presence was a source of security.

The gratitude of the Fund is due to the Rev. Dr. Elliott, of Gaza, for his kindness in permitting the tram and tents, &c., to be stored at the Mission premises during the summer.

My foreman, Yusif, was an invaluable aid, as he had a talent for disentangling brick walls from the surrounding débris, and for getting the best out of the workmen, and that not by severity as much as by tact and by kind and just treatment.

*June 10th, 1891.*

## EXCAVATING FROM ITS PICTURESQUE SIDE.

By FREDERICK JONES BLISS, B.A.

The rolling country of Philistia with its rich red soil and its varying and vivid greenness was a genuine surprise to me. Our tents were placed where the land rises towards the crests and ridges at the south-west of Tell-el-Hesy. In every direction we could look at the delicious green of wheat, barley, and grass. Only one tree was in sight, and that crowned a small pyramidal hill two miles away. Far away to the east stretched the blue line of the Judæan hills, sometimes clear and sharp, again pale and mysterious. The spring flowers followed each other in bewildering variety. The glowing scarlet of the rich-textured anemone with its heart of black velvet was succeeded by the yellower red of the ranunculus, coarser and tougher in fibre, which in turn gave way to the fragile poppy, with its almost metallic sheen. So abundant were the flowers that they even grew within the tent! During the spring months the climate is delightful. I do not hesitate to say that it is far more bracing than the climate of Beirût. The nights were often cold, and the early mornings sharp. In early April we had two or three days of severe sirocco, which occurred again in May, but in general we suffered little from the heat. Unfortunately, the water from the springs near the Tell becomes stagnant and foul in May, and the Arabs had much to say of the malaria. I think we felt a touch of it before we left.

The sharp ridge to the south-west of the town, shown by Mr. Petrie to have been surmounted by seven feet of rampart, made a beautiful promenade, when one wished to see the sun go down after a day of hard work. Looking over the green sea of verdure I felt much as if I were pacing up and down the deck of a steamer. Life had the pleasant monotony of a voyage at Tell-el-Hesy, especially for the first six weeks, during which time the workmen, whom we may call the crew, did not change.

As far as I could make out, the mound is called Tell-el-'Helu, or the Sweet Mound, from the springs of sweet water, as often as Tell-el-'Hesy, which is spelled with the hard 'H and pronounced to rhyme with missy. Sheikh Harb, the head of the Jubarat Arabs of that district, told me that the term Muleihah, is applied to the part of the Wâdy several miles to the south-west, and is not used for the Wâdy near the Tell. He did not know the name Jizair which Mr. Petrie applies to the stream joining the Hesy at the mound, following the map I suppose which writes Jizair as a name of that stream a few miles to the south-west. Sheikh Harb calledit Wâdy el Kaneitrah, from the mound, about a mile from Tell-el-Hesy.

I have never seen so strange an action of water as in this region. As Petrie points out, the soil is sandy with a cap of clay. I suppose that

after a heavy shower the water collects in the more level places, running off a slight incline until it reaches a place where the clay is thin, which suddenly gives way, when the water at once washes away the sand below, making deep irregular channels with almost perpendicular sides. The unusually severe rains of last spring altered the courses of roads. It was strange to find one's progress across a plain stopped by a sudden chasm twelve or fifteen feet deep, and thirty feet wide.

In the field west of the hill where Mr. Petrie dug, it was always possible to tell just where he had made a pit or trench by the luxuriance of the crop at any point. We turned over a lot of earth in this same Amorite field, and I daresay that next year's crop will be something very rich in consequence. The owners of the crops are an old man and his three sons, Bedawîn. It was with the oldest son that we had our principal negotiations. They were at first very suspicious of us. After a day or two I asked the name of the eldest son, and after a little hesitation he said, "Hussein." "But," I said, "I have put it down in my note book as 'Nasul,' how is that?" The young man looked foolish. "That is what I gave as my name to the gentleman last year, for I was afraid to have him write down my real name." It was quite touching to see how devoted they all became when, thanks to Yusif's diplomacy and real friendliness, we gained their confidence and affection; whereas at first they were always bothering us about harm done to crops; later they quite trusted that we meant to do the honest thing by them. The second brother, Jema'an, is a short, broad-chested fellow, with clear brown eyes, and a face as smooth as a girl's. It was a fine sight to see him stalk over the field, his cloak almost touching the ground, bristling with sword and pistols. The contrast between his abrupt and guttural speech and his winning manner made him an interesting anomaly. Salami, the son of Hussein, was the most comical little will-o'-the-wisp I ever saw. Though only five or six years old he used to pasture the cows. He was always bare-headed, and his hair was curiously cut with a long tuft hanging down behind. One moonlight night we visited the camp to see some dancing, and Salami's alert, active movements, as he sped from group to group, picking up the coloured matches we fired and threw, were most amusing. He declared his intention of coming off with me and becoming a Nusrani. He would often come to the tent for a tin or a lump of sugar.

We had many friends among the Bedawîn. Sheikh Harb often came to see Ibrahim Effendi. He had a gentle melancholy manner, and an almost whining way of speech, nor is his dress at all rich as would befit the chief sheikh. Another principal sheikh we found more interesting. As he is an outlaw, I will not give his name. The Government have had a price set on his head for several years, as he shot a man dead in a coffee shop at Gaza for insulting the memory of his murdered sister. He is intelligent, and on the occasion of a discussion we found him truly eloquent. A theft had been committed, and arrests on suspicion having failed to bring to light the thief, it was decided to gather together all the sinners of the tribe at a certain willy, or tomb of a holy man, where



they should take their oaths that they were not guilty. It was all out on paper, as the man who had been robbed was from Jerusalem, and I heard the list of ten suspects read. Our Bedawy guard, Salami, told me that if a man took a false oath at the willy he would spit blood. The assembly met at the willy, but two of the sinners did not turn up—one being the man who had been arrested and released; so nothing was done. The man robbed had the right to demand restitution from the sheikhs, but refrained, as he was kind-hearted, and feared they would make a levy for twice the amount upon the people. This demand is according to Arab law. "You stole my money," said the man to the sheikhs, "I know no thief but you," and they accepted the responsibility.

The attempts to make the arrested Bedawy confess were farcically amusing. Threats having failed, this sort of argument was employed: "Perhaps you are innocent, and we will give you a chance to prove it. Rise and search the ravines about here where treasure may have been hid, and if you are innocent God will guide you. If you don't find the treasure we will know that you are guilty, and persist in concealing it. Put your faith in God and hunt."

It is inconceivable to the western mind that such a transparently hypocritical argument can be advanced and listened to with perfect seriousness. It was delivered with a pious earnestness, and heard with respectful patience. It meant, "Give up the goods and we will let you off;" both parties knew this perfectly, and yet the pretence was kept up. The attempt having failed, threats and abusive language, with direct accusations, of course came into play again.

We found a great contrast between the demeanour of the Arabs and that of the fellahîn. A fine free carriage, an air of independence, an offishness when they feel you are a stranger, and a rare sweetness when they find you are a friend, are characteristic of the Bedawîn. The fellahîn are heavy, less alert, and far less independent. Of course it is the immunity from taxation and conscription which gives the Arabs their sense of freedom and superiority. We found the women very friendly and chatty when they came to sell eggs (ten or twelve for a penny), or when we visited the camps. These Jubarat Arabs sow and reap, but usually get the fellahîn to do the actual work. Though the tents of the tribe are scattered over a large territory it seemed always to be known where any given man might be found. If we wished to see this or that Sheikh or man we sent a guard out into the green wilderness, apparently so vast and empty, and presently he would return with the person required. I never got over the oddity of this. We seemed to be in the midst of a complex, invisible society. It was uncanny.

One day an Arab rode up on a horse and dismounted. My horse was grazing near by, and we agreed to exchange. Whereupon he gave me the rein of his horse, put his hand in mine and repeated a formula of transference, and I did the same with him in delivering my horse.

As I was riding towards Tell el Nejlleh one evening, I stopped to chat with a couple of Arabs. Said one: "Don't bewitch the Tell." "What do

you mean?" "Oh, we know what you do. You come to a Tell that is full of gold and treasure and bewitch these into the form of potsherds. Then you dig out the potsherds, take them to your country, undo the spell, and they turn back to gold and treasure." I had heard something of this before, and indeed I do not wonder that the Arabs feel the need of some such theory from their point of view to account for our expenditure of toil and money. Said I: "Shall I tell you the real reason why I dig? Is it not possible for a man to go to Mecca as a pilgrim for a few pounds, but will not a man spend a hundred on a pilgrimage, with everything fine and grand, all for the sake of religion? Now you know this is the Holy Land. Abraham, Isaac, Jacob, David, and Solomon lived here, and it is a matter of religion to come and unearth their towns and find out how they lived and what they did, if we can. Now, I don't expect you to believe me, but I am telling you the truth when I say that the purpose of the digging is not treasure, but one of religion." "Wullah, we believe you," said the man, "but what about the bewitched pottery?" Which, leaving us where we began, I rode off!

At first most of our workmen were from Bureir, a village six miles from the Tell. Before Ramadan most of the men slept at the camp, digging little shallow graves for a bed, when they covered themselves with their cloaks. The women and girls had the long walk both before and after work. Six miles' walk before 6.30 a.m., and six miles' walk after 5 p.m., with a hard day's work of carrying earth-piled baskets on the head in between, does not strike one as being an easy life, but more girls begged for work than we could employ. After a struggle between my sense of duty to the Fund and my general sense of philanthropy, I concluded that a Society for the study of the Holy Land would not object if these women and girls were permitted to reach their homes at sunset, although a half hour, or even an hour, of work might be lost. My belief is that the policy adopted secured the best possible work, and that the quality would not have been so good if we had kept them later. They worked splendidly for us, these men and women of Bureir, heartily and loyally, and I felt and feel grateful to them. At first they seemed a mass of indistinguishable fellahin, like a herd of cattle, but each developed an individuality. There was Sheikh Salim, a dear old gentleman, with a worn face, sweet and gentle, a patient and conscientious workman, who never needed to be watched. His only failing was a pardonable partiality to his little son who carried away the earth and was fond of play. As Sheikh Salim toiled in his deep trench who would recognise in this homely, quiet old man the wild figure seen at sunset dancing up to the grave of a holy man near the camp, shouting out guttural sentences, braying like a donkey, uttering the mingled roar and growl of an angry camel, then suddenly turning and darting off across country, to be brought back, swaying like a drunken man and almost as unconscious, by the young men who had rushed after him? It was whispered that this holy workman of ours would have kept on till he reached Mecca if he had

not been stopped, and that he did make nocturnal visits to the sacred city, being transported through the air !

Then there was Rahma, our messenger to Gaza, a rather fussy man, with eyes of the poorest quality, which however never let the smallest object escape them. His daughter Fatmy worked with her brother Monsûr rather than with her father. It was a delicate arrangement, owing to the fact that Henda, Monsûr's sweetheart, wasn't allowed to work with him, but could help her prospective father-in-law. Henda settled down into a capital worker, though a bolder, wilder girl I never saw. Tall, straight, active, she made a picturesque figure in her slim blue gown, with stripes of figured crimson and her fringed white veil, as she darted, sickle in hand, from trench to trench, cutting down the rich barley before each digger. I was relieved to see the strength of will shown by Monsûr in rigidly keeping Ramadan, for he is a gentle youth, and I had feared that his prospects for matrimonial control over Henda were very frail. Suggesting this to him one day, I was answered, with a smile of mingled scorn and amusement that was very reassuring. When Monsûr thought he was on the scent of treasure, a bloodhound could not have been keener.

Quite a different character was the young Sheikh Mohammed. His title was a recognition that he could read and write ; in fact, he was an embryo theological student, and wore a white turban. His somewhat sanctimonious manner and generally meritorious air rather antagonised me at first, but he turned out to be a nice and simple lad enough. He brought to work with him a woe-begone old lady, his mother, in fact, who always spoke of him with pride as "the Sheikh." She used to sit at my tent door in the evening (she was too feeble to walk to Bureir) and drink a comforting and friendly cup of chocolate, groaning out her dismal thanks. When, in obedience to my conscience, I finally dismissed her, she exhibited an unexpected degree of spirit and departed in high dudgeon.

The child of the camp was little Ahmed, son of old Abu Jorul. He would play about the works all day, digging with a small pick of his own, tottering to the steep edge of the Tell under the weight of a basket of earth, and amusing himself in picking out pretty pieces of pottery. The east face of the Tell is very steep, and after a few weeks we had formed, with the earth thrown down, a fine slide, a hundred feet long.

One was at first rather nervous to see the girls so fearlessly approach the steep edge, putting so much force into the throwing. Indeed, one day a girl lost her footing and slid rapidly to the bed of the stream, but she took it as a good joke. I daresay if the solemn little Ahmed had gone over it would not have hurt him. He was very proud when he had earned a few coppers as wages, though he always promptly lost them. It was a great job looking over all the potsherders that turned up. These were all put aside by the men, to be examined by me at four o'clock, when I would mark with a pencil the pieces I wished brought to the tent. Nicer flints, prettier bits of ware, or bits of iron were usually concealed in the turban and brought out with great anxiety, for if I took anything a small

baksheesh was always given. This is Petrie's policy, and secures care on the part of the workmen. We found nothing important, but I feel sure that I saw everything found, and the baksheesh thus given for the season was under two guineas. The system (which I defend practically rather than theoretically) has one drawback—a man will sometimes bring a thing from a distance, and pretend to have dug it up on the spot. When a man declared he had dug up a coin of Constantine's, I was much puzzled for an instant, but I soon saw that the coin had been recently worn for some time by a pocket. I indignantly refused the coin, and dismissed the man at the end of the week. The case was easier when one old gentleman called me to his place of digging and delightedly pointed to an iron ring with two or three keys attached, which he declared he had found then and there! His dismissal was prompt, and had a salutary effect. As a rule, the men had a greater interest in digging out objects than in tracing walls, though there were half-a-dozen who were pretty good at this. The plan in my report gives a fair idea of how the section of the second town looked. It was with a strange, half-melancholy feeling that I ordered the workmen to clear away the remains, and the feeling grew stronger when they began to destroy the walls we had extricated with such care from the surrounding débris. My foreman Yusif never lost his enthusiasm for wall-hunting; and was to be trusted to destroy nothing in the search. His aid was invaluable in this.

Before and after work the women kept their faces modestly veiled, but attempted no concealment during work-time. The relations between the young men and the girls were freer and more natural than I have ever seen in this country, and it must be remembered these were all Moslems. When the girls had filled the trucks high with earth the boys would stick a bunch of wild flowers in at the top and roll the truck along the rails with great glee. As a rule the women got very good treatment. We used to get the men to relieve them by filling their baskets for them. The men would receive the pay both for themselves and the women who carried earth for them. But one week we had some extra girls, and I shall never forget the awful experiences of that pay-day, when, as usual, change being scarce, we paid two or three together with a gold coin. One virago declared with a look of great meaning that she must receive her money alone. When told that this was impossible, but that she must get it with two other women, she said: "Then I shall fight them," with the air of one impelled by a not-to-be-resisted fate: she must fight.

They often sang at their work, and when things were going slack, if one would call out some word of encouragement, another would take up the cry and soon all would heartily respond. One day I was counting the number of baskets a certain girl emptied into the truck. Noticing my attention, she began to work faster; soon other girls caught the idea and redoubled their work; the men, stimulated by the girls, dug fast and furious. Abdullah, who managed the train, stood by his truck

shouting and gesticulating like a London omnibus conductor, and soon the whole place was in a perfect whirlwind of work; the most sluggish caught the wild infection, laughter resounded on every side, and in a quarter of an hour certainly over an hour's work was done. The effect of the fun lasted all day in increased good nature. These people are very easy to manage. I knew all their names. They like to be treated as individuals, and a little notice of them, if not vitiated with partiality, has a good effect.

On a moonlight night the men would dance for us. They formed a row and began to clap in time to a rude chant with refrain, bending one knee and throwing the body forward at intervals. The chant alternated with a fierce grunting that was weirdly rhythmical. When they had worked themselves up sufficiently we would call for Salami, our negro guard. Sword in hand, cloak flowing from his shoulders, this hideous creature would creep up like some beast of the forest; when in front of the line he would flourish his sword, crouch before the dancers, suddenly advance upon them with a thrust of the sword, retreat, fall on his knees, sway back and forth, advance again still kneeling, sway back once more, and all the time emitting terrible guttural cries.

More than half the men kept Ramadan rigidly. Those that did not fast were chiefly young men about twenty, who one would think could have borne the fast better than the older men. The first day, one girl who tried to fast almost fainted. Seeing one stalwart youth eating one day, I reproached him with the title of *Kafir*—that is, infidel; whereupon he severely replied, "Oh, no, if I eat in Ramadan, I'm not an infidel, I'm only a hog!" They understood that as long as they remained Moslems we respected them more if they kept to their rules. The last day of the fast the fields about the Tell were gay with *Bedawin* merry-makers. The women had cast away their sombre garb of indigo, replacing it with dresses and veils of crimson silk with long, flowing sleeves. A girl would stand on the shoulders of a woman, who would grasp her ankles and execute a slow, circling dance, the girl standing perfectly straight. Men and boys dashed about on horses, firing pistols to encourage the women. At sunset the bachelors of the tribe gave a dinner to the maidens in the bed of the stream. I was invited to the feast, but a look into the pot was enough, for I recognised therein every part of a sheep's anatomy in one unhappy *melée*. While the pot was boiling I was asked to assist in the accounts, as the bachelors were somewhat anxious to know the amount each one had to pay. My pompous little friend Jema'an was there. I asked him if he was going to show me his bride, for on this feast occasion the women were closely veiled. A fierce young fellow stepped up and declared that it was none of Jema'an's business, and I should not see her. Jema'an explained to me later that on the first feast day after the wedding the bride reverts to her relatives, and for that day the husband has no control over her.

Our good Bureir workmen stayed with us for only six weeks and

then verily the Philistines were upon us. It was very discouraging to have to begin with a raw, rude lot who cared nothing for us and for whom we cared nothing. With the Bureir people we had the advantage of Petrie's picked men and we had the pick of the town besides. The Fâlûjeh horde was an untried one, and tired us in consequence. Their laziness, dulness, and incapacity soon taught me to understand the strictures made by Petrie on the Syrian workmen, criticisms which I had resented as severe during our blessed Bureir period. However, in time we secured some good results even from the Fâlûjeh people. Hassan, who began as a labourer and ended as a guard, was a real addition to our camp force. He had a splendid physique, was honest and gentle. Years ago when journeying among the Arabs he took the fancy of a Bedawy who offered him his little girl in marriage. Hassan could not refuse the offer, and paid a camel and fifty goats for her. She was then under ten, and for several years he was a father to his little wife, caring for her with all tenderness, dressing her and putting her to sleep. He is still very fond of her, though he is now engaged to a second girl and is preparing to extend his harem. He already regrets this, but when asked why he did it, he smiles apologetically, shrugs his shoulders, and says, "What shall I do? The man would offer her to me."

We had several visitors at the excavations. My father came for ten days. Mr. and Mrs. Gray Hill called on their way from Egypt to Jerusalem, and four other parties saw the place. As I have said before, we made many friends among the Arabs, and it was very pleasant the last evening to hear from the distant camps the improvised chants sung in our honour, full of wishes for a safe journey.

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## ADDITIONAL NOTE ON THE CHURCH OF ST. STEPHEN.

By Professor HAYTER LEWIS, F.S.A.

SINCE I wrote the description of the church at Jerusalem which I believed to be that of St. Stephen, I have learned from Dr. Edwin Freshfield that another example of the receptacle for liquids which I there described as being level with the paving and occupying the usual site of the altar exists in the church of St. Eirene at Constantinople. This church is specially alluded to by me in a note to the P. P. Text Society's translation of Procopius (page 14) and it was, no doubt, rebuilt by Justinian late in his reign.

It has three aisles and an apse at the east end.

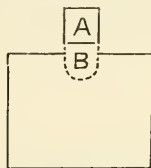
It has been for many years used by the Turks as an armoury, and was and is, an excessively difficult place to visit owing to their foolish jealousy; but it was cleared out in 1881, and fortunately Dr. Freshfield was enabled to see it so cleared.

He describes the apse (v. *Athenæum*, 15th August, 1885) as having marble benches, somewhat similar to those at Torcello, near Venice.

By an unexpected stroke of good fortune he was enabled to obtain two excellent photographs of the interior, showing the receptacle for liquids, to which I referred above.

These he has kindly lent to me.

The shape was clearly this: but the exact connection between the



large part and the lip is concealed by a large pump at A and a stone cistern at B, with which the Turks have adorned it. This is the only existing example, other than that of St. Stephen's, which I have been enabled to find.

8th September, 1891.

## RUINS ABOUT MERJ HÎN IN SUBALPINE LEBANON.

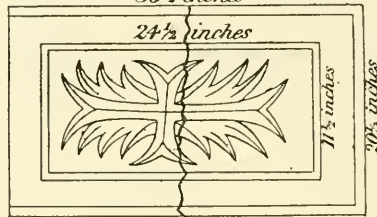
By the Rev. GEORGE E. POST, M.A., M.D., F.L.S.

ON the morning of the 22nd of July of this year, Professor Robert H. West, M.A., of the Syrian Protestant College, Rev. J. Stewart Crawford, of Damascus, and myself left our camp at Merj Hîn, a beautiful meadow in the northern part of Lebanon, just north-east of the Dohr-el-Qodîb range, and rode up the Wadi Şifşâf towards Rijâl-el-'Asherah, the northernmost two mamillary projections of the Dohr. When half way up the valley we were informed that there was a ruined village above. At the head of the valley is a meadow about half a mile long and a quarter wide, in the middle of which is a tarn. This meadow is called *Merj Buswâyyeh* or *Buswâyyeh* or *Buswâyyeh*. The average pronunciation is *Buswâyyeh*, which I have adopted. There was an Arab tent in the upper part of the Merj. Taking a couple of the cheesemakers as guides, we

climbed the slope at the end of the meadow, and at a height of about two hundred and fifty feet we came upon a somewhat level spot about a hundred yards in circumference. Before us stood the steep slope of Dohr-el-Qodib. On the right an open grove of lizzâb trees, with the ruins of the village going some hundred and fifty feet to two hundred feet up the side of the valley. On the left was a similar valley side, and near the top a cemetery of rock-hewn tombs, with a few lizzâb trees interspersed.

The ruins consist of hewn stones, often still lying in the lower courses of the walls, giving the idea of a style of construction quite superior to that of the modern villages in the remoter parts of Lebanon. Near the lower part of the ruins we found half of a sculptured stone, apparently the lid of a sarcophagus, or part of an altar. By hunting about we found the other half. I made the accompanying sketch of the whole, with the line of fracture as represented.

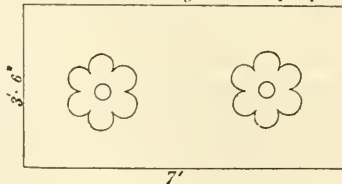
*Cover of Sarcophagus? from Buswâych  
broken across its middle  
33½ inches*



The first half was found just below and the second in the ruins of a small church, of which the semicircular apse remains. It is six feet in diameter. The herdsmen assured us that there were inscriptions, but could not show them to us lest we should use them in finding treasure.

Near the top of the hill was a sarcophagus, without any inscription. On the face of it were two rose figures sculptured into the stone.

*Face of a Sarcophagus at Buswâych*



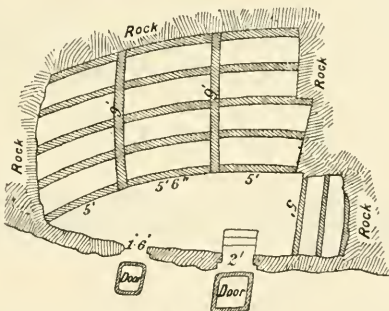
The village may have had from two to three hundred inhabitants. Its lowest portion is over 7,000 feet above the sea. At a little distance



from it, over the divide which separates the Buswâyeĥ valley from that of Ain-el-Beïḍa, are several springs, the most copious of them giving its name to the Wadi-'Ain-el-Beïḍa. Dr. Wm. Thomson came up the latter valley to its head, and then appears to have sheered off over the top of the range which forms the left flank of the Buswâyeĥ and Şifsâf valleys, and so just missed these most interesting ruins. He makes no mention of them in his picturesque description of his ride from Sîr to el-Hurmul.

On the opposite side, the right (east), of the valley are the rock-hewn tombs. I did not stop to count and plot them, as our time was limited. But there are a number, and their style of execution carries us back to the early Christian or Pagan period. I found no Christian emblems, nor, in fact, any emblems at all sculptured on the rocks, nor inside. There were many bones and fragments of bones in the sarcophagi. In several instances there were quite old juniper (lizzâb) trees growing in the mouths of the sepulchres, obstructing entrance to them.

The accompanying plan shows the construction of the principal sepulchre.



*Specimen of Rock hewn tombs at Buswâyeĥ.*

The slabs used as doors were in this case supine before their respective doors. The floor of the sepulchre was about eighteen inches lower than the bottom of the main door. It is now encumbered with rubbish. The roof is four feet above the top of the partitions between the tombs.

On the following day I obtained information of four other ruins around Merj Iîin. One is found in Arḍ-el-Ĥima (ارض الحمى) on the west flank of the enclosing mountains of Merj Iîin. My informant told me that it consisted of a portion of a masonry conduit and a built wall, halfway up the mountain side, about opposite the middle of the meadow.

He told me that in the eastern mountain mass overlooking the meadow, an hour away, there was a ruined village with hewn stones similar

to those of Buswâyeih. It is called Kharâb-el-Ĥâtim (خَرَابُ الْحَاتِمِ). There is also not far from this last Qarnet-er-Ruweis (قَرْنَةُ الرَّوَيْسِ) a small ruin. He was not clear whether there were hewn stones in it.

At the northern end of the Merj is a ruin of a more modern aspect, apparently a fellâh village of our own, or a late epoch. The outlines of the houses are easily traceable, the only stones employed being unhewn ones. It is interesting as showing a more recent occupancy of the Merj by a settled population.

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ON THE MONTHLY AND ANNUAL MEAN TEMPERATURE OF THE AIR IN PALESTINE AND ENGLAND IN THE TEN YEARS ENDING 1889.

By JAMES GLAISHER, F.R.S.

THE following discussion of the temperature observations at Sarona and Blackheath is in continuation of those published in the *Quarterly Report* for July, 1891, pages 224—239.

Months.	Years.										Means of 10 Years.
	1880.	1881.	1882.	1883.	1884.	1885.	1886.	1887.	1888.	1889.	
January ..	50·7	59·5	52·4	56·5	50·5	54·4	57·0	54·1	53·3	56·5	54·6
February..	55·7	56·2	49·8	54·2	53·3	55·5	57·8	54·2	57·6	57·5	55·2
March ..	56·6	58·3	58·0	60·0	57·4	59·5	58·3	57·2	65·3	63·0	59·4
April ..	63·6	67·2	62·4	61·4	65·6	63·2	62·4	65·5	64·8	62·8	63·8
May ..	69·0	68·5	65·3	66·0	67·1	71·7	66·2	68·3	68·2	71·5	68·2
June ..	73·6	71·0	69·5	73·3	74·0	73·8	74·7	73·3	72·8	74·2	73·0
July ..	77·2	76·7	74·9	75·7	75·5	77·3	75·8	76·0	78·9	79·0	76·6
August ..	79·0	80·1	77·6	78·8	77·4	77·7	78·6	78·8	79·4	79·3	78·8
September	76·8	78·1	76·8	74·4	74·0	77·1	76·8	77·0	77·2	78·2	76·6
October ..	73·6	72·4	72·0	73·0	71·2	74·4	72·4	76·0	77·8	78·6	74·1
November	68·8	65·5	66·3	64·4	62·8	65·2	63·1	67·5	61·3	60·3	64·5
December	56·9	56·8	59·9	56·1	59·8	61·0	58·2	60·5	56·0	57·8	58·3
Means ..	66·8	67·5	65·5	66·2	65·7	65·9	66·8	66·5	67·7	68·4	66·9

By selecting in each month the lowest and highest numbers in Table XIII, the mean temperature has varied—

Month	from ...	...	°	Year	to	°	Year
In January	from ...	...	50.5	in 1884	to	59.5	in 1881
February	,, ...	...	49.8	,, 1882	,,	57.8	,, 1886
March	,, ...	...	56.6	,, 1880	,,	65.3	,, 1888
April	,, ...	...	61.4	,, 1883	,,	67.2	,, 1881
May	,, ...	...	65.3	,, 1882	,,	71.7	,, 1885
June	,, ...	...	69.5	,, 1882	,,	74.7	,, 1886
July	,, ...	...	74.9	,, 1882	,,	79.0	,, 1889
August	,, ...	...	77.4	,, 1884	,,	80.1	,, 1881
September	,, ...	...	74.0	,, 1884	,,	78.2	,, 1889
October	,, ...	...	71.2	,, 1884	,,	78.6	,, 1889
November	,, ...	...	60.3	,, 1889	,,	68.8	,, 1880
December	,, ...	...	56.0	,, 1888	,,	61.0	,, 1885

The month of lowest mean temperature in the ten years was February, 1882, and was 49°·8, and that of the highest was August, 1881, and was 80°·1.

By taking the differences between the lowest and highest temperature in each month, and the mean of the ten years, in Table XIII., the greatest departures in each month from the mean of ten years, are in—

		Below the mean of 10 years.		Above the mean of 10 years.
January	...	4.1	in 1884	and 4.9
February	...	5.4	,, 1882	,, 2.6
March	...	2.8	,, 1880	,, 5.9
April	...	2.4	,, 1883	,, 3.4
May	...	2.9	,, 1882	,, 3.5
June	...	3.5	,, 1882	,, 1.7
July	...	1.7	,, 1882	,, 2.4
August	...	1.4	,, 1884	,, 1.3
September	...	2.6	,, 1884	,, 1.6
October	...	2.9	,, 1884	,, 4.5
November	...	4.2	,, 1889	,, 4.3
December	...	2.3	,, 1888	,, 2.7

The largest departure below the mean was 5°·4 in February, 1882; the next in order was 4°·2 in November, 1889, and 4°·1 in January, 1884.

The smallest departure below the mean was 1°·4 in August, 1884; the next in order was 1°·7 in July, 1882, and 2°·3 in December, 1888.

The largest departure above the mean was 5°·9 in March, 1888; the next in order was 4°·9 in January, 1881, and 4°·5 in October, 1889.

The smallest departure above the mean was 1°·3 in August, 1881; the next in order was 1°·6 in September, 1889, and 1°·7 in June, 1886.

The mean temperature in August was the most uniform; the next in

order were July and September, the departure in these months from the mean being, in—

August....	....	....	1°4 below, to 1°3 above the mean.
July ....	....	....	1°7 ,, 2°4 ,,
September	....	....	2°6 ,, 1°6 ,,

The mean temperature in January was the most variable; the next in order were March and November. The departure from the mean in these months were, in—

January	....	....	4°1 below, to 4°9 above the mean.
March ....	....	....	2°8 ,, 5°9 ,,
November	....	....	4°2 ,, 4°3 ,,

The month of lowest mean temperature in each year has been—

Seven times in January, viz., in 1880, 1884, 1885, 1886, 1887, 1888, and 1889.

Twice in February, viz., in 1881, and 1882.

Once in December, viz., in 1883.

The three coldest months in the year are January, February, and December, and their mean value is 55°9.

The month of highest mean temperature has always been August, and has varied from 77°4 in 1884 to 80°1 in 1881. The mean temperature on the mean of 10 years of the months immediately preceding and following August, viz., July and September, were of the same value, viz., 76°6. The month of August was warmer in the year

1880	than July by	1°8,	and warmer than	September by	2°2
1881	„	3°4	„	„	2°0
1882	„	2°7	„	„	1°8
1883	„	3°1	„	„	4°4
1884	„	1°9	„	„	3°1
1885	„	0°4	„	„	0°6
1886	„	2°8	„	„	1°8
1887	„	2°8	„	„	1°8
1888	„	0°5	„	„	2°2
1889	„	0°3	„	„	1°1

And these three months are the three hottest months in the year, and their mean value is 77°3.

The coldest month on the mean of 10 years was January, when the mean temperature was 54°6, but February is nearly as cold, being 55°2; then the mean temperature increases monthly by nearly 4½° till June, then a slower increase till August, the warmest month, viz., 78°8, and then decreases, the greatest change from month to month being from October to November, which is as large as 9°6, and further sinks 6°2 to December.

The lowest mean annual temperature was 65°5 in 1882, and the highest was 68°4 in 1889. The mean of the 10 years was 66°9.

TABLE XIV.—Mean Temperature of the Air in each Month at *Blackheath*.

Months.	Years.										Means of 10 Years.
	1880.	1881.	1882.	1883.	1884.	1885.	1886.	1887.	1888.	1889.	
January ..	32·5	31·6	40·1	41·2	43·2	35·8	34·9	34·6	36·3	35·2	36·5
February..	41·6	38·1	42·0	42·7	42·1	43·8	32·9	38·2	34·2	36·4	39·2
March ..	45·2	43·6	46·6	37·4	45·1	40·3	38·9	37·6	37·8	40·0	41·3
April ..	47·5	47·0	48·8	48·4	46·0	48·3	46·0	43·9	43·4	46·3	46·6
May ..	52·9	55·1	55·8	54·4	54·9	51·4	52·5	50·1	53·4	57·4	53·8
June ..	57·9	60·1	57·4	60·5	58·8	61·0	57·9	61·4	59·2	62·1	59·6
July ..	62·1	66·0	62·0	60·9	63·8	66·3	63·2	66·4	58·9	62·1	63·2
August ..	63·1	60·0	61·4	63·2	65·9	59·6	62·3	62·5	59·7	61·1	61·9
September	59·8	56·6	55·8	58·0	60·4	55·7	59·2	54·1	55·5	55·9	57·0
October ..	45·8	45·9	51·0	50·7	49·3	45·8	53·0	44·3	44·4	48·0	47·8
November	41·9	46·7	42·4	43·2	42·2	42·6	43·1	39·4	45·7	43·4	43·1
December	42·1	39·3	39·9	39·9	40·9	37·4	36·2	33·8	38·9	36·0	38·6
Means ..	48·8	48·4	49·6	49·1	50·4	48·1	48·4	47·4	47·3	48·7	49·1

By selecting in each month the lowest and highest numbers in Table XIV., the mean temperature has varied in—

			°		°
January	from ....	....	31·6	in 1881 to	43·2 in 1884
February	„ ....	....	32·9	„ 1886 „	43·8 „ 1885
March	„ ....	....	37·4	„ 1883 „	46·6 „ 1882
April	„ ....	....	43·4	„ 1888 „	48·8 „ 1882
May	„ ....	....	50·1	„ 1887 „	57·4 „ 1889
June	„ ....	....	57·4	„ 1882 „	62·1 „ 1889
July	„ ....	....	58·9	„ 1888 „	66·4 „ 1887
August	„ ....	....	59·6	„ 1885 „	65·9 „ 1884
September	„ ....	....	54·1	„ 1887 „	60·4 „ 1884
October	„ ....	....	44·3	„ 1887 „	53·0 „ 1886
November	„ ..	....	39·4	„ 1887 „	46·7 „ 1881
December	„ ....	....	35·8	„ 1887 „	42·1 „ 1880

The month of lowest mean temperature in the ten years was January, 1881, and was 31°·6, and that of the highest was July, 1887, and was 66°·4, these values are 18°·2 and 13°·7 lower respectively than the lowest and highest monthly temperatures at Sarona.

By taking the differences between the lowest and highest temperature in each month, and the mean of the ten years in Table XIV., the greatest departures in each month from the mean of ten years are, in—

		Below the mean of 10 years.		Above the mean of 10 years.
	°		°	
January	....	4·9 in 1881	....	and 6·7 in 1884
February	....	6·3 „ 1886	....	„ 4·6 „ 1885
March	....	3·9 „ 1883	....	„ 5·3 „ 1882
April	....	3·2 „ 1888	....	„ 2·2 „ 1882
May	....	3·7 „ 1887	....	„ 3·6 „ 1889
June	....	2·2 „ 1882	....	„ 2·5 „ 1889
July	....	4·3 „ 1888	....	„ 3·2 „ 1887
August	....	2·3 „ 1885	....	„ 4·0 „ 1884
September	....	2·9 „ 1887	....	„ 3·4 „ 1884
October	....	3·5 „ 1887	....	„ 5·2 „ 1886
November	....	3·7 „ 1887	....	„ 3·6 „ 1881
December	....	2·8 „ 1887	....	„ 3·5 „ 1880

The largest departure below the mean was 6°·3 in February, 1886; the next in order was 4°·9 in January, 1881, and 4°·3 in July, 1888.

The smallest departure below the mean was 2°·2 in June, 1882; the next in order was 2°·3 in August, 1885, and 2°·8 in December, 1887.

The largest departure above the mean was 6°·7 in January, 1884; the next in order was 5°·3 in March, 1882, and 5°·2 in October, 1886.

The smallest departure above the mean was  $2^{\circ}2$  in April, 1882; the next in order was  $2^{\circ}5$  in June, 1889, and  $3^{\circ}2$  in July, 1887.

The mean temperature in June was the most uniform, the next in order were April, August, September, and December, the departure from the mean in these months being, in

June	....	....	....	$2^{\circ}2$ below to	$2^{\circ}5$ above the mean.
April	....	....	....	$3^{\circ}2$ ,,	$2^{\circ}2$ ,,
August	....	....	....	$2^{\circ}3$ ,,	$4^{\circ}0$ ,,
September	....	....	....	$2^{\circ}9$ ,,	$3^{\circ}4$ ,,
December	....	....	....	$2^{\circ}8$ ,,	$3^{\circ}5$ ,,

The mean temperature in January was the most variable, the next in order were February and March; the departure from the mean in these months being, in

January	....	....	....	$4^{\circ}9$ below to	$6^{\circ}7$ above the mean.
February	....	....	....	$6^{\circ}3$ ,,	$4^{\circ}6$ ,,
March	....	....	....	$3^{\circ}9$ ,,	$5^{\circ}3$ ,,

The month of lowest mean temperature in each year has been

Five times in January, viz., in	1880, 1881, 1885, 1887, and 1889.
Twice in February, ,,	1886, 1888.
Once in March, ,,	1883.
Twice in December ,,	1882, 1884.

The three coldest months in the year are January, February, and December, being the same as at Sarona, and their mean value was  $38^{\circ}1$ , being  $17^{\circ}8$  lower than at Sarona.

The month of highest mean temperature in each year has been—

Six times in July, viz., in	1881, 1882, 1885, 1886, 1887, and 1889.
Four ,, August, viz.,	1880, 1883, 1884, and 1888.

The three hottest months in the year are June, July, and August, and their mean value is  $61^{\circ}6$ , being  $15^{\circ}7$  of lower temperature than the three hottest months at Sarona.

The coldest month at Blackheath on the mean of 10 years is January, when the mean temperature was  $36^{\circ}5$ , being  $18^{\circ}1$  colder than at Sarona, it then increases irregularly till July, the hottest month, viz.,  $63^{\circ}2$  being lower than mean of July at Sarona by  $13^{\circ}4$ , but lower than August at Sarona by  $15^{\circ}6$ . The temperature then decreases month by month to January, the large autumn decrease, which at Sarona is from October to



November, and  $9^{\circ}6$  in amount, takes place here a month earlier, viz., from September to October, and is as large as  $10^{\circ}8$ .

The lowest mean annual temperature was  $47^{\circ}3$  in 1888, and the highest was  $50^{\circ}4$  in 1884. The mean of the 10 years was  $49^{\circ}1$ , being  $17^{\circ}8$  lower than at Sarona.

By comparing the numbers in Tables XIII. and XIV. together, it will be seen that in every month the temperature at Sarona is very much higher than at Blackheath. The least and greatest differences in each month, together with the mean for 10 years, are as follows: in—

		the least differ- ence was		the greatest was		the mean of 10 years was
January	....	$7^{\circ}3$	....	$27^{\circ}9$	....	$18^{\circ}1$
February	....	$7^{\circ}8$	....	$24^{\circ}9$	....	$16^{\circ}0$
March	....	$11^{\circ}4$	....	$27^{\circ}5$	....	$18^{\circ}1$
April	....	$13^{\circ}0$	....	$21^{\circ}6$	....	$17^{\circ}2$
May	....	$9^{\circ}5$	....	$20^{\circ}3$	....	$14^{\circ}4$
June	....	$10^{\circ}9$	....	$16^{\circ}8$	....	$13^{\circ}4$
July	....	$9^{\circ}6$	....	$20^{\circ}0$	....	$13^{\circ}4$
August	....	$11^{\circ}5$	....	$20^{\circ}1$	....	$16^{\circ}9$
September	....	$13^{\circ}6$	....	$22^{\circ}9$	....	$19^{\circ}6$
October	....	$19^{\circ}4$	....	$33^{\circ}4$	....	$26^{\circ}3$
November	....	$15^{\circ}6$	....	$28^{\circ}1$	....	$21^{\circ}4$
December	....	$14^{\circ}8$	....	$24^{\circ}8$	....	$19^{\circ}7$

The month of least difference was January, 1884, and was  $7^{\circ}3$ , and that of the greatest was October, 1888, and  $33^{\circ}4$ .

The least annual difference was  $15^{\circ}3$  in 1884, and the greatest was  $20^{\circ}4$  in 1888. The mean difference of the 10 years was  $17^{\circ}8$ .

The months of least difference are June, July, and May, the mean difference of these three months being  $13^{\circ}7$ ; and those of the greatest differences are October, November, and December (September being of nearly the same value as December), the mean difference of these three months, viz., October, November, and December, being  $22^{\circ}5$ .

## MOSAICS ON MOUNT ZION.

BISHOP GOBAT SCHOOL, MOUNT ZION,  
JERUSALEM, *July 8th*, 1891.

In Captain Conder's report to the Palestine Exploration Fund on "The Rock Scarp of Zion," dated January 10th, 1875, he alludes to a great quantity of Mosaic pavement apparently fallen from above, near the wall, built at right angles to the scarp and where Mr. Maudslay's

work terminated towards the north. From time to time large pieces of the mosaic pavement have been found in that place. During the last week a great deal of rubbish has been removed with the intention of building an outhouse; this has laid bare a considerable portion of pavement perfectly horizontal in position. About three yards below this the top of a cistern was discovered with two well-worn rock-cut steps leading to it. The cistern was filled with rubbish fallen in from above; it is apparently a large one, though an accurate estimate cannot be formed from the small part excavated; it seems to be of the beehive shape, but it may prove to be square. There are portions of fine cement still adhering to its sides. The cement is formed of lime, sand, and pottery, though only a very small proportion of the latter.

Rude masonry, which possibly may have been the foundation of more steps, is built upon the edge of the cistern which comes immediately below the boundary wall. The cistern will be about four yards from the outer face of the scarp exposed in the Greek Catholic Cemetery. It is at a higher level than the other cisterns found in the school, and judging from its appearance is most probably of the same date.

In examining the tool-marks left on the Rock Scarp of Zion, and also those of the so-called tombs of the Kings and Judges on the north of Jerusalem, I have been surprised to find a great similarity of workmanship. The water-channels which are cut in the face of the solid rock are also on a similar pattern. Might I ask if attention has been drawn to this?

FRANK T. ELLIS.

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## THE LACHISH INSCRIPTION.

Note by Professor A. NEUBAUER.

ACCORDING to Professor Sayce's communication the original of the Hebrew inscription from Tell-el-Hesi is **לסמך** and not as Professor Clermont-Ganneau states, with too much assurance, a word in which the second letter is a *heth*. *Hasûk* is unknown as a proper name, whilst **סמך** occurs in the Bible as a composite proper name in **אחיסמך** (Exodus xxxi, 6, xxxv, 34, and xxxviii, 23) and in **סמכיהו** (1 Chronicles xxvi, 7).

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## NOTES BY MAJOR CONDER, R.E.

## I.

## THE LACHISH TEXT.

It is curious to observe that the three scholars who have treated of this text all (no doubt for the sake of brevity) speak with equal certitude as to the reading, but fail to agree, except as to the first and last letters. One may be pardoned in consequence for having put forward yet a fourth suggestion.

M. Clermont-Ganneau gives a solution which would make the text even later than I suggested, but the difficulty seems to me to be that he

also suggests a letter  which cannot be paralleled as far as I

can find on other texts. If he could give us examples in which the *Cheth* takes the form he supposes, that might settle the question in his favour.

Also it is to be remarked that the personal names *Samak*, *Hamak*, or *Hasak* do not recall any known historical names. If the name is a personal one, the owner must apparently have chosen his pot before it was baked (and it is curious that such a piece of pottery should have been so much valued), unless the letters can be shown to have been cut on the baked clay. M. Clermont-Ganneau has seen the importance of this point.

## II.

## THE LACHISH RUINS.

The Greek inscription, mentioned by Mr. Bliss, will be of importance to the determination of the dates of buildings at Lachish; for if only a few letters remain, yet these letters will show the date approximately of the text.

Mr. Petrie considers that the site was not occupied after the 5th century B.C. I should have judged from the descriptions and mouldings that the site was certainly occupied about the Christian era, and probably in the Byzantine age, and that the masonry with drafted edges, ascribed to the 8th century B.C., may turn out to belong to the 5th century A.D. This conjecture is strengthened by the account given by Mr. Petrie of the tooling of the stones.

Every letter of inscription which can be obtained is therefore of value.

## NOTES ON THE PALMYRENE INSCRIPTIONS.

By Rev. HARVEY PORTER, B.A., Professor of History and Archæology  
in the Syrian Protestant College, at Beirût.

THE inscription on the Palmyrene bust (female figure) published in the  
January *Statement*, in the article by Dr. Post, I read as follows :—

Left side.

חבֿל  
 אהא ארת  
 חלפתא  
 בר ברעא  
 זבדעתא

Right side.

כזא  
 אעל  
 אנת  
 וווי  
 1333

In Hebrew characters—

חבל  
 אהא ארת  
 חלפתא  
 בר ברעא  
 זבדעתא

בירה  
 אלול  
 שנת  
 461

Alas !  
 Aha, daughter of  
 Haliftha,  
 son of Bar'aa,  
 Zebda'thah.

In the month  
 of Alûl (September)  
 in the year  
 461 = (150 A.D.).

The final letter in the fourth line of the left inscription may be ה instead of ח. Either one is common as an ending of Palmyrene names. The first two names in this inscription I do not remember to have seen before. Haliftha seems to have the same root as Halifi, found in De Vogué, *Ins. Sem.*, No. 9. The last name is a compound of Zebed, which occurs frequently; the last part may be referred to עת, *opportune*—the whole meaning a *timely gift*. It is probably the same as זבדעתא, found in De Vogué, *Ins. Sem.*, Nos. 5, 63, 74, &c. He refers the latter part of the name to אתי, *Athe*—a certain divinity worshipped by the Syrians. The name would thus indicate the *gift of Athe*. The name Bar'aa may be referred to ברעא, a *gift*.

The correct readings of the inscriptions on the large slab of five figures published in Dr. Post's article on his journey to Palmyra in the *Quarterly* for January, 1891, are as follows, beginning from the *right*, which I number 1, 2, 3, 4, 5.

No 1, *marked* (E)—

חלנת טרע אט  
 טי טינטי ט  
 טינטי

In Hebrew characters as follows—

צלמברעתו  
 בר ברנכו בר  
 ברנבו

“The Statue of Bar’atû, son of Barnabû, son of Barnabû.”

No. 2, *marked* (D)—

נטטי ט  
 טינטי א אן א י

In Hebrew—

ברעתה בר  
 ברנבו אחוהי

“Bar atah, son of Barnabû, his brother.”

It is interesting to note that the name Bar’atah (or Bar’athah) is the same as that found upon the gravestone discovered at South Shields, published by Wright, in the “Transactions of Society of Bib. Archæol.,” vol. vi. The same name is found in an inscription on a bust published by Simonsen (*Skulpturer og Indskrifter fra Palmyra*, Kjobenhavn, 1889). Bar’atu is essentially the same. We find many of the Palmyrene proper names recurring in the same family or in different families, sometimes identical, or only with slight variation as above. The same peculiarity is observed still among the Syrians and Arabs. They employ a few favourite names generation after generation. This becomes a source of great confusion in determining the personality of historical characters. We cannot infer that the person indicated on the monument found at South Shields belonged to the family commemorated by our sculptured slab, but yet it is quite possible, as that person was a Palmyrene.

No. 3, *marked* (G)—

טינטי טי טינטי  
 א אטי א י

In Hebrew—

ברנבו בר ברנבו  
 אחוהי

“Barnabû, the son of Barnabû, his brother.”

No. 4, *marked* (B)—

טַעגל ט  
טַנ ט אַז אַל

In Hebrew—

נבוגרי בר  
ברנבו אחודי

“Nabûgrî, son of Barnabû, his brother.”

No. 5, *marked* (A)—

עמחע (טח)  
מתמ (ט)  
גטג  
אמל

In Hebrew—

עמתע(ברת)  
מקימו(בר)  
גריבונ  
אמהן

“Amtha’ (daughter) of Moqîmû, son of Ghribûn, their mother.”

The name Barnabû, which occurs so many times in these inscriptions, is found also in De Vogué, *Ins. Sem.*, No. 73. He derives it from Bar-Nebo, “Son of Nebo,” which is doubtless correct.

## SENNACHERIB'S CATASTROPHE AT NOB.

ISAIAH x, 28-34.

By Rev. W. F. BIRCH.

If any should object that Isaiah x does not refer to Sennacherib, or that Nob was not the scene of his disaster, I shall make good my title by producing evidence sufficient to satisfy such as believe that Zion, the City of David, was solely on Ophel (so called). Those who profess to believe *on evidence* that it was situated elsewhere, are obviously themselves already proof against all I can say.

My earliest attempt in *Quarterly Statement*, 1877, 51, to identify Nob was, I now see, doomed to failure from the first, since I did not know (1) how to deal with profane writers (*e.g.*, Josephus and the son of

Sirach), and (2) that Isaiah x, 28-32, must remain a *sealed* passage until the topography rightly understood be used to elucidate the history.

In regard to this passage or march an amusing variety of opinions exists. Some consider it to be too *poetical* to be *actual*, others too *particular* to be *prophetical*. It seems to me that all four epithets are in this case equally merited. This description of the last two days of Sennacherib's campaign is certainly "one of the most picturesque and magnificent representations that human poetry has ever produced." It was uttered as a prophecy, and is rich in detail, of which point after point was minutely fulfilled. Isaiah declares first *the route*, then *the reconnaissance*, and lastly *the rout* of the Assyrian. I will now give the story, and afterwards (if needed, as I hope) the proof.

### THE STORY.

Another Passover was at hand. Rab-shakeh with his strong detachment had rejoined Sennacherib at Libnah, reporting the utter failure of his braggadocio at Jerusalem.

The great king was vexed at Hezekiah's firmness; but chagrin gave place to anxiety on his learning that Tir-hakah was marching against him.

It was now necessary for Sennacherib to put himself in the best posture of defence against this powerful foe, and most desirable for him to gain possession of Jerusalem without any delay. Accordingly, leaving Libnah, he marched northwards. Up the famous ascent of Beth-horon toiled the vast Assyrian host laden with spoil; but instead of advancing by the direct road to Jerusalem, it suddenly turned to the left at Khurbet el Lattâtin and passing Beeroth went off in the direction of Bethel. The Jewish watchmen posted on Nebi Samwil (Mizpeh of Benjamin) would duly report to Hezekiah the Assyrians' approach, and sudden turn to the north, and the subsequent reappearance of their vanguard on the east side of Bethel, as if marching down towards Ai. Jerusalem would be troubled at these tidings, but Hezekiah might calmly reflect, "The Assyrian (though he meaneth not so) is but fulfilling the words of the prophecy 'He is come to Aiath (Ai)';" a prophecy leading him eventually to Nob and destruction.

Another hour brings the Assyrian to Migron; before nightfall he has laid up his baggage at Michmash, crossed the difficult "passage," and occupied Geba (Jeba). Thus the first day's prophecy is accomplished. The predicted route has proved the actual route. The march that to a hypocritical nation seemed foolish and impossible has become an accomplished fact.

In this strategical movement, Sennacherib has shown prudence. He has acquired as his basis a strong defensive position, the identical one selected by the countless host of the Philistines in the days of Saul. Hence he can retreat at will: here Tir-hakah can only attack him at a

great disadvantage; here his vessels of gold and silver, the spoils gathered from conquered cities, are perfectly safe.

Another day dawns, and more prophecy is fulfilled. The Assyrian scouts probably mount to the plateau, a mile and a quarter west of Geba, and gazing over hill and dale see on every side a terror-stricken neighbourhood. The precision of the details in Isaiah x, 29-31, is such, that it is incredible that anyone who had not visited the spot should ever have so accurately described the panorama. It may be that actually standing on one of the remarkable stones noted by Mr. Schick in his June report, the inspired prophet first foretold in impassioned language the advance of Sennacherib. Facing north (as in the view of Moses from Pisgah) he in imagination espies the enemy at Ai, and traces his advance to Migron, Michmash, "the passage," and Geba; all places within his view. Now turning round to the south he names town after town as they appear in consecutive order in the prospect before him from west to east. Standing there to-day, and turning to Isaiah x, 29-31, we have the true key to the landscape before our view. Village and ruin to the number of seven, perched each on its own hill, still remain to answer perfectly to the exact position required in this perplexing prophecy. Here on our right over against us is Ramah, the Deceleia of Baasha; next comes Gibeah of Saul suitably overhanging the valley of blood: next, almost due south, we see Gallim, the home of Phalti, Saul's son-in-law, and more to the left, Laish. Then comes poor priestly Anathoth; next, on its ridge, Madmenah (corrupted from Azmaveth), and last of all, due west of us, is the site of Gebim (close to the (true) Rock Rimmon), whose inhabitants, to escape the Assyrian, snatching up their household goods, fled for concealment to Benjamin's favourite refuge, the cave of El Jai in Wady Suweinit, a hiding-place not to be attacked with impunity, either then or now.

Meanwhile, Sennacherib, marching westward, has gained the main road to Jerusalem; by noon he has passed Shafat, and soon after on his surmounting a slight eminence, the Jewish capital bursts full upon his view. He beholds at last the object of his march, and at once the advance of the whole army is arrested. He halts at Nob, and feasts his eyes with the sight of the holy city, its eastern ridge crowned by the temple, the mount of the daughter of Zion, and (to the right of it) the more elevated western hill of Jerusalem, *i.e.*, the upper city of Josephus.

But the mid-day heat is past, yet the great host remains motionless. Why is this? Hannibal hovered about Rome, and Richard I beheld Jerusalem from Mizpeh, and turned back; but why should the great king with his enormous army come to a dead stop at Nob, only a mile and half from Jerusalem.

Prophecy had said, "As yet shall he remain at Nob this day"; but what did he know or care about such prophecy? Sennacherib, however, though haughty, was not without the wisdom of the serpent. It was all very well on the monuments to boast of capturing third-rate places like Eltekeh and Timnath (in Dan), at the beginning of the war. Lachish, however, and Libnah had recently given him trouble enough.



He knew, too, it took three years to reduce Samaria. Jerusalem was a still greater city and better defended ; in fact, it was a first-class fortress, situate in a district (thanks to Hezekiah's precautions) almost waterless in the summer months. Sennacherib knew well enough he had no time to take Jerusalem by force. His tongue and pen must therefore serve him for sword and spear, and for gaining Jerusalem he has to rely far more on bluster and blasphemy than on bows and banks.

Accordingly, in order to deal privately with Hezekiah, he dispatched to him a letter defying the God of Israel (2 Chron. xxxii, 17 ; 2 Kings xix, 10-13) and then, like a fowler watching his net, he waited at Nob to see the result, shaking his hand.

That letter ruined Sennacherib. He might with impunity carry captive 200,000 Jews (they deserved it), but when he took to writing blasphemy, his iniquity was full indeed. Accordingly it was no marvel that, when Hezekiah after reading the letter, at once, without consulting prince or prophet, "went up into the temple and spread it before the Lord and prayed" (2 Kings, xix, 16), the answer was at once brought by the prophet, Thus saith the Lord concerning the king of Assyria, he shall not come to this city, still less shoot an arrow there, still less come before it with shield, still less cast a bank against it. "For I will defend this city, to save it, for my own sake," &c.

What ! shall Sennacherib, exasperated by silent resistance, with nearly 200,000 men at his feet and less than two miles from Jerusalem, not even come near to observe it as did Titus ? No ; for the mouth of the Lord hath spoken it.

The envoys returned without any reply from the Jewish king, since the God that answereth by fire was himself sending the answer direct that very night.

We may imagine how Sennacherib would now vapour on Scopus, brandishing and waving his hand in sight of the Jews, and thus indicating that he would soon make Jerusalem an offering to his god. It was too late, however, in the afternoon for the army to move forward that day.

The sun went down, and the full moon rose over the mountains of Moab. Hezekiah, happy in his God, and some at least in Jerusalem with him, betook themselves to keep the Passover feast. On and beyond Scopus the 185,000 lay down to sleep their last sleep, while Sennacherib, perhaps, caroused with his leaders and captains. As the night advances the gentle breeze of evening grows to the fatal blast ; angry clouds drive up from the south-west, the moon is obscured ; all around is pitchy darkness. Suddenly a flash of lightning immediately followed by a crash of thunder confounds the host. "At the voice of Jehovah shall Asshur be panic-stricken" (Cheyne), and rattling hailstones quickly add to his terror. A terrific storm, like that at Beth-horon or Eben-ezer in days of yore, has broken upon the camp of the Assyrians. Jerusalem escapes unscathed. Safe within its walls the inhabitants must have witnessed with joy and thankfulness the distant raging of the elements, heaven's artillery playing with deadly effect upon the myrmidons of Sennacherib,

flash after flash of lightning illuminating the distant heights as far as Mizpeh and Tell el Ful, while shrieks of terror rent the air between the claps of thunder. At last an hour of horror ends in the stillness of death. One may slightly alter the poet's words to describe the scene :

Jam satis terris nivis atque diræ  
Grandinis misit Pater et rubente  
Dexterâ sacræ jaculatus arcis  
Terruit hostem.

In abject terror, Sennacherib and a few others had huddled together for safety into the rock-cut tombs on the west side of Nob. Possibly that now styled "The Cave of Grapes" (Enab, ? corrupted from Nob) sheltered on that awful night both the dust of the high priest Ahimelech and the trembling form of the great king. Almost all the host, to the number of 185,000 men, perished, either killed by lightning or crushed to death by hailstones. Thus Isaiah's words were fulfilled, and "thus the Lord saved Hezekiah and the inhabitants of Jerusalem from the hand of Sennacherib the king of Assyria."

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## WAS THERE A STREET OF COLUMNS IN JERUSALEM ?

By the REV. J. E. HANAUER.

IN a letter written about a year ago I called attention to a line of limestone columns, the remains, as I believed, of the ancient "agora," or market-place of the Byzantine period, and apparently still *in situ*, though enclosed on all sides with masonry. These columns are situated on the eastern side of the "Sük el Lahamin," the westernmost of the three parallel bazaars east of the Muristan. When Dr. Robinson was here in 1852 only two of these columns were visible ("Bib. Researches," Vol. III., page 168). More than a year ago I ascertained, by a personal examination of the shops on the eastern side of the above-named "Sük," the existence of five other columns of the same sort, to the south of, and in line with, the two noticed by Robinson, and making with them seven in all, visible at intervals where the plaster, mortar, and rubble-masonry have fallen from the walls which have been built between and around them. Immediately south of the bazaars are other fragments of columns, not however, as I think, *in situ*. Some are built into walls, and four, with heavy Byzantine capitals, support the dome of a building now used as a coffee-shop, but looking as if it had originally been intended for a little Greek church. Yet further southward in the long street leading through the Jewish quarter to the spot where, accord-

ing to Professor Hayter Lewis, the Zion Gate stood before it was removed westward (about four hundred years ago) by Soliman the Magnificent to the position it now occupies, I have noticed a good many fragments of columns.

Taking into consideration that one of the names of the present Damascus Gate is "Bab ul 'Amûd" (Gate of the Column—what column?); that in the street leading southwards from it one sees fragments of shafts and bases of columns used as building material; that at the point where this street strikes the Via Dolorosa there still stands, and apparently *in situ*, in a spot which thirty years ago was an open field, a single isolated column, which monkish tradition, not earlier, however, than the times of Brocardus, A.D. 1283, says was once part of the Porta Judiciaria; that in the same general line we meet with other columns before we reach the line of granite pillars that belonged to the buildings connected with Constantine's great church; that in continuation of the line, after passing the granite series, we come to a limestone set, of which, as above stated, seven columns are in position, not to mention again the displaced fragments seen at intervals further south, but in the same line, I would venture to suggest that like other ancient cities, Samaria and Jerash for example, Jerusalem had at one time a street of columns running through the city from north to south.

This idea of mine may or may not be correct; but, at any rate, I should be very grateful if any one reading these lines would impart some information on the subject through the medium of the *Quarterly Statement*. Do any of the old Pilgrims, in their descriptions or itineraries, mention such a street of columns as I suppose existed, or give any hints as to the existence of a street running through the city, and embellished for the greater part of its length with colonnaded edifices?¹

[¹ Some of our readers may perhaps be able to give an answer to Mr. Hanauer's question. It has been thought that the name *Bab el 'Amûd* may indicate a tradition that the אבן טועים, or stone from which things lost or found were publicly cried, stood near that spot. Mr. Hanauer will remember the story in Talm. Bab. Taanith, 19a, that when in answer to Hone Hamagil's prayers for rain so much fell that the people were obliged to go up from Jerusalem to the Mountain of the House, and they came to the Rabbi to pray that the rain might stop, he sent them to see whether this stone was submerged, which seems to show that it was in the lower part of the city. Bartenora states that he had found it written that the stone was גבוה מאור, "very high." Such a stone would not improbably be called in Arabic *'amûd*, "column." The "very lofty column" observed by Areulf "in the middle of the city, which meets one coming from the sacred places northwards," is probably now represented by the little pillar in the centre of the Greek Church of the Holy Sepulchre, though this can hardly be said to lie *northward* of the sacred places.—Ed.]

## SOUTHERN PROJECTION FROM THE MASJED AL AKSA, JERUSALEM.

BY THE REV. GEORGE OCTAVIUS WRAY, LL.D.

THE publication in the *Quarterly Statement* of July last of the plan of the "Southern part of the Haram Esh Sherif," in connection with Herr Schick's Report, enables me to ask for information, which I have for many years longed for, concerning the oblong building, which measures, according to the plan, some  $50 \times 15$  feet, and projects below the letters "Al Aksa," from the main building at the extreme south; it is distinguished by the shading of the walls from the figure in faint outline about 55 feet to the west of it.

It may be premised that the visit to the Holy Land of H.R.H. the Prince of Wales, in 1862, led to the relaxation, in some measure, of the rules of the Turkish Government, which had previously excluded all but a favoured few from the Temple inclosure.

My late brother, the Rev. William Mark Wray, R.N., was then chaplain of H.M.S. "Doris," which escorted His Royal Highness on his tour.

In the following year, on my own visit to Jerusalem, my brother warned me against the trouble to be expected, judging from his own experience, in visiting Al Aksa.

Turning to my journal I find that upon the 24th of March, 1863, having, on payment of the fee of 10s., obtained from our Consul, Mr. Moore, an order to visit the Temple area, I attended, with my dragoman Michel Hene, punctually at six in the morning, being cautioned not to stay after seven, when the faithful were expected, and it was not safe for infidels to linger.

We waited some time for the Consular dragoman, and when he arrived it was deemed *infra dig.* to start without the cavasse, with his pompous silver staff, like that of a drum-major. But as I refused to wait any longer we started without him, and he afterwards joined us in the inclosure, looking much ashamed of himself.

The venerable Temple Sheikh had already taken charge of our party. Being unincumbered with fellow travellers I visited every hole and corner of the place; I had no difficulty with the Sheikh, so soon as he found that I was resolute and in high good humour with him.

After seeing the Dome of the Rock and as much of Al Aksa as is above ground, we went down to the lower regions, or crypt. Being built on the southern slope of the hill the northern part of this crypt is underground, but the opposite end emerges into daylight.

As the old man, contrary to his nature, hurried over the ground, I

assumed an air of Oriental phlegm. My brother had advised me to explore the south-west corner, as that had not yet been done. But on coming to the continuation of the crypt under that part of the building named on the plan "Al Baka'at al Baidha," our further progress was barred by solid masonry filling the archway.

Turning back I observed, at the right-hand corner, the top of an archway, just visible by a faint glimpse of daylight over the heap of stones and rubbish which blocked the passage. The Sheikh violently protested against my exploring this: no one had ever done so, as it was guarded by Jins, and Michel added his entreaties. But I assured them that the Jins would not hurt me; and having wheedled the old man out of his candle, scrambled over the heap of stones and rubbish till I reached the outer building. This I found to be long and narrow, divided into two chambers, shown on the plan to be—the northern 35 feet, and the southern 15 feet in length, both of them 15 feet wide.

The western wall of one of these chambers—if I rightly recollect, it was the larger one—contained an arch, which was walled up with solid masonry. Whilst examining the building the Sheikh and the dragoman were shouting out their entreaties for me to return, but I had our one candle, and was safe from pursuit. The only daylight was from an opening to the east, pierced, I presume, as a doorway, but obstructed with rubbish. As my eyes adapted themselves to the dim light I found a number of large white marble slabs, beautifully carved with arabesque or Jewish tracery, which had probably formed part of a cornice.

The old Sheikh by this time showed signs of frenzy, and as I had, so far as I was then able, satisfied my curiosity, I returned to the crypt, and saw the rest of the place; but found no other entrance to the vaults or cloisters at the south-west corner than those walled up. I have an impression that these were called "The Crusaders' Stables;" and that they are shown on the map which was published for M. Pierotti by Kœpelin, 17, Quai Voltaire, Paris.<sup>1</sup>

Having but partially satisfied my curiosity on the spot, I now seek to do so fully by asking Herr Schick, or any other of your readers acquainted with the site, to say:—What was the cause of the jealousy shown against access to this part of the building in particular? what was the use or purpose of the projection from the main building which, aided by the plan, I have described? into what did the doorways which were walled up open westwards? what does the figure signify which is drawn in outline to the west of the building in question? are the marble blocks still there? what can be told or conjectured of their history; did they form part of the building to which the pillars belonged which are

<sup>1</sup> The Crusaders' "Armoury," not "Stables," on Pierotti's plan is the chamber marked on the Ordnance Survey plan *al Baka'at al Baidhá*. It is now commonly regarded as the former refectory of the Knights Templars.

described in *Quarterly Statement* for 1871, page 176? is the mass of rubbish removed which blocked the arch opening from the crypt into this building by which I entered?

Any other information bearing on the subject will be of interest.

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## DINHABAH.

### *A New Identification.*

BY THE REV. HENRY GEORGE TOMKINS.

WE are able to add a new identification to those on the east side of the Jordan with some confidence of its correctness. It has emerged out of a correspondence in the *Academy* some half year since in which the important place Tunip, or Dunip, now Tinnab, or Tennib, very near the ancient Arpad (Tel Erfad), in Northern Syria, was in question.

A remark by Mr. Howorth on its etymology led to a short letter from Dr. Neubauer (*Academy*, March 14, 1891, p. 260), as follows:—

“Oxford, March 9, 1891.

“Whether Tunip is Semitic or not, it seems to me to represent the name of the locality mentioned in Gen. xxxvi, 32, as **דִּנְהָבָה**, Dinhaba, the residence of Bela, the son of Beor, who reigned in Edom. This king is probably identical with “Balaam, son of Beor, of Pethor, which is by the river of the land of the children of his people,” Numb. xxii, 5; *Variorum Bible*, “of the children of Ammon.” Balaam was, according to Deuter. xxiii, 4 (5), of Pethor, in Aram Nahraïm, or Naharina (A. V. Mesopotamia). It is most likely that Dinhabah was not a locality of Edom in the restricted sense, unless the dominion of Edom extended in Balaam’s time to Aram Nahraïm or Naharina. The list of the kings of Edom (Gen. xxxvi, 32 to 40) seems to point to rulers who were not of Idumæan origin. In Numb. xxxi, 8, and Joshua xiii, 21, Balaam is put to death, together with the princes of Midian and Sihon.

“A. NEUBAUER.”

This interesting letter drew from me one in the *Academy* of March 21, p. 284, to the following effect. It appeared to me—1. That Dr. Neubauer was right in identifying the *name* of Dunip, or Dunipa, with Dinhabah, *lxx* Δενναβά; Vulg. Denaba; but, 2. That the latter must be a different place, viz., Thenib, east of Ele’aleh, west of the great Hajj road, described by Canon Tristram (“Land of Moab,” p. 222). “The buildings of Thenib cover the whole area of an isolated hill, and are much more dilapidated and ruder than those we had recently been visiting [at Kustul,

one hour south]. From Thenib and from Kustul I had the finest views of the Belka, as the country is officially called, which we had yet enjoyed.' Such is Dr. Tristram's account. The name he gives is as good as identical with the North Syrian Tennib, ancient Tunip of the Egyptian records and the Cuneiform tablets found at Tel el-Amarna.

In the new map of the Palestine Exploration Fund, with ancient names given, I find the place marked as Hodbat et-Toneib, but without identification of any ancient site.

It is only some dozen miles eastward of the old Pisgah, Nebo, &c. The way in which the name travelled across the Euphrates is shown by Franz Delitzsch ("New Comm. on Genesis," Eng. tr. ii, 248):—"Kuenen notes besides  $\Delta\alpha\nu\alpha\beta\acute{\alpha}$  in Palmyrian Syria (in Ptol. and in Assem. 'Bibl. Or.,' iii, 2),  $\Delta\alpha\nu\acute{\alpha}\beta\eta$  in Babylonia (in Zosimus, 'Hist.,' iii, 27): *Dannaia* and *Dannaba* in Moab (by Jerome on this passage testified in Lagarde's 'Onom.' 114 sq.)."

I think this is a clear and good case of identification worthy of insertion in the map, and in the next edition of Mr. Armstrong's very useful and valuable book, "Names and Places of the Old Testament."

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Patron—THE QUEEN.

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*Quarterly Statement*

FOR 1892.

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NOTES AND NEWS.

HERR SCHICK'S letters published in the present number have reference to explorations in several localities of much interest to students, especially the ancient pool north of the city, near the tombs of the Kings, the Khatuncyeh buildings, and the north-western corner of the present city. Herr Schick hazards the opinion that certain remains recently found in the latter locality show that even in remote times the city extended to there.

---

The excavations at Tell el Hesry were still being carried on when Mr. Bliss last wrote. His notes upon the work will be found at page 36, and a full report will be published later on. The party have suffered severely from the effects of the malaria for which the place is notorious. Mr. Bliss himself is almost the only one who has escaped fever.

---

Mr. Bliss's elaborate article on the Maronites has been long in our hands, but there has been so much pressure on the space of the *Quarterly Statement* that its publication has had to be repeatedly postponed. We now print the first instalment of it.

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In the *Quarterly Statement* for 1890, page 159, Mr. Flinders Petrie stated in connection with his measurements of Rock-cut Tombs about Jerusalem, that he hoped to obtain more material and work out the results more fully in future. He has now kindly furnished us with a further paper on the subject which is printed in the present number.

---

On his last journey across the Jordan Mr. G. R. Lees was taken prisoner at Busr el Hareer, and being allowed to wander about under guard discovered an inscription which may interest some of our readers.

A paper by M. L. Lortet, describing the discovery of the *microbes* of gangrene and tetanus in the mud of the Dead Sea, has been forwarded to us. This discovery is one of great interest in connection with diseases of Palestine from which explorers and others sometimes suffer, and we therefore print a translation of the communication.

---

The "Times" of December 4th contained an important letter from Major Conder on the decipherment of the Hittite Inscriptions. The subject has also been treated by him in an article in the "Daily Graphic" of the 19th inst., and he has promised a paper respecting it for the *Quarterly Statement* of April next.

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The celebrated Karnak lists of Thothmes III. of places tributary to Egypt in Palestine and Northern Syria, edited by the Rev. Henry G. Tomkins, will appear in the next volume of "Records of the Past."

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As we are going to press some further comments on the Tell el Hesi Inscription by M. Clermont-Ganneau have been received, the publication of which we are obliged to defer until our next.

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A valuable series of barometrical determinations of heights in Lebanon, Anti-Lebanon, and on Hermon, by Prof. R. H. West, has been received and will be published in the April number of the *Quarterly Statement*.

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The following is from the "Jewish Chronicle" of the 18th December:—

"The 4th December, witnessed the opening of a portion (46 kilometres out of a total of 87) of the railway between Jaffa and Jerusalem. M. Ledoux, the French Consul, M. Frutiger, a Jerusalem banker and administrator of the Company, and several Turkish officials, travelled by the first train. The first idea of the railway was conceived by a Jew, M. Navon, of Jerusalem; it has been executed by French engineers, and the issue of the shares in the Company has been entrusted to a bank in Paris, the directors of which are pronounced Ultramontanes. The steam locomotive in Jerusalem has been preceded by a still more recent invention of modern science—the electric light."

It is stated by Mr. H. Guedalla, in a letter to the same newspaper, that the undertaking is being financed by "a party of the extreme orthodox Catholics," who are believed to have taken it up "with the view of making Jerusalem annually the resort of tens of thousands of pilgrims, besides the great influence they will be able to exercise in future over the inhabitants."

The museum of the Fund, at 24, Hanover Square, is now open to subscribers between the hours of 10 a.m. and 5 p.m., except on Saturdays, when it closes at 2 p.m.

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The Committee will be glad to receive donations of Books to the Library of the Fund, which already contains many works of great value relating to Palestine and the Holy Land.

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It may be well to mention that plans and photographs alluded to in the reports from Jerusalem and elsewhere cannot all be published, but all are preserved in the offices of the Fund, where they may be seen by subscribers.

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The first volume of the "Survey of Eastern Palestine," by Major Conder, has been issued to subscribers. It is accompanied by a map of the portion of country surveyed, special plans, and upwards of 350 drawings of ruins, tombs, dolmens, stone circles, inscriptions, &c. The edition is limited to 500. The first 250 subscribers pay seven guineas for the three volumes; subscribers to the "Survey of Western Palestine" are privileged to have the volumes for this sum. The price will be raised, after 250 names are received, to twelve guineas. The Committee *are pledged never to let any copies be subscribed for under the sum of seven guineas.* Mr. A. P. Watt, 2, Paternoster Square, is the Sole Agent. The attention of intending subscribers is directed to the announcement after Maps and before Contents of this number.

Mr. H. Chichester Hart's "Fauna and Flora of Sinai, Petra, and the Wâdy 'Arabah" has been completed and sent out to subscribers.

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The following gentlemen have kindly consented to act as Honorary Local Secretaries:

The Rev. S. Bond, Church Institute, Bolton and Horwich, in place of  
Rev. H. S. Patterson, resigned.

The Rev. Canon Evans, Solihull Rectory, for Birmingham.  
Surgeon-General Hutchinson, M.D., for Bayswater.

The Rev. Charles Chidlow, M.A., Caio Vicarage, for Llandilo.

The Rev. L. S. Safford, for Spencer, Mass., U.S.A.

The Rev. T. E. Dowling, Domestic Chaplain to Bishop Blyth,  
Jerusalem.

The Rev. L. G. A. Roberts, Hudson Parsonage, Quebec, Canada.

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The price of the remaining copies of "Palestine under the Moslems" has been raised to 10s. each to subscribers to the fund, and 16s. to non-subscribers.

The books now contained in the Society's publications comprise an amount of information on Palestine, and on the researches conducted in the country, which can be found in no other publications. It must never be forgotten that no single traveller, however well equipped by previous knowledge, can compete with a scientific body of explorers, instructed in the periods required, and provided with all the instruments necessary for carrying out their work. The books are the following (*the whole set (1 to 13) can be obtained by subscribers to the Fund by application to the Head Office only (24, Hanover Square, W.), for £3 1s. 6d., carriage paid to any part in the United Kingdom only*):—

By Major Conder, R.E.—

- (1) "Tent Work in Palestine."—A popular account of the Survey of Western Palestine, freely illustrated by drawings made by the author himself. This is not a dry record of the sepulchres, or a descriptive catalogue of ruins, springs, and valleys, but a continuous narrative full of observations upon the manners and customs of the people, the Biblical associations of the sites, the Holy City and its memories, and is based upon a six years' experience in the country itself. No other modern traveller has enjoyed the same advantages as Major Conder, or has used his opportunities to better purpose.
- (2) "Heth and Moab."—Under this title Major Conder provides a narrative, as bright and as full of interest as "Tent Work," of the expedition for the *Survey of Eastern Palestine*. How the party began by a flying visit to North Syria, in order to discover the Holy City—Kadesh—of the children of Heth; how they fared across the Jordan, and what discoveries they made there, will be found in this volume.
- (3) Major Conder's "Syrian Stone Lore."—This volume, the least known of Major Conder's works, is, perhaps, the most valuable. It attempts a task never before approached—the reconstruction of Palestine from its monuments. It shows what we should know of Syria if there were no Bible, and it illustrates the Bible from the monuments.
- (4) Major Conder's "Altaic Inscriptions."—This book is an attempt to read the Hittite Inscriptions. The author has seen no reason to change his views since the publication of the work.
- (5) Professor Hull's "Mount Seir."—This is a popular account of the Geological Expedition conducted by Professor Hull for the Committee of the Palestine Fund. The part which deals with the Valley of Arabah will be found entirely new and interesting.
- (6) Herr Schumacher's "Across the Jordan."
- (7) Herr Schumacher's "Jaulân."—These two books must be taken in continuation of Major Conder's works issued as instalments of the "Survey of Eastern Palestine." They are full of drawings, sketches, and plans, and contain many valuable remarks upon manners and customs.

By Walter Besant, M.A.—

- (8) "The Memoirs of Twenty-one Years' Work."—This work is a popular account of the researches conducted by the Society during the past twenty-one years of its existence. It will be found not only valuable in itself as an interesting work, but also as a book of reference, and especially useful in order to show what has been doing, and is still doing, by this Society.

- (9) Herr Schumacher's "Kli. Fahlil." The ancient Pella, the first retreat of the Christians; with map and illustrations.

By George Armstrong—

- (10) Names and Places in the Old and New Testament and Apocrypha. This is an index to all the names and places mentioned in the Bible and New Testament, with full references and their modern identifications, as shown on the new map of Palestine.

- (11) Besant and Palmer's "History of Jerusalem."—The "History of Jerusalem," which was originally published in 1871, and has long been completely out of print, covers a period and is compiled from materials not included in any other work, though some of the contents have been plundered by later works on the same subject. It begins with the siege by Titus and continues to the fourteenth century, including the Early Christian period, the Moslem invasion, the Mediæval pilgrims, the Mohammedan pilgrims, the Crusades, the Latin Kingdom, the victorious career of Saladin, the Crusade of Children, and many other little-known episodes in the history of the city and the country.

- (12) Northern 'Ajlûn "Within the Decapolis," by Herr Schumacher.

By Henry A. Harper—

- (13) "The Bible and Modern Discoveries."—This work, written by a Member of the Executive Committee of the Palestine Exploration Fund, is an endeavour to present in a simple and popular, but yet a connected form, the Biblical results of 22 years' work of the Palestine Exploration Fund. The writer has also availed himself of the discoveries made by the American Expeditions and the Egyptian Exploration Fund, as well as discoveries of interest made by independent travellers.

The Bible story, from the call of Abraham to the Captivity, is taken, and details given of the light thrown by modern research on the sacred annals. Eastern customs and modes of thought are explained whenever the writer thought that they illustrated the text. This plain and simple method has never before been adopted in dealing with modern discovery.

To the Clergy and Sunday School Teachers, as well as to all those who love the Bible, the writer hopes this work will prove useful. He is personally acquainted with the land; nearly all the places spoken of he has visited, and most of them he has moreover sketched or painted. It should be noted that the book is admirably adapted for the School or Village Library.

By Guy le Strange—

- (14) "Palestine under the Moslems."—For a long time it had been desired by the Committee to present to the world some of the great hoards of information about Palestine which lie buried in the Arabic texts of the Moslem geographers and travellers of the Middle Ages. Some few of the works, or parts of the works, have been already translated into Latin, French, and German. Hardly anything has been done with them in English, and no attempt has ever been made to systematise, compare, and annotate them.

This has now been done for the Society by Mr. Guy le Strange. The work is divided into chapters on Syria, Palestine, Jerusalem, and Damascus, the provincial capitals and chief towns, and the legends related by the writers consulted. These writers begin with the ninth century and continue until the fifteenth. The volume contains maps and illustrations required for the elucidation of the text.

The Committee have great confidence that this work—so novel, so useful to students of mediæval history, and to all those interested in the continuous story of the Holy Land—will meet with the success which its learned author deserves.

By W. M. Flinders Petrie—

- (15) "Lachish" (one of the five strongholds of the Amorites).—An account of the excavations conducted by Mr. Petrie in the spring of 1890, with view of Tell, plans and sections, and upwards of 270 drawings of the objects found.

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By Trelawney Saunders—

- (16) "An Introduction to the Survey of Western Palestine, describing its Waterways, Plains, and Highlands, with special reference to the Water Basin—(Map. No. 10)."
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The first edition of the new map of Palestine is nearly exhausted and a second edition is in progress. This map embraces both sides of the Jordan, and extends from Baalbek in the north to Kadesh Barnea in the south. All the modern names are in black; over these are printed in red the Old Testament and Apocrypha names. The New Testament, Josephus, and Talmudic names are in blue, and the tribal possessions are tinted in colours, giving clearly all the identifications up to date. It is the most comprehensive map that has been published, and will be invaluable to universities, colleges, schools, &c.

It is published in 21 sheets, with paper cover; price to subscribers to the Fund, 24s., to the public, £2. It can be had mounted on cloth, rollers, and varnished for hanging. The size is 8 feet by 6 feet. The cost of mounting is extra (*see Maps*).

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In addition to the 21-sheet map, the Committee have resolved on issuing as a separate map the 12 sheets (viz., Nos. 5-7, 9-11, 13-15, 20-22), which include the whole of Palestine as far north as Mount Hermon, and the districts beyond Jordan as far as they are surveyed. See key-map to the sheets.

The price of this map, in 12 sheets, in paper cover, to subscribers to the Fund, 12s. 6d.; to the public, £1 1s.

The size of the map, mounted on cloth and roller for hanging, is 4½ feet by 6¾ feet.

Any single sheet of the map can be had separately, price, to subscribers of the Fund, 1s. 6d. Mounted on cloth to fold in the pocket suitable for travelling, 2s. To the public 2s. and 2s. 6d.

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*A copy of names and places in the Old and New Testament, with their modern identifications and full references, can be had by subscribers with either of these maps at the reduced price of 2s. 6d.*

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Branch Associations of the Bible Society, all Sunday School Unions within the Sunday School Institute, the Sunday School Union, and the Wesleyan Sunday School Institute, will please observe that by a special Resolution of the Committee they will henceforth be treated as subscribers and be allowed to purchase the books and maps (by application only to the Secretary) at reduced price.

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The income of the Society, from September 18th to December 18th was—from annual subscriptions and donations, including Local Societies, £579 9s. 10d.; from all sources, £656 7s. 8d. The expenditure during the same period was £757 7s. 1d. On December 20th the balance in the Bank was £244 7s. 6d.

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Subscribers are begged to note that the following can be had by application to the office, at 1s. each:—

1. Index to the *Quarterly Statement*, 1869-1880.
  2. Cases for Herr Schumacher's "Jaulán."
  3. Cases for the *Quarterly Statement*, in green or chocolate.
  4. Cases for "Abila," "Pella," and "'Ajlún" in one volume.
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Early numbers of the *Quarterly Statement* are very rare. In order to make up complete sets, the Committee will be very glad to receive any of the following numbers:—

No. II, 1869; No. VII, 1870; No. III, 1871; January and April, 1872; January, 1883, and January, 1886.

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It having again been reported to the Committee that certain book hawkers are representing themselves as agents of the Society, the Committee have to caution subscribers and the public that they have no book hawkers in their employ, and that none of their works are sold by itinerant agents.

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.

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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.

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The only authorised lecturers for the Society are—

The Rev. Thomas Harrison, F.R.G.S., Member of the Society of Biblical Archæology. Address: Rev. Thomas Harrison, Hillside, Benenden, Staplehurst, Kent. His subjects are as follows:—

- (1) *Research and Discovery in the Holy Land.*
- (2) *In the Track of the Israelites from Egypt to Canaan.*
- (3) *Bible Scenes in the Light of Modern Science.*
- (4) *Eastern Palestine.*
- (5) *The Dead Sea and the Cities of the Plain.*

Professor Theodore F. Wright, Ph.D., Cambridge, Mass., Honorary General Secretary of the Palestine Exploration Fund for the United States. His subjects are as follows:—

- (1) *The Building of Jerusalem.*
- (2) *The Overthrow of Jerusalem.*
- (3) *The Progress of the Palestine Exploration.*

Application for Lectures may be either addressed to the Secretary, 24, Hanover Square, W., or sent to the address of the Lecturers.

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## LETTERS FROM BAURATH C. SCHICK.

JERUSALEM, August 27, 1891.

## OLD POOL IN UPPER KEDRON VALLEY, OR "WÂDY EL JOZ."

A.—In the Bible "pools" are repeatedly mentioned as existing at Jerusalem, which were apparently the work of the Jewish kings. Pools in other cities also are mentioned, at Samaria, 1 Kings xxii, 38; at Hesbon, Song of Solomon vii, 4, &c. So we may judge that there were many, smaller or larger, pools throughout the land in all directions not mentioned in the Bible or other writings. In Jerusalem there are mentioned, 2 Kings xviii, 17, an "upper pool," which is mentioned also in Isaiah vii, 3; xxxvi, 2. If there were an "upper pool" it follows there must have been a "lower pool," which is really mentioned in Isaiah xxii, 9. According to 2 Kings xx, 20, King Hezekiah made a pool, distinct from the "upper" and "lower" pools; generally brought in connection with "Gihon," of which an upper and lower "outflow" are mentioned, *i.e.*, the modern "virgin's well" and the pool of Siloah. But it seems to me that 2 Kings xx, 20, implies that Hezekiah made a pool outside the town to gather the rain-water, which was then carried down to the city by a conduit, as is the case with the present "Birket Mamilla" west of the town, not like Siloah, &c.

Now, there is in the upper part of the Kedron valley, in the so-called "Wâdy el Jôz" (see Ordnance Survey map, scale  $\frac{1}{100000}$ ), a place where two shallow valleys unite, one coming from the west from the watershed (south of Schneller's "Orphan Asylum") on the Jaffa road. The other from the north-west from the neighbourhood of the "Tombs of the Judges." Where these two valleys unite there is a kind of depression, in which in the rainy season a collection of water stands for a few weeks. Sir Charles Wilson and others have thought that this was once a *pool*, although not inserted as such in any plan or map of Jerusalem, nor mentioned in any ancient books. In the Ordnance Survey map, scale  $\frac{1}{100000}$ , it appears as a portion of *land* west of the "*ruin*" in "Wâdy el Jôz," at the Nablus road, and the elevation number "2,458." At this "*ruin*" Sir Charles Wilson made in 1865 some excavations. He writes in "Ordnance Survey of Jerusalem," 1865, on page 77, as follows:—

"*Excavation, No. XIII.*—This was made to try and discover the conduit which took the water of the pool near the tomb of the kings to the city, but failed in its object. A trench was dug along the face of the scarpèd rock at the eastern end next the road, as this seemed the most likely place to look for it. The bottom was reached in one place at a

depth of 33 feet 6 inches in an old cistern, where the exit of a conduit running down the valley would probably have been. Though the conduit was not discovered the excavation showed that the pool must have been of great extent."

As this point (the old cistern) is 400 feet distant from the centre of the depression where in winter the water is standing, it gave the idea that the pool must have been about 500 feet long. So the matter stood till recently.

In February last I got an order from the Palestine Exploration Fund Committee "to trace the aqueduct from the pool by the north road; when found, a very little excavation will show whether it ran to the Damascus Gate or to the modern St. Stephen's Gate."

To find the aqueduct certainly one must look for it at its starting point at the *pool*, and so I did. The accompanying plan and section will explain and illustrate what I have done, to which I wish to say:—Shaft No. 1 first was sunk on the eastern edge of the depression (or present pool, as it may be called) at a surface level 2,438 feet; the bottom of the old pool was found at a depth of 8 feet 6 inches; it consists of hard concrete of *hamra*, horizontal. A gallery was then begun eastward in order to find the east wall, but a very large stone was met with, so that we were obliged to give up the work, and begin it beyond this stone, where shaft No. 2, on higher ground, was made. Here we soon, only a few feet under the surface, came to the wall. We went down on its western side, finding the bottom at a depth of 14 feet, the floor declining very slightly towards the west. The wall itself is not exactly perpendicular, but  $1\frac{1}{2}^{\circ}$  declining (*i.e.*, on the top about 5 inches more east than on the bottom). So it was found also at other places. Finding here no opening or any mark of an aqueduct's mouth, we made a gallery northwards along the wall. After 16 feet a kind of *trough* cut into the rock was met; it is 16 inches wide and 16 inches deep (*see* section 4); its bottom 14 inches deeper than the bottom of the pool. It runs at a right angle from the wall westwards for 4 feet. It was once arched over, and part of the arch was still standing, but immediately on the wall the arching was broken. When this was found I thought, *Now we have the aqueduct's mouth!* But there is no opening in the *wall* as I hoped; it is built up in such a manner that one can hardly say whether there has once been a hole there or no. It is without cement, whereas the top (or outside) of the arching was once very well cemented. In order better to examine this region shaft No. 3 was made, but threw no further light on the matter, the bottom was found level and at the same depth. Then I thought to make shaft No. 4 on the *outside* of the wall, where perhaps the former opening might be still recognisable. The wall was found to be 8 feet 9 inches thick, and at a depth of from 6 to 7 feet we met the *rock* in its natural, uneven state, and had to give up the work here. So we made the shaft No. 5 west on the lower ground in the present pool, finding the bottom as in shaft No. 1, but nothing else. Then the Gallery "*b*" was made eastwards, when after 8 feet the vaulting, or

*jebeloneh*, (as the native called it) already mentioned was met with, going in a north-western direction. By destroying it we found it to consist of

The Jebeloneh.



Flooring.

small stones and bad mortar cemented properly *outside*, but no channel. Then Gallery "c" was made with the same result.

In order to examine the south-eastern corner of the (old) pool shaft No. 6a was made at the end of a wall of loose stones, hoping there to find some *masonry*. We came soon on the top of a strong wall, and clearing its top northwards, to find its edge, it proved to be the *southern* wall of the old pool, but running in an obtuse angle of  $20^\circ$ , the bottom in level 2,430 feet 6 inches. Now I thought it well to explore also the *northern* corner, so shaft No. 7 was made. No corner, but the bottom of the same structure as in the places mentioned hitherto was reached at 2,429 feet. Then a gallery was made northwards, and after  $7\frac{1}{2}$  feet the corner was met, a little rounded out, and the northern wall in a right angle with the eastern. Having found no *outlet* in the eastern wall nor in its corners, I thought it may perhaps be in the *northern* wall, so we laid the wall bare, there finding its top also cemented, but the outer edge broken, and going downward in a shaft, No. 8, found that there *was no watercourse*, but only rock. As I had no leave to dig on the *western* side of the pool (the ground belonging to another person) I could not examine the two other corners of the old pool, but this may be done after a little time, as the ground has since been sold to a building company. Before leaving this interesting pool I made a shaft No. 9, in its *centre*, finding the bottom nearly in the same level as in the other shafts. The bottom of the old pool was nearly level, declining slightly towards its north-eastern corner, and the surface of the present ground is the same.

By finding the east wall of this old pool it was proved that it never extended eastwards to the Nablus road. It was a much-reduced one, about  $152 \times 165$  feet square and 14 feet deep. It had once a good parapet wall, the stones of which are now fallen into the pool, and were met with by us. In shaft No. 9 (middle of pool) we found only earth. I have also to mention that south-west of the pool, about 50 feet distant, is a ruin, which certainly was once in connection with this pool as a *guard-house*; it is near the old road (inserted in Ordnance Survey map  $\frac{1}{100000}$ ) and consists of a cistern and a room over it, with a stair to go up on its top, fenced round about. There are, south and south-east of the pool, the foundations of similar buildings, but without cisterns, and long ago destroyed. North of the latter I found a conduit, No. 17, hewn into the rock in a level 2,444 feet 6 inches (much higher than the bottom of the pool), its object being to carry away the water coming down from west, and not letting it pass into the pool, but eastwards into the valley.

B.—From the eastern wall of the pool now described there extends for about 20 feet eastward, a higher, uninteresting, comparatively level

portion of ground, beyond which is the place in which Sir Charles Wilson made the above-mentioned excavations. Here might have been a *second* pool, so I made some shafts, &c., in order to find the levels for comparison with those of the pool. See Plan.

Shaft No. 11 was first made and the rock found  $16\frac{1}{2}$  feet from present surface, at a level of 2,437 feet 6 inches. The rock scarp, which is visible on the corner above ground, went nearly perpendicularly down, as an east and south wall, of  $24\frac{1}{2}$  feet high. Not any bit of concrete or cement could be detected; it was no pool. Then shaft No. 12 was made, the rock floor reached at a level of 2,446 feet, declining in a slope of two degrees south-westwards. Between the two points is situated the "old cistern" in which Sir C. Wilson once made a shaft, as related above. In order to bring uniformity in the matter, I resolved to make again a shaft, No. 13, in the great accumulation of *débris* in this cistern. At 13 feet we met *water*, which hindered the work, but beating down a rod of iron, I found the bottom to be at a level of about 2,431 feet 6 inches, or  $26\frac{1}{2}$  feet deeper than that of the 2,458 feet level, as given in Ordnance Survey map, a little north-east of the cistern in the road. As Sir C. Wilson gives in the above quoted 33 feet 6 inches, there seems to be a difference of 7 feet, so I think Sir C. Wilson measured from ground 7 feet higher, very likely from the top of the wall, at the south-eastern corner. A water-pipe comes into this (broken) old cistern in the western wall, at a level of 2,449 feet. On the top of the eastern wall is a broken "moosfay" or filter-pool, No. 15, and (No. 16) a broken "sebil" or water-drinking place, formerly for the use of passers-by. The other cistern, situated in a court to the north, and the ruined little house, have no archæological value. Opposite to this cistern, rock scarp, &c., on the west, at a distance of 110 feet, is another rock scarp, running parallel, visible only at its southern part, the northern part being buried under a heap of stones. Twenty feet east of it formerly ran a thick wall (of which a portion still remains in the south). Considering all this, it is clear that in this part there was once a kind of court, sunk into the rock, having on the east, south, and west sides rock walls, into which a stone wall was inserted, so as to form a kind of road to the court. As there is not a bit of *hamra*, or cementing, it certainly was no *pool* or place for keeping water, and as the Tombs of the Kings have a nearly similar court and passage cut in *rock*, I thought that perhaps this court was made for *Jewish tombs*, and made in consequence the shaft No. 14, in the hope of finding there the entrance to a mausoleum, but to my disappointment, found only a natural cleft in the rock full of small stones.

Very likely the new proprietor will dig near the south wall for foundations to new buildings, and tombs may then be found. In the neighbourhood round about are many rock-cut tombs, and a group of them, north of the pool, was discovered some years ago, of which I will report separately.

By all this searching and excavation no advance was made in tracing *the conduit*, of which I will now speak.



C. The conduit conducting the water from "Wâdy el Jôz" pool to the city. The question is, did this aqueduct come in by the Damascus or the St. Stephen's Gate? As matters stand I have to answer, *near Stephen's Gate*, either into the *Birket Israel*, into Bethesda, or direct to the Temple—which, I cannot decide. When the carriage road was made from the *Burj Laklak*, at the north-east corner of the present city, down to the Garden of Gethsemane, an aqueduct was cut through, just east of *Burj Laklak*, 325 feet distant, where the surface level of 2,425 feet goes through. The aqueduct is there 4 feet high, 2 feet  $3\frac{1}{2}$  inches wide, with masonry walls on both sides, and covered with long, flat stones; its flooring is on a level 2,416 feet. It was levelled down from the bench mark on the *Burj Laklak*, but as this was done by my assistants there may be some slight mistake. The bottom of the pool is accordingly 2,430 feet, hence the decline, from the old pool, 14 feet, in a length of 5,000 to 5,500 feet, as certainly the aqueduct, following the contour of the ground will have larger and smaller curves. If this remainder is really a piece of the old aqueduct, connecting the "old pool" with the city, which I fully believe it is, then we know the aqueduct did not go as a tunnel through the rocks (except for short distances), but as an *open channel* partly hewn in the rock, partly formed of masonry, and covered with flat stones. Fourteen feet fall for such a distance is quite enough; the aqueduct from Solomon's Pool to Jerusalem has much less. The decline at the bottom of this aqueduct is, at the point where it can be seen, rather more than this, and if the whole length had the same it would come out even more. But all these old aqueducts are made with the decline sometimes more, sometimes less, and even sometimes level, as I found in the Siloah channels.

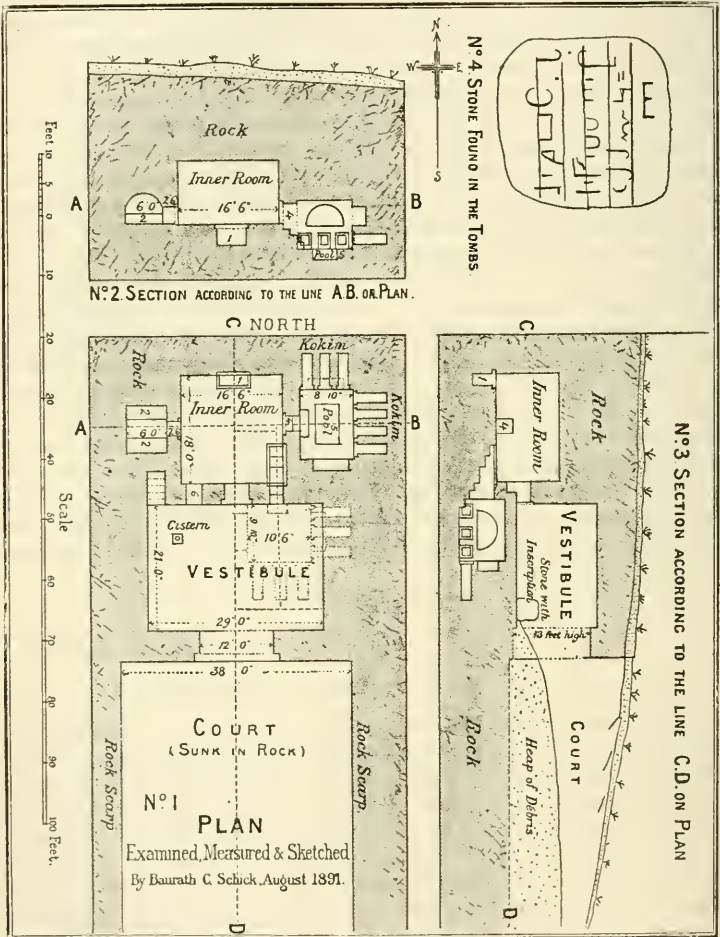
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September 2nd, 1891.

#### REMARKABLE ROCK-CUT TOMB IN "WÂDY EL JÔZ."

About ten or twelve years ago, a Moslem of Jerusalem enclosed with a dry wall a piece of ground and planted trees and vines there. In doing this he discovered a group of *rock-cut tombs*, which he showed, as occasion arose, to Europeans. I heard of it, but knowing that Dr. Guthe and other able travellers had visited the place, I did not think it my duty to go there. But when recently engaged with the excavations at the "old pool," in Wâdy el Jôz, I was invited by the man to see also *his* place, which I found rather remarkable, and as hitherto I have not seen any plans, or drawings, or description of it, I have measured it and prepared plans, &c., of which the following is an explanation and description. The place is now a vineyard, about 550 feet north of the "old pool," on the gentle northern slope of the Wâdy (the upper Kedron Valley). There is first a very long approach or court, 38 feet wide, cut into the rock; as the slope of the hill is gentle, a great length (more than 50 feet) was required to come in a horizontal line so deep that any large opening could be cut

into the rock-face. The entrance is 12 feet wide and 13 feet high, with a layer of rock over it 6 feet thick. There is now a great accumulation of earth there over which one has to step downwards, and so through this large opening into a vast ante-room or vestibule 21 feet wide, 29 long,



ROCK-CUT TOMB IN WÂDY EL JÔZ.

and 13 feet 8 inches high, with a smooth and evenly horizontal ceiling. On the floor is, towards the western side, and near the northern, the mouth of a cistern—but nothing else. In the middle and at the foot of the north wall there is a door, 3 feet 8 inches wide, and only 2 feet 9 inches

high. It has an excavated rim round about (like the large opening of the vestibule). If one goes through this low door northwards he has to go down 2 high steps, and comes into an inner room of smaller size, 18 feet long,  $16\frac{1}{2}$  feet wide, and 10 feet high. It is dimly lighted by the door and a kind of window, and in order to see well one must have a lighted candle. In the northern part of the floor is a sunk tomb, marked 1 in plan, having on its top a groove round about into which flagstones were put, and when this was carefully done, no one could recognise that there was a grave underneath. In the west wall is a little door leading to a small place with a stone (2) bench on each side, over which is an arch. These benches were for laying a dead body upon. The entrance could also be sealed up with a flagstone, put into the groove in an upright position. Opposite, in the eastern wall, there is a similar door (4) leading by four steps downwards into another small chamber, 8 feet 10 inches wide, by 11 feet 6 inches long, and 7 feet 10 inches high. On its floor there is a sunken pool 6 feet by 4 feet, and 2 feet 3 inches deep. On the southern side of the room there is a rock bench arched over for one dead body, and opposite, in the north wall, a similar one, but under it three *kokin*, as plan and section show. In the east wall, opposite the entrance, is also such a bench, and under it four *kokin*, so that ten dead bodies could be located in this chamber. Coming back into the larger room (not the vestibule), one sees on the east wall, towards the south, steps going downwards, the opening also surrounded by a groove to receive flagging stones, when it had to be closed. Going down, one comes into a similar small room 10 feet 6 inches long, 9 feet 10 inches wide, and 7 feet 4 inches high; situated under the large room or vestibule, and shown in the plan only with dotted lines. It has on its west side a bench arched over, and on the south side also such a bench, and three *kokin* underneath, and the east side exactly similar. This chamber was adapted for nine bodies.

On looking to the Plan No. 1 it will be seen that this underground chamber takes up only the half of the vestibule space, in the other half there is now a *cistern*; but I think there was originally also such a burial chamber as the window (b) indicates. There was a stair on the west side (like the one on the eastern) leading down into it, but when, in later time, it was wished to make a cistern, the tombs were partly destroyed, the recesses being filled up with masonry, and so the stairs disappeared, the rock over them being broken, in order to get a *window* for the inner room. All that I have described is *cut into the rock*, and very carefully done; the workmanship is excellent, so that this tomb (to a certain degree) rivals the tombs of the kings. But no door-opening had a *movable door*, only flagging stones. I could also not find any ornament, but all is straight and plain.

In the vestibule there is now lying a stone—3 feet long and broad, and about 1 foot 3 inches thick, in figure not square and not round, but, say square, and the four corners, in a rough way, broken off. On one of its sides is a curious inscription, perhaps Coptic, or old Hebrew. Either the inscription was never carefully finished, or it was afterwards partly

destroyed. A squeeze cannot be made, as the surface is too uneven. I have copied it as well as I could, and give it here in one-tenth of its real size. The curiosity is, that there are five straight lines cut deeply into the surface, and the letters put into them, so very likely these lines form parts of the letters, as sometimes in Cufic writings. The people say this stone was found there when clearing the place. The late Mr. Schapira had seen it, as he put his name on it with oil paint, and the people say he wished to buy it, but before taking it away he went to Europe and came back no more.

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*September 22nd, 1891.*

1. The road to Bethlehem from the Jaffa gate, down the Wady Rahabi, and up again to the British Ophthalmic Institution, has been made wider, and so the western slope of the modern Mount Zion has been cut into. In the *débris* are found many pieces of pottery, from which I got some with engravings on them, of which I send you squeezes. To me they seem to be modern.

2. Further down, at the south end of the Sultan's Pool, and on the slope of Mount Zion, a *wall*, 13 feet thick, of large stones not bevelled, was found, going from the southern end of the Pool eastwards towards Bishop Gobat's School as far as the Aqueduct. At first I thought it might have been a stair, but closer examination showed it to have been simply a *wall*. Whether once connected with the Aqueduct, and the mound (or bridge) of the Pool, or with the fortification of the city, one cannot say. There are still three layers of large stones resting on rock, with two faces. Enclosed I give a copy of Ordnance Survey plan,  $\frac{1}{2500}$  of this region, in which this piece of wall and the widening of the road are inserted in red.

3. Higher up, north of Bishop Gobat's School, also some diggings took place, by which a rock-cut cave was found, measuring 8 by 10 feet and  $7\frac{1}{2}$  feet high, with an opening towards the west. The chief entrance to the cave was from the top on the east side. The situation is shown and marked with a little red square on the enclosed paper.

4. Inside the town the Sisters of Zion have bought an old Turkish house north of their institution at Ecce Homo Arch (on the north side of Via Dolorosa), and pulled it down. A large rock-cut passage was found, the one I cleared out in 1871, and hence no new discovery. But at the corner where it bends from the eastern to a southern direction in a sharp angle a small pool was discovered, cut into the rock, 6 by 8 feet wide, and 5 to 6 feet deep. Its use I could not understand, as it was *not* connected with the Aqueduct. Nor could I find any traces of cement, which would have proved it to have been once used for water. So I think it was simply a cellar.

September 25th, 1891.

Near the north-western corner of the city at the New Gate some excavations have been made by which some things of interest were discovered.

1. Inside the city, at one of the corners of the city wall, near the "Institution of the School Brethren," a place was thoroughly cleared in order to build a new house there. The rock was reached in some places about 9 feet below the surface, or about 2,496 feet above the sea; in some places deeper. There was found a walled and vaulted room 12 feet long from west to east, 9 feet wide from north to south, and about 8 feet inside high, of no special interest. In the middle of the place a threshold was met resting on rock, and behind it (westwards) a kind of room, partly hewn in the rock 8 feet 6 inches wide—the length I could not ascertain, owing to large stones having fallen there, but it seems it was not more than 10 feet. It had on the south side a window, between two large hewn stones. North of it were found two little cisterns cut into the rock, but now without a roof. They are 9 feet deep, and about 8 feet long, and 6 feet wide. East of them stands a large bevelled stone in an upright position; which had apparently been used in the restoration of former rooms.

In themselves, these little rooms and cisterns are of no great interest, but being found here, as in other parts of the *old* city, they prove that even in remote times the city extended to here. From what I have seen in Jerusalem, it is clear that in ancient times the rooms of dwelling houses were *very small*, either hewn in the rock or built with masonry, and so it is with the cisterns. The large ones were public.

The *present* city wall which runs here, and forms an angle, is put on *débris* without proper foundations, and most probably was built by Suliman, A.D. 1537. At that time also the mosque (M on plan) in the corner was built, and the other buildings near. In one is a Mohamedan tomb. Outside of them I found mason's work, and also some remarkable stones (used again), one having on its face a half pillar, the other with a groove

which might take up the half pillar, thus :



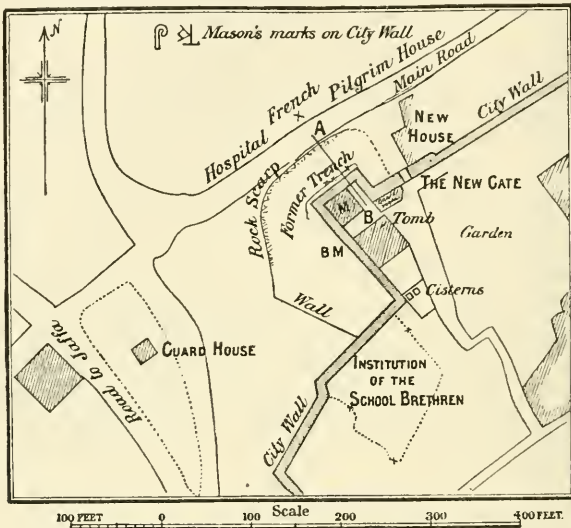
Now put in

the wall thus :



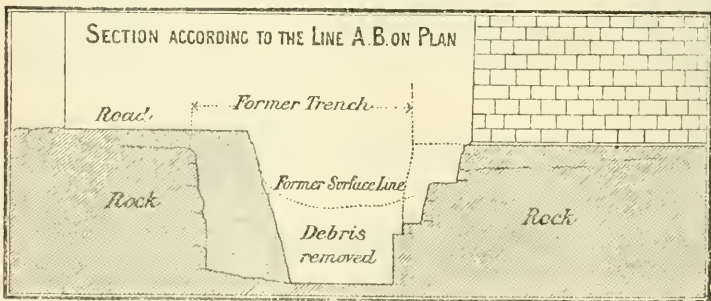
2. *Outside the wall*, between the corner tower (with its mosque) and the French Hospital and Pilgrim House, the former *ditch* has been cleared by its proprietor, a French gentleman. Its rock bottom was met at the level of 2,556 feet above sea.

Towards the north, the rock on which the tower stands falls down in several steps, as the Section shows. The lower steps are original, but the upper ones became in later time (by breaking away stones) of a different



NORTH-WEST CORNER OF CITY.

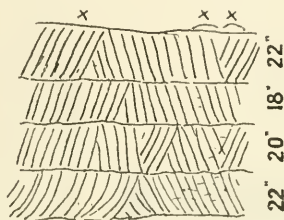
shape from before, which I think was as pointed out with a dotted line (in Section). The most remarkable part is the *lowest* step; its face showing rather strange chisel markings (see sketch). Mr. Flinders Petrie speaks in his Tell Hesi Book, page 36, of "*flaking*" and "*pocking*," but I do not



quite comprehend what he really means by these words, in regard of chisel marks. He gives them as "*Phœnician*"—hence very remote—and on this rock he would find, as I think, "*flaking*" and "*pocking*,"

together with *long strokes*, of which he speaks on the same page—which he calls also “certainly early work.” If my assumption is correct, then will these *tool marks* on the rock in the ditch *prove* that, even in such a remote time, the town came up as far as here. To enable others, more competent than myself, to decide upon those chisel marks, I will describe them.

They are nearly *straight strokes exactly parallel*, and  $\frac{3}{8}$  inch distant one from the other, *vertical*, but to some degree sloping, and sometimes forming a slight curve, so that one row of them meets another at a sharp angle (*see* the form given on sketch). They are not deep, but from 15



SKETCH SHEWING CHISEL STROKES  
ON THE ROCK SCARP.

to 18 inches long, and so arranged as to form *layers* one above the other. Between the lower end of the strokes of the upper layer, and the top end of the strokes of the lower layer, is a nearly horizontal rib left. I counted five layers, making up a height of nearly 8 feet. At the rounded corner of the rock are only *such* strokes or chisel marks as here described—but more to the west, where the rock forms a kind of recess, there are, besides such strokes or chisel marks, many other *pointed* marks, dotted over the whole, which I think Mr. F. Petrie calls “*pocking*.” In the squeezes these latter are better visible than the long strokes, which do not come well out, as they are not deep, and yet the surface, on the whole, is very uneven. But to the *eye* they are, on the rock, strikingly visible, even differing in colour; as the stroke mark itself is whiter than those parts which were broken off by the stroke.

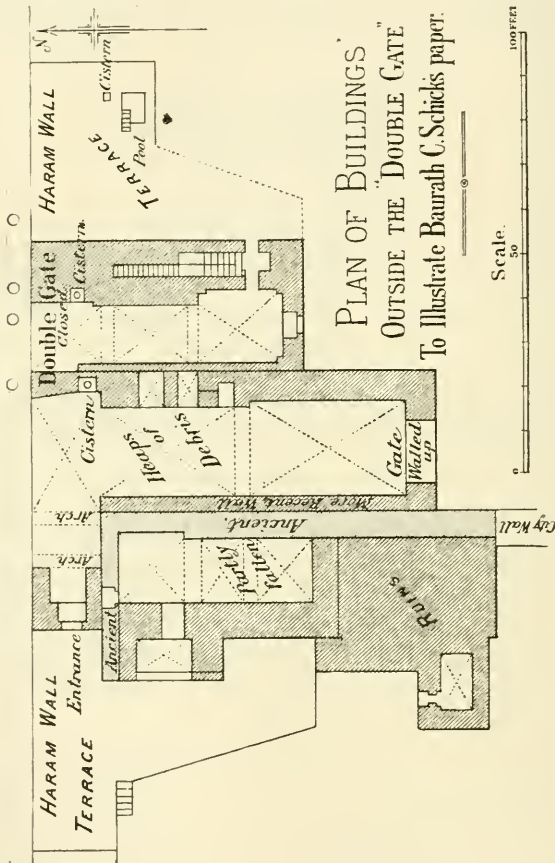
The proprietor of the ground said he also tried to make squeezes, but they do not come out well on account of the chisel-marks being not deep enough, only the dotted.

November 10th, 1891.

THE BUILDINGS SOUTH OF THE “DOUBLE GATE.”

In the *Quarterly Statement* of this year, page 320, certain information respecting these ruins is asked by the Rev. G. O. Bay. I have since visited the spot again and made a plan of it, which I now send.

Dr. T. Tobler, in the spring of 1846, visited this place, and described it in his book "Topographie von Jerusalem," Berlin, 1853, I Vol. page 490 to 494, and when I read this account I went with a friend to the spot, and we could see by daylight and with leisure all that is to be seen there, only to the "double gate" we could not go, as the hole was closed with stones. Later, in 1872, when I made a model of the Haram es



Sherif, to be sent to the Vienna Exhibition in 1873, I went often to the Haram to measure there, and also into this projecting building. The Director of the Austrian Hospiz of that time, the Rev. G. Gatt (now Roman Catholic Missionary at Gaza), wrote, in 1875, a book on Jerusalem "Beschreibung Jerusalem und seine Umgebung," Waldsee, Carl Liebel, 1877. In it he describes this building, page 105, at some length,



mentioning several things which I had not observed, so I went again there, but found his description somewhat obscure, and in a way as if there was formerly not only a double gate, as now, but a triple gate; which apparently was *not* the case. The stones (large and bevelled ones) of the Haram wall can be seen there, and also that they are still *in situ*, but no door or breakage in the lines of the stone courses can be seen, except a water-spout which is cut into the stones from top to bottom of seven layers. From the Khatuniyeh garden, a person going eastward, near the Haram wall, comes to a flight of steps, at the top of which is a somewhat large terrace or platform, on which the main buildings are standing. South of this terrace the buildings are *ruined*, and without shape, except one little room which is inhabited (*see plan*). At the middle of the platform one could formerly go eastwards between two grand piers, and then through an arched *doorway* into a larger vaulted room, which has towards the south also a door, but there the vault is broken, and further on are only ruins. Going back again to the terrace, and then northwards, one comes to the (more) Northern Gate, close to the Haram wall. The gate is now locked, and the inside used as a magazine, and at the same time as a stable, for I found horses there. Only an old woman being at home, she for a small *bakshish* opened the gate for me; but I found nothing which I did not know before. The largest stones are where I have marked them on the plan as "ancient." I could easily recognise three different kinds of masonry; that is to say, some the remains of the *original building*; then masonry of quite another time, but also of finely dressed stones, only not so large, and without any bevel, which I consider to be Byzantine; and then the third kind, more modern, very likely Mohammedan, or some Crusading and some early Mohammedan.

At the last restoration some of the walls (as may be seen on the plan), were made thicker by adding a side wall, and a vaulted chamber 85 feet long, nearly 20 feet wide, and 24 feet high, was formed there. On its floor a heap of filth and rubbish now lies. There is in the east wall of this chamber the mouth of a cistern and the recess is covered with a *pointed arch*; more to the south of the same wall, which is 8 feet 4 inches thick, are three arched openings closed on the eastern side by a thin wall, through which if an opening were made one might pass into the chamber entered by the Rev. G. Octavius Wray. The large white marble slabs "beautifully carved with Arabesque or Jewish tracery, which had probably formed part of a cornice," mentioned by him, are probably those now in another vault, at the northern end of the *double passage*, just before the stairs begin. Concerning these marbles, some were utilised in the repairs of the buildings of the Aksa and Sakhrah, whilst others were removed *from* these buildings and from other places as being no longer wanted, so there is always a lot of such marbles in these dark vaults, and no mystery connected with them.

There are a few other points which deserve attention. Near the window of the eastern part of the "double gate," and *outside* the wall,

is an ornamentation often shown in drawings and photographs with the title "Hulda gate." This ornamentation, forming richly decorated low arches, is also seen *inside* the building. Over the eastern pillar of the western gate it is now hidden by plaster, but its *western* end is seen perfectly preserved on the Haram wall at the corner of the middle of the three long vaults (*see* plan and elevation). In the elevation I have restored the two arches: it is an ornamental casing outside of the two large lintels over the doors.<sup>1</sup>

Originally there was along the Haram wall, a tunnel-like *passage* 15 feet 4 inches wide, as an examination of the building with the breakages in the walls and a glance at the plan will show. *Under* this passage are cisterns, their mouths situated near the southern wall. This passage was formerly for the greater part uncovered and existed already in the time of the Temple, and I cannot help thinking that the "Khatuniyeh" with its very ancient walls in the east and south, may be the celebrated "Millo" of Scripture, separated from the Temple by this passage, and connected with it by a bridge. Hereabout we may one day find the tombs of a few *Jewish kings* who were not buried in the so-called "Kings' tombs" (compare Ezekiel xliii, 7-9; 2 Kings xii, 20; 1 Kings xi, 27; 2 Kings xxiii, 30; 2 Kings xxi, 26). The garden of Uzza was certainly near the King's house (the Aksa and structures eastward of it now perhaps occupying its place), and the "house Millo," 2 Kings xii, 20, was a palace standing on the Embankment of Millo, which embankment closed the Tyropean Valley, and so protected the "City of David" towards the *north*.—1 Kings xi, 27.

It is remarkable that a line drawn north and south through the centre of the Aksa Mosque falls when prolonged exactly into the middle of the middle and longest of the three vaults. This is also shown by M. de Vogue in his book "Les Eglises de la Terre Sainte," Paris, 1860, p. 279, and I cannot help thinking that in this building, outside of the wall, at the double gate, *we have the substructions of the Emperor Justinian's Church*, built in "honour of the Virgin"—described by Procopius, *see* Palestine Pilgrims' Text Society's Book—the "Buildings of Justinian"—London, 1888, where at page 138 I read that the houses (of Jerusalem) were built either on hills or upon flat and open ground, but not so this church; "The Emperor ordered it to be built upon the highest of the hills," and gave its size both in length and width. For this the hill had not room enough, "but a fourth part of the church towards the south and east" (that the substructions under the Aksa, and Solomon's Stables had to be restored seems meant by this) "in which the priests perform the sacred mysteries, was left with no ground upon which to rest," so "they laid foundations at the extremity of the flat ground" (the Haram Area) "and constructed a building rising to the same height as the hill." (This is exactly the case with the buildings south of the double gate.) "When it reached the summit, they placed vaults upon the walls and joined this

<sup>1</sup> See "Ordnance Survey of Jerusalem," Notes, page 39.

building to the other foundations of the church" (the Haram Area), "so that this church in one place is built upon a firm rock" (the Haram basement), "and in another place is suspended in the air—for the power of the Emperor had added another portion to the original hill." All this is exactly the case with this building in question, and what Procopius further says on the large stones refers to the old basement of the Haram Area. According to the late Mr. Fergusson, the stones used by Justinian were smooth and of an ordinary size, and just so, they are in the said buildings. So I have not the least doubt that we have, in this foundation, that made by Justinian, and am only wondering that for such a long time it was overlooked. The Aksa from the south wall to the cloister in north (but without including the latter) is 245 feet long; a fourth of this will be 61 feet 3 inches, which is the length of the projecting building, without the prolongation of the middle vault. When the passage along the Haram wall, of which I have already spoken, was *open, i.e.,* not closed by any cross walls as it is now, the church appeared to stand in "the air."

In the above explanation I have, I think, answered most of the Rev. G. Octavius Wray's questions, in *Quarterly Statement*, 1891, p. 321.

As to the enquiry whether the marble blocks formed part of the building to which the pillars belonged which are described in *Quarterly Statement*, for 1871, p. 176, I have to say, that the pillars mentioned in the passage quoted standing in the so-called "Mosque of Omar" were utilised as old materials when the "Mosque of Omar," which is comparatively modern, was built; to what building they belonged before, one cannot say. Their present basement certainly did formerly not belong to *them*, and so it seems to be with their capitals. The marble pieces spoken of, first called "slabs," by Dr. Wray, and at the end, "blocks," are of various kinds and sizes, which is already indicated by the writer calling them "slabs" and "blocks." I know that some of them were used again recently, and one cannot say that they all belonged to a *distinct* building. From the *Mimbar es Saif* some stones and slabs were removed, and replaced by modern marble slabs, the workmen not being able to restore the old forms, or not considering them necessary. And so it was done in some places even in the Dome of the Rock.

To answer the *first* question respecting jealousy on the part of the Moslem guide, a somewhat lengthy explanation is needed. There is certainly no *mystery* behind; even in much smaller things one *may* and *must* often make the same experience. In the first place, Christians must remember that the strict Moslem having himself no interest in ancient things, cannot understand how we can care for them, except there be some treasure hidden; moreover, he believes that for a European and Christian to go to a place where he has no right to go, or to touch things which he ought not to touch, will certainly have some evil result, or may be connected with some sorcery or witchcraft, especially in a *dark* place where the *Jins* are lodging. Now it was allowed from higher quarters, that respectable Christians may come into the Haram es Sherif and see there the places in general, the Dome of the Rock, the Aksa, Solomon's

Stables, and for a time also the "Golden Gate." These therefore the guardian might show to Christians, but to allow them to see anything else or to go elsewhere, is *not* in the order. Also when anyone wishes to go and see a place except at the time of the regular tour, the guide will object, fearing bad consequences of some kind. Thus, for instance, travellers, even although expressly wishing it, are not brought to the Mosque of the Prophet, which is underground, near the wailing place of the Jews, and where there is the ring to which the Prophet tied the animal "Burak," on which he made the heavenly journey, and are not allowed to go up to the roofs of the large mosques. Only a good *bakshish* had the effect one day, when I was with Mr. Alex. B. M'Gregor, of Glasgow, at the Haram, of obtaining permission for him to go up on the roof of the Sakhrah. The "Golden Gate" was formerly, without difficulty, shown to travellers, but no more now for several years. Even one day, when I acted as guide to the Grand Duke Sergius of Russia, the Pasha being with us said, "We cannot go there," and when the Grand Duke persisted in going, the Pasha said, "Well! but the risk will be upon *me*." All this arises from the wish that Europeans shall not see and know everything. Many years ago, when one day examining the platform on which the Sakhrah stands, I found a walled-up door, and two windows, which could be easily opened and what was inside be examined. I spoke to the man who had charge of the repairs, and he promised to open the place for me, when they came with their work there; but when after six weeks I went there again, it was not only not opened, but covered with a large heap of rubbish which the moment I had made the suggestion to open they had ordered to be thrown there.

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#### CHISEL MARKS IN THE COTTON GROTTA AT JERUSALEM.

THE entrance to this large grotto is furnished with an iron door, which on going there I found to be locked. Making enquiry for the key at the Municipality, I was told that it was in the keeping of the man who has charge of the petroleum, which is stored in a new building outside Damascus gate. As the Executive Committee wished me to examine the chisel marks there, I went with a few men and the necessary things for lighting up the inside, and very carefully examined the various chisel marks. In the first place I have to say that I found none like those in the ditch at the north-west corner of the city, of which I reported in one of my former letters.<sup>1</sup> Then in the cave the rock face has been much blackened by the many visitors who often had torches, or by fires, which prevents the chisel works being everywhere seen; also the rock is written over everywhere by names of visitors, and touched with their hands, many pieces being broken off, so that not many places can be found where the chisel marks can be seen in their original state, and good

<sup>1</sup> See page 19.

squeezes made. Further, the chisel marks are of various kinds, and not in regular order, as shown on Fig. 1. But it can be seen in the grooves, of which I give in Figs. 2 and 3 a view and section in full size, that the chisel with which the strokes were made was  $\frac{5}{8}$  inch broad. It must have

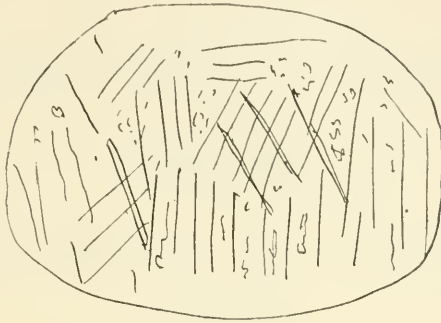
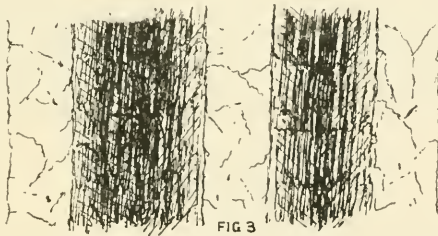
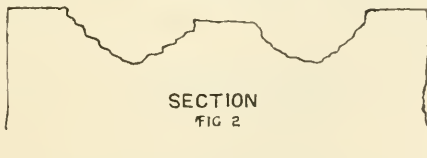


FIG. 1.

had some length, and a short wooden handle, the labourer working kneeling or sitting in the native manner. The handle was at most 2 feet long, as can be ascertained by the curve lines of the strokes in the grooves.

FIG 3  
(Reduced.)SECTION  
FIG 2

(Reduced.)

I made several squeezes, but they did not come out well, so I send only one. I have written with pencil "deep" in the groove, and "high" in the shoulders. Very long and straight strokes I could not find; they are all short, and in many places the marks look merely like "pocking."

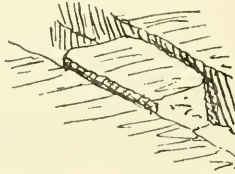
NOTE ON THE CHISEL MARKS ON ROCK DESCRIBED  
BY HERR SCHICK.

By W. M. FLINDERS PETRIE.

THE long strokes which Herr Schick figures (p. 19) are clearly not "long-stroke work," as that is used for the final facing of masonry. These strokes,



in layers 18 to 22 inches high, are the quarryman's work in cutting out



stone by picking a groove, and then breaking out the block left. Such was the mode of quarrying in the Cotton Grotto and in Egypt.

The "long-stroke" dressing is very fine, on the Beit el Khulil it is invisible except with a slanting light. The strokes are not in regular levels as above (each level marking a batch of stone removed), but



irregularly all over the surface in various directions, just as the trimmer moved his position.

The "pock-marking" is used regularly and evenly all over a face to



reduce the surface—the blows bruising away the stone. There seems to be some amount of pocking on the one squeeze.

As to squeezes, it is best to wet the stone thoroughly first, and then to beat on the soaked paper with a brush until it is entirely pulped and

broken away from the prominent points, if deep. Then a second sheet well wetted and beaten on until the prominences just begin to break through, will unite with the first and hold it all together when dry. There is no harm in losing the extreme prominences as they are always most worn and weathered. What is needed is to have a full impression of the hollows, which show the cutting most definitely, and are not worn at all. The best brush is that used for cleaning carriage wheels, all bristles, as it is narrow enough to get sufficient force on the surface beaten, and can be used one end dry for dusting and holding by, and one wet for beating and washing. It is hard work to do a good squeeze, and two square feet is as much as can be done without a rest for the arm, which soon becomes exhausted. It needs a peculiar stroke, exactly square with the stone, and not dragging either way, or the paper is soon broken. Of course the paper should be left on till dry if possible, when it can be dragged off; but if the stone is rough, and the squeeze good, it holds pretty tightly by keying in.

I may as well explain the quarrying more. A trench is cut in the



ground by picking out; each time the workman takes a fresh start at the top, and cuts down, he leaves a slight ledge or line on the side, these lines are about 1 to 2 inches apart, as that is the depth he picks out at one time. These lines are generally curved slightly, and produce a sort of



pattern. The depth of one batch of lines is the depth of the block of stone cut out by one groove. Then if he turns and works from the other end, the lines run opposite. The height of each row, or depth of the groove of



cutting, is decided by the length of the pick handle and power of the workman. It is usually 18 to 30 inches. There are ceilings cut out in this way in the quarries in Egypt.

## THE TOMB-CUTTERS' CUBITS AT JERUSALEM.

By W. M. FLINDERS PETRIE.

THE accompanying five plates are not intended for plans of the tombs there named, as many other details should be shown in a proper publication of these tombs for study. These outlines are only records of measurements, which were made with a view to examining the subject of the cubits; and hence the details of the forms and positions of the loculi, the relations of the chambers one to another, and the elevations of the tombs are necessarily omitted. The actual measurements were made in centimetres, and are, therefore, not exact to nearer than about  $\frac{1}{4}$  inch. 2011.32.

It is not possible here to enter on the principles of the whole subject of meteorological study; and hence I shall not attempt to repeat, either here or in future, the statement of the methods and details, which can be seen in brief in the "Encyclopædia Britannica" (*Weights and Measures*). All that need be done here is to show how a definite and certain result can be attained from a mass of material such as is here published, and what the results are which may be here reached.

Firstly, we should begin without any preconceived theories, or any attempt to find certain known cubits in these dimensions, as there is enough material here for us to deal with it quite impartially by induction. Secondly, we may set aside all the minor dimensions of doorways, loculi, &c., as being too liable to be influenced by mere considerations of convenience. We should only deal here with whole dimensions of chambers. Thirdly, in case of dimensions evidently intended to be alike, as opposite sides of a chamber, or sides of a square chamber, the mean of the similar lengths will be stated. Fourthly, we must be ready to find that some chambers of a tomb may have been cut by a different cubit to that used in working later parts of the same tomb; in two cases such differences occur, and tombs VII and VIII are each of two periods, denoted by A and B here.

As probably many of these tombs were cut by workmen using the same cubit, we ought to find similar dimensions recurring in them. The first step is then to look for repetitions of one dimension. We soon see that rather over 110 and 220 inches are very common lengths. Denoting the tombs by the Roman numerals, we see in I, 225·6, 116·8 inches; II, 112·2; III, 115·6; IV, 113·2; VI, 115·8; VII B, 111·5; VIII B, 114·0; XI, 114·6; XIII, 222·6; XIV, 113·0; XXVIII, 113·6; XXXV, 114·4; XXXVIII, 113·2, 223·5; XL, 227·7. Here it is evident that we have a main dimension repeated continually. But we do not know how many cubits are contained in 113 inches. To find this we must look over the other dimensions of these same tombs for other recurring lengths. We



find one group in I, 88·4; II, 87·8; III, 88·1. Another, in XXXV, 131·3; XXXVIII, 132·6. Another, I, 161·8; XXXV, 160·9; XXXVIII, 157·3; XL, 158·7. Another, XI, 170·9; XL, 172·4, 172·5. We thus have lengths of about

88·1, 113·0, 132·0, 159·7, 171·9 and 226 inches,

all pretty certainly even numbers of the same cubit. And it is therefore seen that the multiples

4, 5, 6, 7,  $7\frac{1}{2}$  and 10 cubits

are the numbers in question, as we thus reach

22·0, 22·6, 22·0, 22·8, 22·9, 22·6 inches

for the cubit.

The next step is to search over all the other tombs (in which the 113-inch length does not occur), to see where the other multiples of this cubit recur. In this way we finally separate from all the others the following tombs, as being all cut in terms of the 22-inch cubit:—I, II, III, IV, VI, VII B, VIII B, XI, XII, XIII, XIV, XXI, XXIII, XXIV, XXV, XXVI, XXVII, XXVIII, XXIX, XXXV, XXXVI, XXXVIII, XXXIX, XL. And, adding together all the lengths in these tombs, and dividing them by the number of cubits, we reach an average of

**22·61 ± ·03 inches**

as the mean cubit. That is to say, the true value is as likely to be between 22·58 and 22·64 as to be beyond those limits. And this cubit was far the commonest, as it is used in more than half the tombs.

Taking now the residue of the tombs, we again search for recurring quantities, and note the following. In X, 122·1; XVII, 122·5; XXII, 125·6; XXXII, 124·3; XXXIX, 244·0.

Taking the other dimensions of these same tombs, we have altogether 82·1, 93·8, 124, 194·3, 206·3, 244·0, 515·8 inches; and these stand to one another in the ratio—

4,  $4\frac{1}{2}$ , 6, 9, 10, 12, 25,

which are thus the numbers of cubits in these lengths. Seeing this result, we add also XV, 102·4, as being half of 206·31.

Adding together the dimensions of these tombs, and dividing by the number of cubits, we reach an average of

**20·57 ± ·04 inches.**

Taking next the "Tombs of the Kings," the dimensions of which do not recur elsewhere, we have lengths of

140·3, 158·9, 166·5, 178·4, 233·8, 296·6, 356·2, 463·2,

and these are in the ratios of

12     $13\frac{1}{2}$     14    15    20    25    30    40.

Adding the dimensions, and dividing by these numbers, we find a foot of

**11·77 ± ·04 inches.**

We next see recurring dimensions in V, 191·5; and VIII A, 190·1; and in the same tombs V, 105·2; and VIII A, 103·8. The dimensions of these tombs are

95·0, 103·8, 190·1, 241·3, 285·4, 383·2  
105·5, 191·5,

which are in the ratios of

8    9    16    20    24    32

whence the average is

**11·90 ± ·04 inches.**

Of the remaining nine tombs there are but few dimensions. In IX, is 98·9; and in XXXI, 99·9; which may be the same. In XVIII is 152·4, and in XX is 152·8, probably the same. The first chamber of VII, called here VII A, is 75·3 and 126·0; the ratio suggests 3 and 5 cubits of **25·25 ± ·05**.

The few dimensions left are so scanty that no result can be safely drawn from them.

We will now compare the results with those already known. Twenty-four tombs were cut with a cubit of 22·6. This appears to be the Phœnician cubit: at Carthage, 22·3, perhaps in Sardinia as 22·1, in the Hauran as 22·2. But this new determination of it is of better value than any of the others, and nearer to its original home; and it should therefore be taken as the standard in future. Six tombs show 20·57 inches, which is the regular Egyptian cubit, varying from 20·5 to 20·7. The "Tombs of the Kings" were cut with a foot of 11·77 inches, which is pretty certainly the Roman foot of 11·6, or in the provinces, 11·7. And this agrees with their probably Roman age. Two other tombs may perhaps be on a rather longer form of the same. And only one chamber of one tomb would indicate the cubit of 25·2 inches, which there is some reason to regard as the old Jewish cubit. The broad result is that,—at least in the later ages such as the Greek and Roman times, to which these tombs mostly belong—the Egyptian and Phœnician measures predominated in use; and their amounts must be taken into account in any study of the literary statements that remain to us.

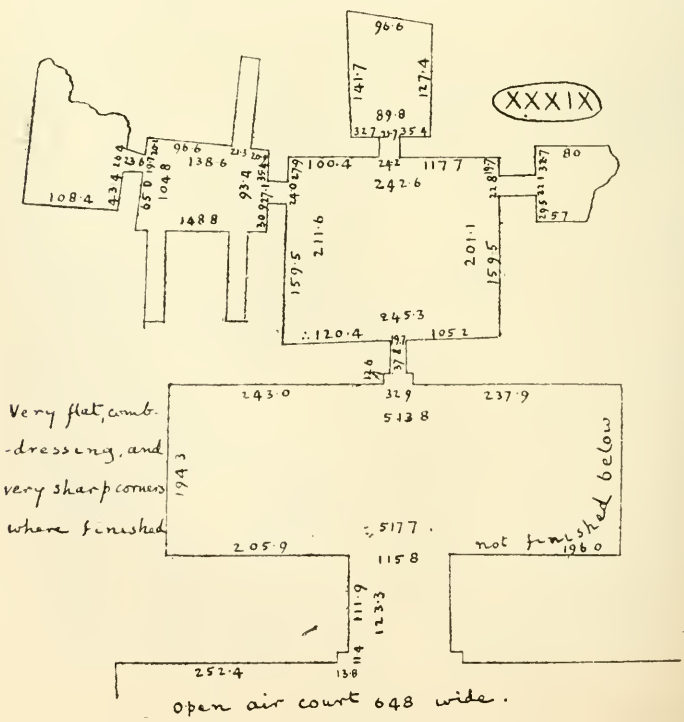
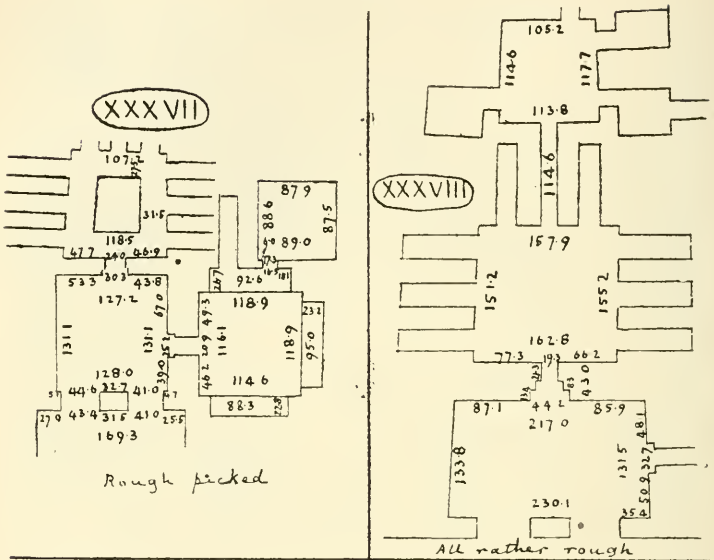






IV.—TOMBS IN KEDRON VALLEY.

1 : 100.

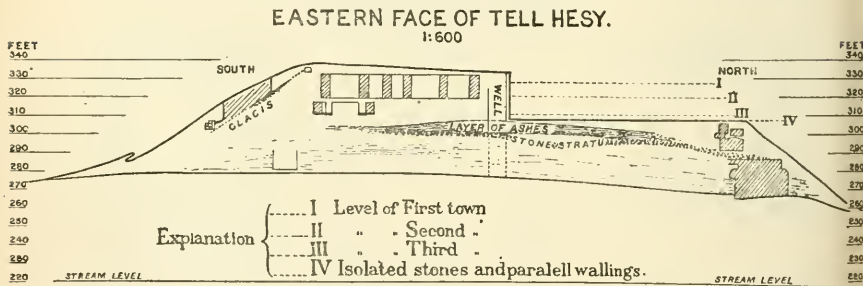




## NOTES FROM TELL EL HESY.

By FREDERICK JONES BLISS, B.A.

PENDING the full report, which cannot of course be drawn up until the end of the season, I am, under date of December 1st, jotting down a few random notes relative to our fortunes this autumn. Perhaps in this country it is better not to allow for delay, because some extra delay over and above one's calculations always must creep in. I left Beirut September 22nd, but, owing to calculated and uncalculated delays, Gaza was not reached until October 7th. The land journey is long and tedious, so I hired a sail boat, and leaving about noon we arrived at the landing beach at dusk. Our captain was the second of a family of boatmen in Cook's service, the elder brother, Suleiman, is the man who saved so many lives from the Russian wreck last spring, and is as modest as he is brave. His rigid total abstinence extends even to tobacco and coffee. His one idea is to see his brothers settled honourably and soberly in life. Finding camels on the beach, we easily transported our luggage to the hospitable home of



Dr. Elliott. On Saturday, the 10th, we pitched our camp at Bureir, six miles from the Tell. Our old workpeople flocked about us, showing their welcome in active assistance in setting up the tents. We had heard so much of the malaria arising from the Wady el Hesay that it was necessary to choose a camping place with great wariness. Monday, however, found us established in a spot where we hoped the prevailing winds would bring us no harm from the odious green slime in the river bed. That very afternoon squares were measured off for the men in the former place of excavation, and early the next morning each square contained a man with pick uplifted and two girls with baskets ready, and at the sound of the whistle all fell cheerfully to work. It will be remembered that our last month of work was devoid of interest, so it was a pleasure that the first hour revealed plenty of walls in every direction, showing that we had reached the base of a third town, the town formed by "Manasseh's Wall." In our work here we have found that in some cases one generation builds



directly on the ruined walls of a former, while in others, the fallen and decayed brick of a lower town intervenes as one consolidated mass between the clear walls of a lower town and the clear walls of an upper town. The process would be thus: first we have a lower town, with walls originally, say, 10 or 12 feet high, these are ruined down to 3 feet, and are covered inside and out with the fallen brick to a height of from 3 to 4 feet. Now a new generation comes in which either clears away the fallen rubbish, building on the old 3 feet of walling, or else leaves the consolidated rubbish, building on it. It is the clearing away of this rubbish, which is sometimes found between town and town, that is so tedious to the excavator, although he must keep a sharp look out in hope that perchance something may have fallen in the rubbish. If we continue to dig down in this section, which is 100 feet square, until we reach the original soil, we shall successfully uncover three or four more Jewish towns, and three or four Amorite.

Alas! the warnings of the people in regard to the malaria proved too well founded. Our camp consists nominally of nine: the Effendi, his servant, my foreman, my cook, four guards, and myself. Of this original nine I alone have escaped the fever, and the sick list must also include substitutes who came in as later victims. One tent has had to serve as hospital. Epsom salts and quinine here have numbered among our chief imports. And as to the workmen, their results have been continually broken by fever. We have had several taken ill while at work; they beg for "shulphata" (their title for quinine), having faith in it as a cure-all. Those who may remember the people I mentioned by name in my last paper will regret to hear that Sheikh Mohammed, the embryo theological student, has died of the fever. Munsoor's nuptials with the bold Henda have been postponed on account of an illness, which has reduced the nice lad to a shocking shadow. Rahuma, his father, has been a victim. In fact, it has been a very sober sort of season. Nor has the fever been confined to this region. All over Syria it has prevailed. They say here that a season of excessive rain like last winter is always followed by an unhealthy autumn. Now that the winter rains have begun we hope for better things. Sober also is the landscape about us. Last spring we had a cheerful contrast between the rich greenness of the crops and the reddish soil, but now both green and red have faded into a pale monotonous monochrome of brown. Until quite recently we have been alone in the dreary desert, for the Arabs have kept away from the poisonous river bed. Only at noon large herds of melancholy cows are driven to the wells in the stream-bed for their daily drink, to be driven away again on a hopeless search after nourishment from the barren fields. In revenge they refuse to yield us a drop of milk. Our own drinking water is brought six miles from Bureir, as we dare not drink the local water until after heavy rains. The Arabs keep civil, and we are constantly asked to give them rough foundation stones for building. Some mischievous boys finding a truck standing on the rails one Sunday could not resist the temptation of rolling it down the hundred feet of earth

which forms a slide to the river below, fortunately without damage to the truck.

We have at last found something that looks like a public structure. I can hardly call it a building, for only the very curious foundations remain. I reserve a careful description and plan for my report, but I will here give a general idea of it. The structure, or series of structures, consists of parallel lines of brick-wallings and isolated stones. Beginning at the east we have first a wall, then two lines of stones, then another wall, then two lines of stones, then two walls, then two lines of stones. Exact measurements were not made by the planners of this structure, but they are in general these:—Between two lines of stones, or two lines of walling, or between a line of stones and a wall, the distance is about 8 feet from east to west, between stone and stone from north to south the distance is on an average  $3\frac{1}{2}$  feet. Roughly speaking, the length of the structure from east to west was 100 feet, and from north to south about 40 feet. The isolated stones (which are sandstone), are roughly squared, and of irregular sizes. That they are in place is shown by the rough order and by the fine white sand that occurs under each one and nowhere else. They were originally, probably, below the floor of the place, as rough river pebbles, as if a pavement were formed either at a level with their top or a little higher. Hence they may have been the foundations of small columns of mud-brick work, now decayed. I know it is the archaeologist's temptation to call every new thing a temple, but it seems more probable that we have here a series of chambers, like a modern bazaar. This, however, is not my last word on the subject. This curious structure was found at a level of about 306 feet, a few feet under "Manasseh's Wall" in the north-east part of the Tell. As in our large section of work we could not hope to reach the Amorite level this season, I selected a platform about 50 feet by 20 in front of the pilaster building at the south-east of the Tell, with the idea of digging down to the Amorite levels more rapidly in this smaller section, which might furnish us with samples of what we might hope for in the larger excavation. We have now reached the Amorite level, indeed we are within a few feet of the natural hill, and have been rewarded by finding an interesting collection of iron objects, large spear heads, and axes or hatchets, as well as a cylindrical seal, and another seal. The iron work is better than what we have found in higher levels, and we may hope to find still other evidences of civilisation when we reach the Amorite level in the large excavation. These objects were found in a large room, with walls of excellent brick, which had been fiercely burnt. All the varieties of Amorite pottery with nothing more modern were found in connection. As Mr. Petrie has shown in his plan of the east face, the Amorite levels are higher in this part of the mound than in the north-east part. I am constantly astonished at the accuracy of his observation during the short time at his disposal here. Thus far we have lost only one whole day and two half days on account of rain, but the real winter storms have not yet begun. I expect to extend the season of work, of course as long as it is prudent.

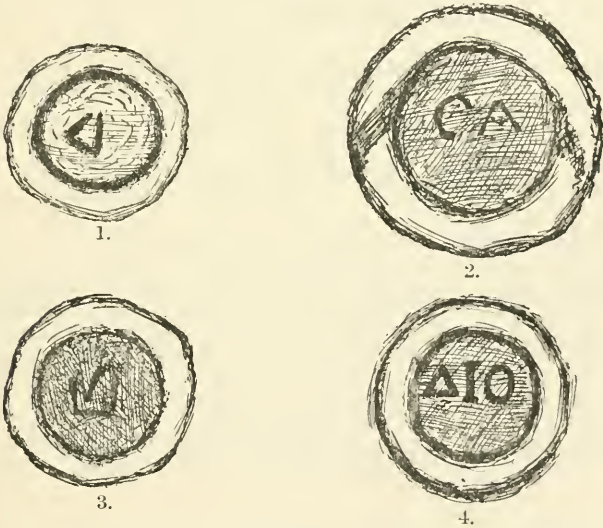
## NOTES ON POTTERS' MARKS, LAMPS, AND INSCRIPTIONS.

By G. ROBINSON LEES, F.R.G.S.

### POTTERS' MARKS ON CHRISTIAN LAMPS.

ON page 487 of "The Recovery of Jerusalem," I find the following:—  
"The Christian lamps have been found, &c. It is remarkable that none of them bear potters' marks on the under side."

Enclosed are squeezes of the under side of four Christian lamps in my collection, numbered 1, 2, 3, and 4, each bearing a potter's mark. All



these lamps are of the same shape, but only three are alike in design, although every one has the palm branch on the tongue, near the wick hole. Nos. 1, 2, and 3 are made of dark-red pottery, and the fourth of burnt black. I have eleven others, similar in shape but without potters' marks. They were all found near Jerusalem. Are they the first that have been found on which are potters' marks?

### LAMPS WITH GREEK INSCRIPTIONS.

A tomb has been recently opened at Isawyeh, on the north-eastern slope of Scopus, containing about 100 lamps, all unmistakably Christian. Fifty-one of them are like the pear-shaped lamp on p. 484 of "The

Recovery of Jerusalem," and 17 are similar to the engraving on the opposite page of the same work, but the inscriptions are different. Below are copies of all the inscriptions. The remainder of the lamps vary, both in shape and design, but have the sign of the cross. Not having time to visit the tomb I asked Mr. Charles A. Hornstein to go. He says the tomb consists of one chamber, which is reached by a small flight of steps. The entrance is very small, only 30 inches wide. On the right hand are two sunk loculi, similar to the one in the tomb supposed by the late General Gordon to be that of our Saviour, three in front, and two on the left-hand side. All are filled with bones. The lamps were all found on the partitions dividing the loculi. On the walls of the tomb are three crosses.

- (1) Π Π Ι Φ Α Φ Ε Η Π Α Λ Λ Ω Ο Ι
- (2) Π Ο Π Θ Π Θ Π Ο Π
- (3) Λ Ο Ο Ε Ι Π Θ Π Α Σ Ι Ι Ο Η
- (4) Λ Χ Η Σ Ε Ι Δ Κ Η Δ
- (5) Ι Η Α Μ Μ Θ Η Μ Λ Α Β
- (6) Θ Π Ο Π Θ Π Ο Π Θ
- (7) Η Θ Ι Β Ο Σ Χ Ι Ζ Θ Ι Ρ Ο Υ Η
- (8) Λ Χ Η Δ Η Δ Κ Θ Υ Δ
- (9) Η Π . Ν Α Θ Α . Μ Θ
- (10) Ν Θ Ο Π Μ Χ Η Α Μ Ο Η

The letters in No. 5 are raised very high.

The above are copied as near as possible to the original.

#### HERALDIC DEVICE OR TOKEN.

I have just received from Kefr Melek a token or heraldic device, made of lead mixed with some harder metal. It is  $3\frac{7}{8}$  inches long and  $3\frac{1}{2}$  inches across, elliptical in form, with a hole at the top, and on it is engraved an eagle between two branches. It is certainly old, but I cannot give it any approximate date. It must either have been worn, or nailed to something; if the former, surely by a horse, as it weighs  $1\frac{1}{2}$  okies, or about 10 ounces, and if the latter, to what—a coffin? or door? I enclose a squeeze.

## INSCRIPTION AT BUSR EL HAREER.

On my last journey across the Jordan I was detained by the Government at Busr el Hareer, a border town of the Lejjah. Although my horses and baggage were under guard, I was allowed to wander about, and came across the following inscription, which is not in M. Waddington's book.

ΚΑΝΔΙΔΟΕ  
 ΚΕΥΞΕΚΥΚΕ ~  
 ΑΓΥΙΑΛΟΣΚΣ ~  
 ΑΛΑΧΑΚΟΑΒΕΣ  
 ΑΝΟΝΟΙΕΓΟΕ  
 ΘΙΑΓ ΥΕΞΕΔ  
 ΙΩΝΟΙΚΟΝΟΜΗΘΗ

It was on a stone, built into a wall near the Seraglio. I may mention that the stone with the long inscription mentioned by Herr Schumacher in his "Across the Jordan," at Ed Dera'ah, as being about to be built into the new Government building, is now at the top of a doorway of an unfinished building, and upside down. I found another stone with an inscription, moved from the place where it was originally discovered, and used as a lintel stone; No. 2480 in M. Waddington's book is an inscription said to be, according to p. 567, "at the mosque near the minaret." It is now over the shop-door of a Christian merchant at Ezra'ah. Alongside of it are two other stones on which are Arabic inscriptions.

JERUSALEM, *November 5th*, 1891.

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 POTSDHERDS.

THE durable character of potsherds when placed underground seems to have been recognised in the East from a very early period. Archaeologists of the present day have discovered this character of permanency which fragments of broken pottery possess; but this knowledge is as old in India as the days of Manu, and had been applied to a practical use before his time. In Manu's great law book the rules regarding boundary

marks are given ; external objects are mentioned, but in addition to these, there were to be "other hidden marks for boundaries." There were to be,—“stones, bones, cow’s hair, chaff, ashes, *potsherds*, dry cowdung, bricks, cinders, pebbles, and sand. And whatever other things of a similar kind the earth does not corrode even after a long time, these he should cause to be buried where one boundary joins [the other].” “Laws of Manu,” viii, 250-1. I have made the word *potsherds* noticeable by putting it in *italics*. “Narada,” the name by which another old Hindu law book is known, xix, 5, 6, gives almost the same list of objects, including *potsherds*, but adds that they were to be placed in vessels when deposited underground as boundary marks. The value of *potsherds* in relation to archæological explorations has now become so important that it will justify the bringing of this old custom into notice ; and primitive customs, as we know in other things, were often practised over the greater part of the East, it is just within the limits of possibility that deposits of this kind may be found in other localities besides India, and might be supposed to be nothing else than refuse which had been thrown away. In this light, such a scrap of knowledge may turn out to be useful to those who are engaged in the practical work of exploration.

WILLIAM SIMPSON

## NOTES BY MAJOR CONDER, R.E.

### I.

#### THE SINAITIC INSCRIPTIONS.

IT would seem from a paragraph in Mr. Harper’s volume (“The Bible and Modern Discoveries,” p. 129) that the date and meaning of the Sinaitic inscriptions are regarded by some as still a matter of dispute. It would seem, therefore, not unnecessary to call attention to the fact that the question has long been decisively settled by scholars, and that it is certain that they are Nabathean pilgrim texts of the 3rd and 4th century A.D., written by travellers who were then visiting the Sinai convent, and the hermitage of Wâdy Feirân, and the traders who passed from Petra on the way to Egypt. They were first read by Beer in 1840, and the authoritative work on the subject is that of Levy in 1860 (*Z.D.M.G.*, vol. xiv, pp. 363 to 480). The alphabet is the same which was used at Petra in the same age, and the texts, when translated, are found to contain pious sentiments, and invocations of peace, blessing, and health on the writer and to record the names of those who died in the desert. There are no dates on any of them, but the crosses which accompany the texts show them to be Christian. Those who still believe in the Rev. C. Foster’s

wild lucubrations on the subject are perhaps not aware of the existence of a bilingual, in Greek and Sinaitic, of which Sir C. W. Wilson brought home an excellent cast and squeeze, which I have been enabled through his kindness to study. Mr. Harper says that "Various are the ideas about them," and I have been often asked whether they may not be writings of the Israelites. The peculiarities of the Greek letters, in the bilingual in question, show, however, that the Greek cannot have been penned before the 4th century A.D., and no one is likely to contend that the Israelites wrote Greek. On the other hand it is certain, from the arrangement of the Sinaitic version, that it was written after and not before the Greek. The monument has the figure of a man (with phallic detail) on the top, and of a horse below. The text is as follows:—

75 195 15 9F 11 11 9F 96 15 54 6  
 ΜΝΗΘΗ ΑΥΣΟ ΓΕΡΣΟΥ  
 ΚΑΛΙΤΑΙ ΟΥΜΑΡΟΥ  
 19F 11 6F ΕΝΗΡΑΘΟΙΙ

I have not got Levy's work in my possession, and do not know whether he has translated this bilingual, but it presents no great difficulty, since the Greek, and the Nabathean or Sinaitic, appear to mean exactly the same.

The Greek, which appears to be rather rude, runs, as I suppose thus:—

*Μνησθη Αυσο Γερσου  
 Καλιται ουμαρου εναραθοι.*

"Remember it is asked Ausus, the son of Gersus, Let your pilgrimage be prayed for.' In this case *ουμαρου* is from *ουμ*, and *αφρειν* "to march together," or go in company. Equally imperfect Greek is found in the 4th century texts of the Hauran.

The Nabathean transcribed in modern Arabic letters reads—

مزكبير اونسو بن خرسو كندي و بكن  
 سلمة بسوب

"Let Ausu, the son of Khersu, be remembered, and to you be safety on the journey" (or pilgrimage).

This single instance is sufficient to explain the character of all the Sinaitic texts, since they are all in the same alphabet and dialect. The object of writing in both Greek and Nabathean, in this instance, was apparently that Greek pilgrims might pray for Ausus as well as native Nabatheans. Greek texts of the early Christian period are found in other cases on the Sinaitic rocks.

We have at present no evidence of the use of any Semitic alphabet in the time of Moses, and we know that as late as 1430 B.C. the inhabitants of Syria were using cuneiform characters. But if the Hebrews in Sinai used an alphabet, the forms of the letters would not be less archaic than those of the Moabite stone; and it may, therefore, be of interest to show what this text would look like if written in that character:—

99 YWY & 9ZYIY  
 999Y ZY YW 9H  
 9YW9 XY 6W

The degradation of the Sinaitic forms robs them of all similarity to their prototypes, and the connection has only been traced by much labour through the later Aramean. It will also be observed that the writing has become cursive, and that the letters are joined together, as in the Cufic of the 6th and 7th centuries in Palestine and Bashan. This use of ligatures is one of the surest distinctions between the Nabathean and the older Hebrew, Phœnician, Moabite, and Aramean texts.

SOUTHAMPTON, *July 11th*, 1891.

## II.

### ALOSHA ELISHAH.

IN the collection from Tell Amarna there are no less than ten letters to the King of Egypt from the Prince of Alosha, or Alasiya, written in the same Semitic language then used (1500 B.C.) all along the Phœnician coasts. The name is spelt  $\text{Y} \text{>E} \text{<I} \text{-} \Sigma \text{Y}$  *A-la-si-ya*, but the Egyptians called this region Alosha. From one of these recently translated ("Proc. Bib. Arch. Soc.," June, 1891), which is No. 12 of the collection as arranged by Dr. Winckler, it appears that Alosha was a maritime region. The Prince says, "My merchant men and my ship (*ilappu-ia*) let not thy guardians treat them ill." Since the collection includes letters from as far south as Ascalon and Lachish, it is possible that Alosha was not far



distant on the Phœnician coast. It was a country where bronze was manufactured (No. 37, British Museum Collection). It occurred to me that possibly the name is a weaker form of the name Aloth (עלות), mentioned in the Bible as that of a region, or a town, in or adjoining the land of Asher, which was one of the provinces of Solomon's dominion (1 King, iv, 16). The Hebrew name would mean the "higher places," and may refer to the low hills east of the south Phœnician coast, above the narrow plain of Asher, which hills also belonged to the same tribe. But perhaps a better explanation is to connect it with the Hebrew Elishah (אלישה) (Gen. x, 4; Ezek. xxvii, 7) a suggestion which, as far as I know, has not yet been made. The Sons of Javan (Ionia) are said to have included Elishah, Tarshish, Kittim, and Dodanim (or Rodanim), and in Ezekiel's time Elishah traded in purple with Tyre. In this passage, the "isles" (איים) of Elishah are mentioned, but the word is well known to mean rather "shores" than isles; so that Elishah was clearly a maritime region. The places with which it is mentioned are all probably near Asia Minor, including Kittim or Cyprus. For Tarshish is most probably *Tarsûs*, on the south-east coast of Asia Minor. The Dodanim are supposed by Gesenius to be really the Rodanim, or Rhodians, on account of 1 Chr. i, 7, and the Samaritan and LXX of Gen. x, 4. According to the Samaritan version Elishah seems to be understood to be Elis (אליש); others read Hellos, the Talmudic writers Elis or Æolis. The purple of Laconia is mentioned by Horace (Od. ii, 18, 7, as quoted by Gesenius).

The result seems to me to be that Alosha was a region on the south coast of Asia Minor. The Aramean influence in Cilicia was very strong at an early period, and the Phœnician coast adjoined. I am tempted to suppose that this was the old form of the name of Lycia, as pronounced by the Greeks, which region lay on the shores of Asia Minor between Rhodes and Tarsus. On the Lycian monuments the name of the country appears to me to be written *Lacha*, with a soft *ch*, which is a nearer approach to Elishah. The Phœnician coast was not rich in minerals, as far as we know; their copper was brought from Cyprus and their tin from Tarshish, which it seems to me impossible to place at Tartessus in Spain, where there was little if any tin, since the name occurs with those of other Asia Minor places. Tin was well known in Western Asia long before Spain can have been reached, and was probably brought from the Caucasus. Asia Minor appears to be richer in the metals than Phœnicia, and this would agree with the proposed identification of Alosha with Elishah, as on the south coast of Asia Minor.

SOUTHAMPTON, 29th October, 1891.

## III.


NOTES ON HERR SCHICK'S REPORT, TELL EL HESY INSCRIPTIONS, AND  
DINHABAH.

*Queries.*—The suggestion of Mr. Guy le Strange is no doubt excellent. I would suggest he should state what are the unanswered questions to which he refers. If I am able to answer any of them I should be happy to do so.

*Herr Schick's Report.*—The discovery of a rock-cut way, north-west of the Church of the Holy Sepulchre, seems to me of great interest. It is close to an ancient road-crossing, and just where I have always supposed the "Old Gate" of Nehemiah's wall should be placed. It may, perhaps, mark the entrance to that gate. The aqueduct, on the west side of the city, also seems to follow the line of the 3rd Wall, and may have had some connection with it. The levels agree in showing the existence of an original knoll (*Akra*) near the Holy Sepulchre.

*Tell el Hesy Inscription.*—If the letters are, as I suppose, given in *fac-simile*, they belong to the Greek alphabet, as in use in Palestine about the Christian era. (See, for instance, the "Warning Stone," of Herod's Temple.) They are not the forms of the earlier Greek letters, which were more like the Phœnician. These letters appear to have been found near the base of the town. The bricks which Mr. Bliss dug into may, I would suggest, have formed part of an artificial mound, on which the town stood (as in Assyria, and in other instances in the Palestine plains). Perhaps Mr. Bliss can inform us whether such a conclusion would agree with his observations.

I may be excused for expressing my interest in his picturesque account of his work, which shows that he thoroughly understands the natives; and how to deal with them.

*Dinhabah.*—We owe to the Rev. H. G. Tomkins many valuable identifications of ancient towns, including, I think, Tunep of Syria; but I feel some doubt as to the present proposal. One would more naturally look for Dinhabah in Edom than in Moab (Gen. xxxvi, 32). The name *Hodbat et Toneib* would seem to mean "hummock of the tent rope." I have not actually been at the site, but I have been very near it, and as far as I have heard or seen it does not appear to be the site of a town. Perhaps Mr. Selah Merrill can throw light on the subject. If, as I suppose, the *t* is , this is rather a difficulty in connecting the site with Dinhabah, which, it may be observed, was the royal city of Bela when reigning in Edom, and therefore perhaps rather to be sought near Petra.

SOUTHAMPTON, 26th October, 1891.

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## DINHABAH.

REFERRING to the communication from the Rev. H. G. Tomkins in the last *Quarterly Statement*, I may mention that my wife and I visited Toneib near to Kûstûl in April, 1891, in the course of a visit to the Beni Sakhr tribe, in whose territory both places lie. On the map of the Palestine Exploration Fund it is called Hodbat et Toneib, but the Beni Sakhr men who accompanied us said they knew nothing of "Hodbat" and that the proper name was Toneib. It appears from "Eastern Palestine," published by the Fund, that this place was not included in the survey, and indeed the country in the neighbourhood of Kûstûl, which lies to the west of the Haj road, is not fully laid down in the map, which must have been compiled from rough surveys by travellers. And the Fund's map stops short altogether at that road.

The ruins visible at Toneib are but small in extent, but the caves and old cisterns are numerous. There is nothing there, however, at any rate above ground, comparable in importance to the remains at Kûstûl, and nothing more than is found on the top of almost every hill in the neighbourhood.

GRAY HILL.

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 NOTE ON THE PALMYRENE INSCRIPTIONS.

BY THE REV. PROF. H. PORTER.

IN the *Quarterly Statement* for October last there is an error in my "Notes on the Palmyrene Inscriptions" (pp. 312-314).

The Palmyrene text of No. 2, marked (D), has been exchanged for that of No. 4, marked (B). The two should change places, as will readily be seen by comparing with the Hebrew text.

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 CORRECTION.

THE following correction should be made in the paper on Horeb in April, 1891, number of Palestine *Quarterly Statement*, page 180.

The note at foot of the rough sketch should read as follows:—

"N.B.—The distance between Temple and southern boundary is 20,000 reeds, which equals 39 miles 1,365 yards, or 39' 42" of latitude, and  $31^{\circ} 47' - 39' 42'' = 31^{\circ} 7' 18''$ .

In last line but one, page 182, 5,000 should read 50,000.

J. STOW.

RIENOSTER DOWNS, TRANSVAAL,  
20th August, 1891.

RESEARCHES ON THE PATHOGENIC MICROBES OF  
THE MUD OF THE DEAD SEA.

By M. L. LORTET.

*(Translation.)*

“IN a former communication I have shown that the deposits of the filtering galleries, as well as the deep mud, of the Lake of Geneva, may preserve alive the adult forms or the spores of a certain number of pathogenic microbes. It is interesting to know whether the same results can be established in sheets of water subject to entirely different conditions of temperature, light, and, above all, of chemical composition, and it is with a view to the solution of this problem that I have analysed the mud which has been sent to me from the Dead Sea by M. Barrois, Professor of the Faculty of Medicine at Lille.

“The Dead Sea, placed at the southern end of the Valley of the Jordan, presents about the same extent as the Lake of Geneva. It occupies a vast basin, which is certainly the deepest depression on the face of the earth, for its surface is 400 metres below that of the Mediterranean. Rocky walls, rising to 800 metres, surround it on every side. This sea is nourished by the Jordan, a rapid river, whose waters are, during a part of the year, charged with mud and organic matters proceeding from its source amid the snows of Mount Hermon. The saline, thermal, and bituminous springs contribute around its margin a considerable mass of water, which may double that brought by the Jordan.

“The density of the water of the Dead Sea is 1,162, whilst that of the ocean is only 1,027; so that the human body, as has been frequently said, and as I have myself been able to ascertain in two successive visits, floats easily, and without the help of any movement, on the surface of this heavy liquid.

“The waters of the Dead Sea cannot escape by any known issue, and as it is very evident that its level has subsided considerably, the evaporation must raise every day at least 6,500,000 tons of water, an enormous mass, which is, however, easily drawn up by the rays of a fiery sun, the Valley of the Dead Sea being one of the hottest points on the globe. During a long series of centuries the waters must have been concentrating more and more, and the inferior beds of this liquid mass are formed only of mud enclosing an enormous quantity of crystalline needles of different salts forming a semi-fluid pap.

“It is this strange medium, so strongly charged with saline substances injurious to the higher organisms, that I have been studying from a bacteriological point of view. The water drawn at 200 metres and brought home, in 1866, by M. Lortet, the geologist attached to the expedition of the Duke de Luynes, has been analysed by M. Terreil, who found :—

Chloride of Sodium	....	....	....	66.125 gr.
„ Magnesium	....	....	....	160.319 „
„ Potassium	....	....	....	9.63 „
„ Calcium	....	....	....	10.153 „
Bromide of Magnesium	....	....	....	5.04 „
Lime	....	....	....	0.78 „

“A total of 246.077 gr. of saline matter per litre. In certain parts the bromine, which the experiments of Paul Bert have shown to have a very energetic action upon the vitality of the tissues, may reach even to 7 gr. per litre. The microscopist Ehrenberg, the naturalists of the expedition of Captain Lynch, those who accompanied the Duke de Luynes, myself in 1875 and in 1880, have verified that the waters of the Dead Sea do not contain any living vegetable or animal organism. Recently, M. Barrois, the able zoologist of the Faculty of Lille, has traversed in a boat a great part of the Dead Sea, hoping to find there the inferior animalculæ. But, like his predecessors, he has been able to ascertain that these waters are entirely sterile.

“In consequence of the statements made by such competent men, I thought that the waters of the Dead Sea might well, in consequence of their concentration and their special chemical composition, constitute an aseptic liquid capable, perhaps, of some useful application.

“The semi-liquid mud, collected with care by M. Barrois, was then diluted suitably, and distributed in many hundreds of tubes and flasks. What was not my profound astonishment to observe, after forty-eight hours, that all the nutritive media contained, especially in their deep parts, two micro-organisms perfectly recognisable by their altogether special form: those of *gangrène gazeuse*, characterised by large bacilli accompanied by corpuscles like the clapper of a bell, and those of tetanus, so easily recognisable by their form resembling a pointed nail with a spherical head.

“Guinea-pigs inoculated with sterilised water mixed with a little of the mud were all dead in less than three days of gangrenous septicæmia, with all the train of symptoms, in some degree intensified, characteristic of this formidable affection. Guinea-pigs and donkeys have also all perished from the same affection after inoculation with the product of our culture in media deprived of contact with oxygen. In the one case and in the other, numerous bacilli have always shown themselves in the peritoneum, in the muscles, and in the blood, which have transmitted the malady to other subjects, and which, cultivated afresh, have reproduced the bodies like the clapper of a bell, which are so characteristic. The affection engendered by these organisms is the *gangrène gazeuse* and not the *charbon symptomatique*, with which one might confound it, for young oxen experimented upon have not been affected by our inoculations. Most of the guinea-pigs inoculated directly with the mud presented tetanic symptoms, corresponding to the frequency of the organisms described above.

“The experiments here described prove, then, once for all, that certain pathogenic microbes may resist for a long period, whether in the adult state or in the form of spores, prolonged contact with large masses of water, even whilst they contain, in considerable quantities, salts injurious to every other organism, animal or vegetable. From a practical point of view, the above researches demonstrate, as far as the evidence goes, that it will be imprudent to regard water strongly charged with salt as an antiseptic liquid capable of protecting against attacks of tetanus and *gangrène gazeuse*.”

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ON THE FALL OF RAIN, THE AMOUNT OF CLOUD,  
THE FREQUENCY OF CLOUDLESS SKIES, AS  
RECORDED DAILY, AT 9 A.M. LOCAL TIME, BY  
HERR DREHER AT SARONA IN THE TEN  
YEARS ENDING 1889.

By JAMES GLAISHER, F.R.S.

THE receiving area of the Rain Gauge was placed near the surface of the ground, the amount of cloud was estimated by considering a cloudless sky as 0, and an overcast sky as 10.

METEOROLOGICAL OBSERVATIONS.

TABLE I.--Rainfall in each Month at Sarona.

Month.	Years.												Sums of 10 years.
	1880.	1881.	1882.	1883.	1884.	1885.	1886.	1887.	1888.	1889.	in.	in.	
January ..	5.32	0.47	4.37	11.32	6.69	7.89	4.47	5.74	4.91	5.85	57.06	in.	57.06
February..	4.29	4.12	7.22	3.71	6.09	1.46	3.80	2.27	2.74	0.66	36.36	in.	36.36
March ..	2.28	2.55	1.04	2.52	1.49	1.19	1.59	0.89	0.28	0.89	14.63	in.	14.63
April ..	1.22	0.23	4.17	0.52	1.02	0.61	1.21	0.07	1.12	0.57	10.74	in.	10.74
May ..	0.12	0.00	0.63	0.00	0.49	0.12	0.15	0.95	0.28	0.02	2.76	in.	2.76
June ..	0.00	0.00	0.00	0.00	0.02	0.56	0.00	0.00	0.01	0.00	0.59	in.	0.59
July ..	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	in.	0.00
August ..	0.00	0.00	0.35	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.35	in.	0.35
September	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.00	0.33	0.41	in.	0.41
October ..	0.45	0.00	0.44	1.36	1.16	0.79	0.75	0.00	1.67	0.00	6.62	in.	6.62
November	4.95	5.09	0.29	8.14	1.32	0.15	3.12	1.84	6.27	1.81	32.98	in.	32.98
December	10.05	5.03	3.58	2.49	0.45	7.29	5.00	5.22	11.53	3.46	54.10	in.	54.10
Sums ..	28.68	17.49	22.09	39.06	18.73	20.06	20.09	17.06	28.84	13.50	21.66	average.	21.66

The extreme monthly falls of rain in each month and the mean monthly fall are as follows :—

	The smallest was	The largest was	The mean was
	inch.	inch.	inch.
In November	.... 0·15 in 1885	6·27 in 1888	3·30
December	.... 0·45 ,, 1884	11·53 ,, 1888	5·41
January	.... 0·47 ,, 1881	11·32 ,, 1883	5·71
February	.... 0·66 ,, 1889	7·22 ,, 1882	3·64
March	.... 0·28 ,, 1888	2·55 ,, 1881	1·46
April	.... 0·07 ,, 1887	4·17 ,, 1882	1·07

In May, no rain fell in the years 1881 and 1883 ; 0·02 inch fell on one day in 1889 ; and in the other years it varied from 0·12 inch in the years 1880 and 1885 to 0·95 inch in 1887, the mean fall for May being 0·28 inch.

In June, rain fell on four days in the 10 years—in 1884, on one day ; in 1885, on two days ; and in 1888 on one day. The average fall for the 10 years was 0·06 inch.

In July, no rain fell on any day in the 10 years.

In August, rain fell on one day in the 10 years, viz., in 1882, to the depth of 0·35 inch.

In September, rain fell on one day in 1887, and on two days in 1889.

In October, no rain fell in 1881, 1887, and 1889, and the amount varied in the other years from 0·44 inch in 1882 to 1·67 inch in 1888. The mean for 10 years was 0·66 inch.

Thus the rainfall in every month in the rainy season may be small and the difference in the amount in different years is great ; the greatest difference appears in December, and is 11·08 inches ; the next in order is 10·85 inches in January ; 6·56 inches in February ; 6·12 inches in March 4·10 inches in April ; and 2·27 inches in May.

The heaviest monthly fall of rain in each year has been—

	Inches.
In 1880	.... 10·05 in December.
1881	.... 5·09 ,, November.
1882	.... 7·22 ,, February.
1883	.... 11·32 ,, January.
1884	.... 6·69 ,, January.
1885	.... 7·89 ,, January.
1886	.... 5·00 ,, December.
1887	.... 5·74 ,, January.
1888	.... 11·53 ,, December.
1889	.... 5·85 ,, January.



So that the heaviest monthly fall of rain has been—

Five times in January.  
Three times in December.  
Once in November.  
Once in February.

The greatest fall of rain in any month was 11·53 in December, 1888 ; the next in order were 11·32 inches in January, 1883, and 10·05 inches in December, 1880.

At Jerusalem in these months the falls were 16·40 inches, 10·93 inches, and 13·00 inches respectively.

The heaviest average monthly fall is 5·71 inches in January ; the next in order is 5·41 inches in December, 3·64 inches in February, and 3·30 inches in November.

The numbers at the foot of the column show the fall of rain in each year. The heaviest fall, 30·06 inches, was in 1883 ; the next in order were 28·84 inches in 1888, and 28·68 inches in 1880. The smallest fall was 13·50 inches in 1889 ; the next in order, 17·06 inches in 1887, and 17·49 inches in 1881. The average fall was 21·66.

TABLE II.—Number of days on which Rain fell in each Month at *Sarona*.

Months.	Years.										Sums of 10 Years.
	1880.	1881.	1882.	1883.	1884.	1885.	1886.	1887.	1888.	1889.	
January ..	17	4	10	20	14	17	15	12	11	18	138
February..	12	12	15	14	18	9	11	7	9	7	114
March ..	7	10	5	7	10	8	9	4	2	3	65
April ..	5	4	11	3	4	5	4	2	5	3	46
May ..	1	0	3	0	2	1	3	2	4	1	17
June ..	0	0	0	0	1	2	0	0	1	0	4
July ..	0	0	0	0	0	0	0	0	0	0	0
August ..	0	0	1	0	0	0	0	0	0	0	1
September	0	0	0	0	0	0	0	1	0	2	3
October ..	3	0	5	5	5	1	2	0	2	0	23
November	6	7	2	11	8	4	11	5	13	6	73
December	15	11	10	11	3	16	11	10	14	10	111
Sums ..	66	48	62	71	65	63	66	43	61	50	595

The number of days of rain in each month have varied—

In—	from—	to—	the average is
November	... 2 in 1882	13 in 1888	... 7·3
December	... 3 „ 1884	16 „ 1885	... 11·1
January	... 4 „ 1881	20 „ 1883	... 13·8
February	... 7 „ 1887 and 1889	18 in 1884	... 11·4
March	... 2 „ 1888	10 „ 1881 and 1884	... 6·5
April	... 2 „ 1887	11 „ 1882	... 4·6

In May, no rain fell in the years 1881 and 1883, and the number of days varied in the other years from 1 in 1880, 1885, and 1889, to 4 in 1888; the average of the 10 years is 1·7.

In June, rain fell on four days in the 10 years, one in 1884, two in 1885, and one in 1888.

In July, no rain fell in the 10 years.

In August, rain fell on one day, in 1882.

In September, rain fell on three days in the 10 years, one in 1887 and two in 1889.

In October, no rain fell in 1881, 1887 and 1889, and the number of days in the other years varied from one in 1885 to five in each of the years 1882, 1883, and 1884. The average of the 10 years is 2·3.

On three out of the four days in June on which rain fell at Saron a no rain fell at Jerusalem.

In August, 1882, and September, 1887, no rain fell at Jerusalem.

In September, 1889, on the 21st and 22nd days, rain fell at Saron a to the depth of 0·21 inch once and 0·12 inch respectively. The only rain at Jerusalem in this month was on the 22nd to the depth of 0·02 inch only. Therefore we may conclude that during the dry season the falls of rain are local.

The number of days of rain in the months of the rainy season may be small, and differ very much from the number in the same month in other years.

The greatest difference is 16 in January; the next in order are 13 in December, 11 in February and November, 9 in April, and 8 in March.

The greatest monthly number of days of rain in each year has been—

In 1880, in January	....	....	....	....	....	17
1881 „ February	....	....	....	....	....	12
1882 „ February	....	....	....	....	....	15
1883 „ January	....	....	....	....	....	20
1884 „ February	....	....	....	....	....	18
1885 „ January	....	....	....	....	....	17
1886 „ January	....	....	....	....	....	15
1887 „ January	....	....	....	....	....	12
1888 „ December	....	....	....	....	....	14
1889 „ January	....	....	....	....	....	18

So that the greatest number of rainy days have been—

Six times in January.

Three times in February.

Once in December.

The numbers in the last column of the preceding table show the number of days of rain in every month in 10 years.

The largest number is 138 in January; the next in order are 114 in February, 111 in December, 73 in November, and 65 in March.

The smallest numbers are, none in July, 1 in August, 3 in September, 4 in June, 17 in May, 23 in October, and 46 in April.

The numbers at the foot of Table II show the number of days of rain in each year. The largest number is 71, in 1883; the next in order are 66 in 1880 and 1886, and 65 in 1884. The smallest numbers are 43 in 1887, 48 in 1881, and 50 in 1889. The total number of days of rain in the ten years is 595, or 59½ days yearly.

Palestine having long periods of dry weather, followed by long periods of wet weather, the latter beginning in November, when no rain falls in October, and ending in April, when no rain falls in May, it is desirable to discuss the observations of rainfall in relation to the season, as all agricultural operations are dependent upon the rainfall. I experienced some difficulty in deciding both the beginning and ending of the rainy period, and, in consultation with Dr. Chaplin as to what amount of rainfall I should adopt, he said that rain to the amount of 0·1 inch or 0·2 inch or more, either falling on one day or on two or more successive days, he thought he had adopted in his report on the climate of Jerusalem, published in the *Quarterly Report* for January, 1883, and I have adopted this amount :

In 1879	on	October 10th....	....	....	the fall was 0·20 inch.
1880	„	May 2nd	....	....	„ 0·12 „
„	„	October 18th	....	....	„ 0·24 „
1881	from	April 16th to April 19th	....	....	„ 0·23 „
„	on	November 6th	....	....	„ 0·71 „
1882	„	May 23rd to May 25th	....	....	„ 0·63 „
„	„	October 20th to October 25th	....	....	„ 0·44 „
1883	„	April 24th and 25th	....	....	„ 0·31 „
„	„	October 10th and 11th	....	....	„ 0·45 „
1884	„	May 4th and 5th	....	....	„ 0·49 „
„	„	October 20th and 21st	....	....	„ 0·15 „
1885	„	May 15th	....	....	„ 0·12 „
„	„	October 5th	....	....	„ 0·79 „
1886	„	May 11th	....	....	„ 0·13 „
„	„	October 30th	....	....	„ 0·55 „
1887	„	May 2nd	....	....	„ 0·50 „
„	„	November 15th	....	....	„ 0·89 „
1888	„	May 10th and 11th	....	....	„ 0·17 „
„	„	October 31st	....	....	„ 1·65 „
1889	„	April 5th	....	....	„ 0·10 „
„	„	November 7th, 8th, and 9th	....	....	„ 0·74 „

TABLE III.—Showing days of commencement, termination, and duration of Rainy and Dry Seasons.

Seasons.	Days of		Duration of		Fall of Rain during	
	Commencement.	Termination.	Rainy Season.	Following Dry Season.	Rainy Season.	Following Dry Season.
1879-80 ..	October 10 ..	May 2 ..	206	168	20·81	0·60
1880-81 ..	October 18 ..	April 19 ..	184	200	22·82	0·00
1881-82 ..	November 6 ..	May 25 ..	201	147	27·55	0·35
1882-83 ..	October 20 ..	April 25 ..	188	167	22·38	0·00
1883-84 ..	October 10 ..	May 5 ..	209	167	27·77	0·02
1884-85 ..	October 20 ..	May 15 ..	208	142	14·20	0·56
1885-86 ..	October 5 ..	May 11 ..	218	171	19·45	0·00
1886-87 ..	October 30 ..	May 2 ..	185	196	18·79	0·08
1887-88 ..	November 15 ..	May 11 ..	179	172	16·42	0·03
1888-89 ..	October 31 ..	April 5 ..	157	215	27·33	0·35
1889-90 ..	November 7 ..					

The rainy season began :—

In 1885	....	....	....	....	on October 5th.
1879 and 1883	....	....	....	..	.. 10th.
1880	....	....	....	..	.. 18th.
1882 and 1884	....	....	....	..	.. 20th.
1886	....	....	....	..	.. 30th.
1888	....	....	....	..	.. 31st.
1881	....	....	....	..	November 6th.
1889	..	....	....	..	.. 7th.
1887	....	....	....	..	.. 15th.

Thus the rainy season has begun eight times in October and three times in November ; the earliest was October 5th and the latest November 15th.

The rainy season ended :—

In 1889	....	....	....	....	on April 5th.
1881	....	....	....	..	.. 19th.
1883	..	....	....	..	.. 25th.
1880 and 1887	....	....	....	..	May 2nd.
1884	....	....	....	..	.. 5th.
1886 and 1888	....	....	....	..	.. 11th.
1885	....	....	....	..	.. 15th.
1882	....	....	....	..	.. 25th.

Thus the rainy season has ended three times in April and seven times in May.

The earliest ending was April 5th, and the latest May 25th.

The mean duration of the ten rainy seasons is  $193\frac{1}{2}$  days. The longest was 218 and the shortest 157 days.

The mean duration of the ten dry seasons is  $174\frac{1}{2}$  days. The longest was 215 and the shortest 142 days.

In the rainy season the largest fall was 27·77 inches in the season 1883-1884 ; the next in order were 27·55 inches in 1881-1882, and 27·33 inches in 1888-1889 ; and the smallest fall for the rainy season was 14·20 inches in 1884-1885 ; the next in order were 16·42 inches in 1887-1888, and 18·79 in 1886-1887. The mean of the ten rainy seasons was 21·75 inches.

In the dry season no rain fell in the years 1880, 1881, 1883, and 1886 : a little rain fell in 1882, 1884, 1885, 1887, 1888, and 1889 : the total fall in these six dry seasons was 1·39 inch. The average fall for the 10 years was 0·14 inch.

During the rainy season the rainfall in one day at times exceeded 2 inches, viz. :—

In 1880, on November 28th, the fall was 2.15 inches.			
1881 „ November 7th	„	2.65	„
1883 „ November 3rd	„	3.13	„
1884 „ January 22nd	„	2.02	„
1885 „ December 24th	„	2.14	„
1887 „ December 15th	„	2.12	„
1888 „ January 16th	„	2.17	„
1888 „ November 13th	„	2.10	„
1888 „ December 18th	„	2.95	„

Thus, in 10 years, the heaviest fall of rain in one day was 3.13 inches on November 3rd, 1883, and the next in order was 2.95 inches on December 28th, 1888.

Of these heavy falls—

Four	took place in	November.
Three	„ „	December.
Two	„ „	January.

During the winter months rain fell frequently for six, seven, or eight days together.

In 1880	rain fell on 8 consecutive days from	Jan. 3 to Jan. 10.
„	„ 7	„ „ Feb. 17 to Feb. 23.
„	„ 7	„ „ March 10 to March 16.
„	„ 8	„ „ Dec. 6 to Dec. 13.
1881	rain did not fall on more than four consecutive days.	
1882	rain fell on 6 consecutive days from	Jan. 18 to Jan. 23.
„	„ 13	„ „ Feb. 1 to Feb. 13.
1883	„ 7	„ „ Jan. 6 to Jan. 12.
„	„ 6	„ „ Jan. 28 to Feb. 2.
„	„ 7	„ „ Feb. 24 to March 2.
1884	„ 8	„ „ Feb. 13 to Feb. 20.
1885	„ 6	„ „ Jan. 28 to Feb. 2.
„	„ 10	„ „ Dec. 21 to Dec. 30.
1886	„ 8	„ „ Feb. 21 to Feb. 28.
„	„ 6	„ „ March 26 to March 31.
„	„ 6	„ „ Nov. 26 to Dec. 1.
„	„ 7	„ „ Dec. 10 to Dec. 16.
1887	„ 7	„ „ Jan. 21 to Jan. 27.
1888	„ 6	„ „ Dec. 14 to Dec. 19.
1889	„ 7	„ „ Jan. 5 to Jan. 11.
„	„ 7	„ „ Jan. 29 to Feb. 4.

Of these long periods of rain—

Eight began in January.  
 Five „ February.  
 Two „ March.  
 One „ November.  
 Four „ December.

Rainy periods of seven or eight days are frequent in the months of January, February, and December, and occasionally in March and November. In the year 1881 rain did not fall throughout the year on more than four consecutive days. In 1882 rain fell on 13 consecutive days, being the longest period of consecutive rain in the 10 years, the next in order of length is one of 10 days in 1885.

Following these rainy periods fine weather follows, and at times of considerable length, for instance :—

In—	No rain fell for 21 consecutive days—	
1880 ....	No rain fell for 21 consecutive days—	Oct. 26 to Nov. 17.
1881	„ 21	„ March 25 to April 16.
1882	„ 28	„ April 24 to May 23.
1884	„ 21	„ April 12 to May 4.
1884 and 1885	„ 22	„ Dec. 12 to Jan. 4.
1885	„ 36	„ April 8 to May 15.
1888	„ 17	„ Feb. 18 to March 7.
1888	„ 22	„ March 15 to April 7.
1889	„ 16	„ Nov. 17 to Dec. 4.

Dr. Chaplin says “these fine days of the winter and early spring are some of the most enjoyable the climate of Palestine affords.”

Showing connection of Rain with directions of Wind at *Sarona*.

Rainy Seasons.	No. of Rainy Days.	Direction of Wind during Rainfall.							
		N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.
1879-80	69	...	7	7	17	14	13	9	2
1880-81	54	...	3	4	6	16	13	11	1
1881-82	59	1	1	3	13	23	11	5	2
1882-83	62	5	2	1	10	24	11	9	...
1883-84	77	2	3	10	9	35	9	7	3
1884-85	58	6	5	11	4	9	8	9	6
1885-86	63	1	...	7	8	31	6	4	6
1886-87	52	2	...	7	4	21	6	9	3
1887-88	46	...	1	5	4	15	13	5	3
1888-89	62	...	1	5	7	25	15	8	1
Totals ...	602	17	23	60	82	213	104	76	27



The number of days of rain in each rainy period has varied from 46 in the period 1887-8 to 77 in that of 1883-4. The average number is 60. Of the 602 days of rain in the 10 years 17 were from the north, but none fell from the north in the first two and in the last two periods, and only one on the 3rd and 7th, whilst the very unusual number of 6 with this wind took place in the 6th period. Twenty-three were from the north-east, of which 7 were in the 1st period and 5 in the 6th, whilst no rain fell with the north-east on the 7th and 8th period. There were 82 from the south-east, varying from 17 in the 1st to 4 in the 6th period. There were 213, being more than one-third of the whole, from the south; 104 from the south-west; 76 from the west; and 27 from the north-west.

TABLE IV.—Mean Amount of Cloud in each month at *Sarona*.

Months.	Years.										Mean of 10 years.
	1880.	1881.	1882.	1883.	1884.	1885.	1886.	1887.	1888.	1889.	
January ..	5.8	4.6	4.8	7.2	6.6	6.3	6.5	5.8	5.6	7.1	6.0
February ..	5.3	6.7	7.4	6.2	7.3	4.3	5.0	4.7	6.6	6.2	6.0
March ..	6.6	4.2	4.1	4.2	5.3	4.7	5.9	4.4	4.1	5.8	4.9
April ..	5.8	6.0	5.5	4.2	5.7	5.4	3.5	5.8	5.8	4.2	5.2
May ..	2.7	3.1	3.2	3.2	5.0	2.6	3.3	2.1	3.0	6.2	3.4
June ..	1.8	1.6	1.4	1.9	1.9	2.8	0.7	2.4	1.4	2.6	1.8
July ..	2.4	1.9	3.2	2.9	3.4	2.5	1.6	3.7	1.9	2.2	2.6
August ..	2.5	2.3	3.7	2.7	3.0	1.4	1.8	1.9	1.7	3.1	2.4
September.	2.2	2.6	2.5	2.1	3.8	1.6	2.5	2.2	2.7	3.9	2.6
October ..	3.1	3.2	2.3	4.9	4.0	3.1	2.7	2.2	5.5	2.2	3.3
November	4.1	5.0	4.7	5.1	4.2	2.6	4.9	4.3	4.9	2.8	4.3
December ..	5.8	4.5	5.2	5.3	3.7	4.7	3.4	4.6	6.3	6.7	5.0
Means ..	4.0	3.8	4.0	4.2	4.5	3.5	3.5	3.7	4.1	4.4	4.0

The mean amount of cloud in each month varied :—

					The mean for 10 years was
In January	from ....	....	4·6 in 1881 to	7·2 in 1883	.... 6·0
February	„ ....	....	4·3 „ 1885 „	7·4 „ 1882	.... 6·0
March	„ 4·1 in 1882 and 1888	„	6·6 „ 1880	....	4·9
April	„ ....	....	3·5 in 1886 „	6·0 „ 1881	.... 5·2
May	„ ....	....	2·1 „ 1887 „	6·2 „ 1889	.... 3·4
June	„ ....	....	0·7 „ 1886 „	2·8 „ 1885	.... 1·8
July	„ ....	....	1·6 „ 1886 „	3·7 „ 1887	.... 2·6
August	„ ....	....	1·4 „ 1885 „	3·7 „ 1882	.... 2·4
September	„ ....	....	1·6 „ 1885 „	3·9 „ 1889	.... 2·6
October	„ 2·2 in 1887 and 1889	„	5·5 „ 1888	....	3·3
November	„ ....	....	2·6 in 1885 „	5·1 „ 1883	.... 4·3
December	„ ....	....	3·4 „ 1886 „	6·7 „ 1889	.... 5·0

The largest monthly mean amount of cloud in each year was :—

In 1880 in March	....	....	....	....	....	6·6
1881 „ February	....	....	....	....	....	6·7
1882 „ February	....	....	....	....	....	7·4
1883 „ January	....	....	....	....	....	7·2
1884 „ February	....	....	....	....	....	7·3
1885 „ January	....	....	....	....	....	6·3
1886 „ January	....	....	....	....	....	6·5
1887 „ January and April	....	....	....	....	....	5·8
1888 „ February	....	....	....	....	....	6·6
1889 „ January	....	....	....	....	....	7·1

Therefore the largest monthly mean amount of cloud has been :—

Five times in January.  
Four times in February.  
Once in March.  
Once in April.

The largest amount of cloud in any month was 7·4 in February, 1882 ; the next in order were 7·3 in February, 1884, and 7·2 in January, 1883.

The smallest amount of cloud in any month was 0·7 in June, 1886 ; the next in order was 1·4 in June, 1882 ; June, 1888 ; and August, 1885.

The largest average monthly amount was 6·0 in both January and February, and the next in order were 5·2 in April, and 5·0 in December ; and the smallest were 1·8 in June, 2·4 in August, and 2·6 in both July and September.

The numbers at the foot of the column show the mean amount of cloud in each year. The largest amount was 4·5 in 1884 ; the next in order were 4·4 in 1889, and 4·2 in 1883. The smallest were 3·5 in both 1885 and 1886 ; the next in order was 3·7 in 1887.

TABLE V.—Number of Cloudless Days in each Month at *Sarona*.

Months.	Years.										Means of 10 Years.
	1880.	1881.	1882.	1883.	1884.	1885.	1886.	1887.	1888.	1889.	
January ..	6	11	8	1	2	2	7	6	6	4	5.3
February..	6	2	0	9	3	9	10	6	2	6	5.3
March ..	3	12	3	11	2	10	5	8	9	6	6.9
April ..	5	5	6	7	7	5	7	6	3	9	6.0
May ..	19	13	4	13	5	10	9	14	8	3	8.9
June ..	12	17	8	14	16	10	20	5	13	12	12.7
July ..	8	15	1	5	4	7	12	3	13	13	7.9
August ..	9	10	4	8	3	13	8	6	15	1	7.6
September	15	13	6	9	1	9	7	13	3	5	8.1
October ..	14	14	11	5	8	9	12	17	7	15	11.2
November.	9	8	4	5	11	14	8	9	7	14	8.9
December .	7	8	2	5	12	5	14	11	4	4	7.2
Sums ..	104	126	57	92	74	103	119	104	99	92	96.0

The number of cloudless days in each month varied :—

						The mean of 10 years was
In January	from 1	in 1883	to 11	in 1881	....	.... 5.3
February	" 0	" 1882	" 10	" 1886	....	.... 5.3
March	" 2	" 1884	" 12	" 1881	....	.... 6.9
April	" 3	" 1888	" 9	" 1889	....	.... 6.0
May	" 3	" 1889	" 14	" 1887	....	.... 8.9
June	" 5	" 1887	" 20	" 1886	....	.... 12.7
July	" 1	" 1882	" 13	" 1881, 1888, and 1889	....	.... 7.9
August	" 1	" 1889	" 15	" 1888	....	.... 7.6
September	" 1	" 1884	" 15	" 1880	....	.... 8.1
October	" 5	" 1883	" 17	" 1887	....	.... 11.2
November	" 4	" 1882	" 14	" 1885 and 1889	....	.... 8.9
December	" 2	" 1882	" 14	" 1886	....	.... 7.2

The largest number of cloudless days in any month in each year was :—

In 1880	in September	....	....	....	....	15
1881	" June	....	....	....	....	17
1882	" October	....	....	....	....	11
1883	" June	....	....	....	....	14
1884	" June	....	....	....	....	16
1885	" November	....	....	....	....	14
1886	" June	....	....	....	....	20
1887	" October	....	....	....	....	17
1888	" August	....	....	....	....	15
1889	" October	....	....	....	....	15

Therefore the greatest number of cloudless days in one month occurred during the 10 years—

Four times in June.  
 Three " October.  
 Once " August.  
 Once " September.  
 Once " October.

The greatest number in any month was 20 in June, 1886, and the next in order was 17 in both June, 1881, and October, 1887.

There were no cloudless days in February, 1882, and only 1 in each of the months of July, 1882; January, 1883; September, 1884; and August, 1889.

The largest monthly average of cloudless days was 12.7 in June; the next in order were 11.2 in October, and 8.9 in both May and November; and the smallest were 5.3 in both January and February, and the next in order was 6.0 in April.

The numbers at the foot of the column show the number of cloudless days in each year; the greatest was 126 in 1881, the next in order were 119 in 1886, and 104 in both 1880 and 1881. The smallest were 57, in 1882; the next in order were 74 in 1884, and 90 in 1888. The total number of cloudless days in the 10 years was 961, or 96·1 days yearly.

*Thunderstorms occurred* in 1880 on December 8th and 29th; in 1881 on February 5th, March 3rd, 4th, 18th, 19th and 25th; none were reported in 1882; in 1883, on November 2nd, 25th and 28th; in 1884, on January 6th, 14th and 19th, February 8th, April 12th, October 27th, and November 20th; in 1885, on November 12th, 15th, 24th, 26th, 27th and 28th; in 1886, on January 4th and April 5th; none were reported in 1887; in 1888, on October 1st; and in 1889, on September 21st.

*Thunder was heard but lightning was not seen* in 1886, on February 2nd, and in 1888 on December 5th.

*Lightning was seen but thunder was not heard* in 1884, on October 11th, and in 1886 on February 2nd.

*Hail fell* in 1881 on March 19th; in 1883, on November 2nd; in 1884, on January 20th and 21st, and on April 12th; and in 1886, on April 5th.

*Fog prevailed* in 1881, on March 30th and June 25th; in 1883, on October 5th and 6th, and December 16th; in 1884, on February 21st, March 3rd, April 29th, May 29th, October 18th and 25th, November 27th and December 22nd; in 1885, on April 11th, August 5th, and December 18th and 20th; and in 1886, on February 20th, March 9th, and July 13th.

*Snow*.—None was reported to have fallen during the 10 years.

METEOROLOGICAL OBSERVATIONS.

TABLE VI.—Rainfall in each Month at *Blackheath*.

Months.	Years.										Sums of 10 Years.
	1880.	1881.	1882.	1883.	1884.	1885.	1886.	1887.	1888.	1889.	
January ..	0·33	2·16	1·16	1·75	1·73	1·15	3·45	1·14	0·95	0·82	14·64
February..	2·36	2·51	1·21	2·64	1·25	2·18	0·56	0·68	1·06	2·32	16·77
March ..	0·48	1·59	1·31	0·72	1·24	1·46	0·99	1·09	2·53	1·29	12·70
April ..	2·21	0·49	2·67	1·73	1·12	2·02	1·29	1·50	1·55	1·86	16·44
May ..	0·58	1·56	1·53	1·70	0·93	2·22	4·22	1·84	0·63	3·21	18·42
June ..	2·38	2·03	2·81	1·47	2·11	1·51	0·47	1·25	3·49	2·13	19·05
July ..	3·89	2·16	2·66	1·91	2·18	0·46	2·40	0·88	6·58	2·04	25·16
August ..	0·97	4·64	1·06	0·54	0·25	1·38	1·01	2·99	3·59	1·57	18·00
September	4·14	2·40	2·81	4·61	2·16	3·67	1·05	2·56	0·78	1·49	25·67
October ..	7·94	2·97	6·53	1·54	1·08	3·11	1·52	1·07	1·26	3·93	30·95
November	2·04	2·47	2·50	3·12	1·18	2·70	3·05	3·98	3·74	0·80	25·58
December	2·79	2·74	2·39	0·76	1·99	1·01	3·81	1·49	0·90	1·35	19·23
Sums ..	30·11	27·72	28·64	22·49	17·22	22·87	23·82	20·47	27·06	22·81	24·31 average.

The extreme monthly falls of rain in each month are as follows :—

	The smallest fall was inch.	The largest fall was inches.	The mean was inches.
In January	... 0·33 in 1880	... 3·45 in 1886	... 1·46
February	... 0·56 „ 1886	... 2·64 „ 1883	... 1·68
March ...	... 0·48 „ 1880	... 2·53 „ 1888	... 1·27
April ...	... 0·49 „ 1881	... 2·67 „ 1882	... 1·64
May ...	... 0·58 „ 1880	... 4·22 „ 1886	... 1·84
June ...	... 0·47 „ 1886	... 3·49 „ 1888	... 1·97
July ...	... 0·46 „ 1885	... 6·58 „ 1888	... 2·52
August ...	... 0·25 „ 1884	... 4·64 „ 1881	... 1·80
September	... 0·78 „ 1888	... 4·61 „ 1883	... 2·57
October ...	... 1·07 „ 1887	... 7·94 „ 1880	... 3·10
November	... 0·80 „ 1889	... 3·98 „ 1887	... 2·56
December	... 0·76 „ 1883	... 3·81 „ 1886	... 1·92

The largest monthly fall of rain in each year has been—

In 1880, in October	... ..	7·94 inches.
1881 „ August	... ..	4·64 „
1882 „ October	.. ..	6·53 „
1883 „ September	....	4·61 „
1884 „ July	....	2·18 „
1885 „ September	....	3·67 „
1886 „ May	....	4·22 „
1887 „ November	....	3·98 „
1888 „ July	....	6·58 „
1889 „ October	....	3·93 „

Therefore the largest monthly fall of rain has been—

Three times in October,  
Twice in July,  
Twice in September,

and once in each of the months of May, August and November.

The largest fall of rain in any month was 7·94 inches in October, 1880; the next in order were 6·58 inches in July, 1888, and 6·53 inches in October, 1882.

The largest average monthly fall was 3·10 inches in October; the next in order were 2·57 inches in September; and 2·56 inches in November.

The numbers at the foot of the column show the fall of rain in each year; the largest fall, 30·11 inches, was in 1880; the next in order were 28·64 inches in 1882, and 27·72 inches in 1881. The smallest fall was 17·22 inches in 1884; the next in order were 20·47 inches in 1887, and 22·49 inches in 1885. The average fall was 24·32 inches.



METEOROLOGICAL OBSERVATIONS.

TABLE VII.—Number of Days on which Rain fell in each Month at *Blackheath*.

Months.	Years.										Sums of 10 Years.
	1880.	1881.	1882.	1883.	1884.	1885.	1886.	1887.	1888.	1889.	
January ..	7	7	9	23	16	12	18	14	12	9	117
February..	17	15	6	14	11	17	7	6	15	19	127
March ..	5	12	10	10	8	6	11	10	20	13	105
April ..	14	8	11	10	11	10	14	11	18	17	122
May ..	4	11	12	10	10	16	15	17	6	14	115
June ..	18	10	19	14	8	6	8	3	18	6	111
July ..	22	11	19	15	14	4	12	9	23	16	145
August ..	7	18	15	12	6	10	9	8	11	11	107
September	12	17	15	16	13	17	8	14	9	7	128
October ..	18	12	24	15	13	17	16	9	8	17	149
November	13	18	17	17	8	14	15	22	15	7	146
December	15	14	18	11	17	11	14	14	8	11	133
Sums ..	152	153	175	167	135	140	147	137	163	147	1,515

The number of days of rain in each month have varied—

	From—	To—	The average is
In January....	7 in both 1880 and 1881	... 23 in 1883	... 11·7
February	6 „ 1882 and 1887	... 19 „ 1889	... 12·7
March ...	5 in 1880	... 20 „ 1888	... 10·5
April ...	8 „ 1881	... 18 „ 1888	... 12·2
May ...	4 „ 1880	... 17 „ 1887	... 11·5
June ...	3 „ 1887	... 19 „ 1882	... 11·1
July ...	4 „ 1885	... 23 „ 1888	... 14·5
August ...	6 „ 1884	... 18 „ 1881	... 10·7
September	7 „ 1889	... 17 „ 1881 and 1885	... 12·8
October ...	8 „ 1888	... 24 „ 1882	... 14·9
November	7 „ 1889	... 22 „ 1887	... 14·6
December	8 „ 1888	... 18 „ 1882	... 13·3

The greatest monthly number of days of rain in each year has been :—

In 1880, in July	... ..	22
1881 „ August	... ..	18
„ „ November	... ..	18
1882 „ October	... ..	24
1883 „ January	... ..	23
1884 „ December	... ..	17
1885 „ Feb., Sept., and Oct.	... ..	17
1886 „ January	... ..	18
1887 „ November	... ..	22
1888 „ July	... ..	23
1889 „ February	... ..	19

So that the greatest number of rainy days have been :—

Twice in January.  
 „ February.  
 „ July.  
 „ October.  
 Once in August.  
 „ September.  
 „ November.  
 „ December.

The numbers in the last column of the preceding table show the number of days of rain in every month in 10 years.

The largest number is 149 in October ; the next in order are 146 in November and 145 in July. The smallest numbers are 105 in March ; 107 in August ; and 111 in June.

The numbers at the foot of Table VII show the number of days of rain in each year. The largest number is 175 in 1882; the next in order are 167 in 1883, and 163 in 1888. The smallest numbers are 135 in 1884, 137 in 1887, and 140 in 1885. The total number of days of rain in the 10 years is 1,515 on 151½ days yearly.

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## ESSAYS ON THE SECTS AND NATIONALITIES OF SYRIA AND PALESTINE.

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### THE MARONITES.

By FREDERICK JONES BLISS, B.A.

IT is not the object of this essay to discuss at any length the vexed question of the origin of the Maronites, or to determine their exact relationship to Rome throughout the middle ages, but rather to present a sketch of the sect as it is to-day. In touching briefly upon early historical points, we shall be satisfied with the conclusions drawn by the authorities in such matters. In a number of sections we shall speak of the geographical distribution of the Maronites, of their general council, of their clergy, of their monasteries and conventual discipline, of their liturgical books, of their feasts and fasts, of the customs pertaining to their rites of baptism, marriage, and burial, and of any peculiarities of the sect. A large part of the Lebanon has been visited by the writer, and most of the information contained in the essay has been obtained by word of mouth from Maronites, or from their own books. It is not easy in Syria to arrive at exact information, and the writer, not having had access to any large general library, would wish to apologise in advance for any mistakes that may be found, notwithstanding his careful attempts to verify every statement.

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#### I.

##### THE MARONITES AND THE LEBANON.

The Lebanon is the stronghold of the Maronites. They are to be found in Aleppo, in Damascus, in Nazareth, in Cyprus, in Alexandria, and in all the maritime cities of Syria, but their home is in the mountains. The Lebanon follows the sea-coast in a general northerly direction from a point midway between Tyre and Sidon to a point somewhat north of Tripoli—a distance of about 120 miles. Its greatest breadth does not exceed 25 or 30 miles. Its highest peaks rise to a height of 10,000 feet.

The Maronites are scattered over the whole range, but they are found in greatest numbers in the northern part. The Kesrawan, north of the Dog River and Belad Bsherreh, below the cedars are almost exclusively Maronite.

A Maronite ecclesiastic<sup>1</sup> estimates the entire number of Maronites at 300,000. Probably almost four-fifths of these are to be found in the ranges of the Lebanon. In these mountains there are Druzes, a few Moslems, and Metawileh, Greeks, Greek Catholics, a few Protestants, and finally Maronites, who form about three-fifths of the whole population.

The Kesrawan possesses extraordinary scenery. Even from Beirût the view is unique. One looks across the bay to the ashen-grey hills rising almost sheer from the blue water, with perpendicular strata of limestone running up over their summits and on up to the sharp outline of the loftier rocky ridges, with jagged points, like the teeth of a saw. On every prominent knoll or ridge stands a convent; villages gleam at different altitudes—a beautiful picture always, but bleak and grey till touched by the sunset light, when the deep ravines cleaving the higher hills are marked by dark shadows, and the rock-embossed summits, glowing with purple and rose, are thrown out into sharpest relief.

Nor is a nearer view wanting in surprise. To one toiling up the steep foot hill rising from the Bay of Juneh, the Kesrawan gives little promise of fertility. The rich cultivation of the plain climbs the hill for only two or three hundred feet, giving place to a few scrub oaks scattered over the dry chalky soil. A backbone of rock breaks out at the top of this hill, and in it there is a square cut called “the gates of the winds.” A few steps through this cut brings you to a sudden halt. The hill drops as abruptly upon this side as upon the other, but upon what a steeply fertile valley. Far below lie the red-tiled buildings of the Latin College of Antura; the bottom of the valley is a green nest of orange trees and other fruits; on the opposite valley wall a stately grove of pines protects a loftily-perched belfried nunnery; terrace rises above terrace, where the green mulberry shows gay against the white soil, in an extraordinary perpendicular series—it is a vision of hanging gardens, of a precipice in cultivation. The white buildings of the monastery of the Syriac Catholics seems fastened against the steep side of the hill to the left. Through the cut you look back at a wall of sea, palpitating with brilliant tints of amethyst and turquoise, the soft round clouds in the sky above mirrored on its surface like a gentle breathing upon polished metal. As you ride along the ridge, the views afford a strange mixture of wildness and fertility. The scenery impresses one as closely packed, as having a bewildering variety for a small compass; the effect of these pyramidal hills, with steep straths of pine and patches of oak falling on one side to the Bay of Juneh, and on the other to rich narrow

<sup>1</sup> See: *Cereni Storici Sulla Nazione Siro—Maronita, etc.*, per G. Notain Der'auni Livorno; Francesco Vigo, 1890.

valleys, while the jagged slopes tower above, is startling, and almost theatrical.

Villages are thickly planted among these lower hills, notwithstanding a notorious scarcity of water. The upper Kesrawan has several celebrated springs, among which are the ice-cold Neb'a-el-Leben and Neb'a-el-'Asil, the fountains of milk and honey. I reserve a description of the Bsherreh district for the section on the monasteries.

That the Maronites have inhabited these Lebanon regions for more than 12 centuries is historically clear. The question as to how long their ancestors were there before them merges itself in the general problem of Syrian chronology, which is yet to be solved. With the exception of the Bedouins, of the Nusairiyeh, who are probably descendants of ancient heathen, and of the noble Druze and Moslem families, whose pedigree is Arab, together with the houses of Shehaab<sup>1</sup> and Bilemma, now Maronite, but formerly Moslem and Druze respectively; it is at present impossible to speak definitely of the ancestry of any given division of the people. Among the population we have descendants of the ancient Canaanites, of Jew, of Greek and Roman colonists, of Arab invaders, of Frankish Crusaders, and possibly of Mongols, but definitely to recognise each element is impossible. Religion is not enough to determine race. While in some cases the Moslem physiognomy points to an Arab origin, in others the difference of appearance between Moslem and Christian is only a matter of facial expression, induced by a different habit of mind. For the Moslems include not only the descendants of the Arab invaders, but of those Christians who yielded to Mohammed's sword. In the towns of Nebk and Yabrud in the anti-Libanus, Moslems and Christians are not easily distinguished,—features, expression, speech, dress, and habits being much the same. In fact they are but one people, one branch of which embraced Islam while the other rejected it.

Renan,<sup>2</sup> without giving his authority, asserts that the Maronites are descendants of an ancient Christian family of Antioch which took refuge in the Lebanon to escape the persecution of the Orthodox Church. He says that the Maronite clergy believe that the Lebanon was always Jewish or Christian, having accepted Christianity at its first preaching, but he adds that the Lebanon was one of the last districts to be converted. It is his belief that "the Lebanon is truly the tomb of an old world gone by, which has disappeared body and soul. A total substitution of race, language, and religion has taken place; Maronites, Greeks, Meta-wileh, Druzes, Moslems, Arabs, and Turcomans are there of recent date."

On the contrary, it is the opinion of others that in the Maronites we find descendants of the pagan tribes inhabiting the Lebanon at the remotest periods of Jewish history.

The Maronites date their origin from the days of the Abbot Marûn who, they say, died in the year 400 A.D. Gibbon says that "the rival

<sup>1</sup> The Hasbeya portion of this family is still Moslem.

<sup>2</sup> "Mission de Phenicie," page 335.

cities of Emesa and Apamea disputed his relics, and 600 of his disciples united their solitary cells on the banks of the Orontes." Whether the Abbot Marûn is historical or mythical is not clear, but it seems certain that this monastery of the Orontes became the nursery of Monothelitism. The warlike inhabitants of the Lebanon who were at the time under the rule of local princes, adopted the heresy towards the close of the 7th century. Justinian II employed the aid of these warriors in a campaign against the Khalif Abd-el-Melek, but after a decided victory over the common foe, the orthodox Emperor turned his forces against his allies, who would not give up their heresy, and who received the name of Mardaites or rebels, while those who remained attached to the Emperor were called Melkites or royalists, a name borne by the Greek Christians of Syria till the present day. The monastery on the Orontes was ravaged. Dr. Wortabet<sup>1</sup> argues that the name Maronite was prior to the name Mardaite, as the Lebanon were called rebels in consequence of their persisting in the heresy of Marûn. It is still a point in dispute whether their name is derived from the Monk Marûn, or from Yubauna Marûn, their first patriarch, who they say was chosen in the year 685, and who died in 707. Most Maronites hold the former view. Notwithstanding the hostile Greeks on the one hand and the Saracen invaders on the other, the Maronites, under leaders whose exploits are celebrated by their own annalists, long retained an independence in their mountain fastnesses, and the acts of the Council held in the last century always referred to them as a nation. In these strongholds of the hills they have always maintained religious freedom, even under the Turkish rule, and have afforded an asylum for many who have been persecuted, religiously or politically.

The Maronites not only glory in an early nationality but they deny that they were ever heretical. Maronite scholars trained at Rome, such as Faustus Nairon (in an elaborate treatise: "De Origine Nomine ac Religione Maronitarum," Rome, 1679), Gabriel Sionita, Abraham Echelensis, &c., have tried to vindicate their church against the charge of Monothelitism. Against their position we have the testimony of William of Tyre, and of Jacques de Vitry, Bishop of Tyre, in the 12th century. I give the passage from William of Tyre as quoted by Dr. Wortabet: "A Syrian nation in the province of Phœnicia, inhabiting the cliffs of Lebanon, near the city of Biblos, while enjoying temporal peace, experienced a great change in state. For having followed the errors of one *Maro*, a *heresiarch*, for nearly 500 years, and so as as to be called after him Maronites, and to be separated from the Church of the Faithful and maintain a separate worship, through divine influence returning now to a sound mind, they put on resolution and joined themselves to Americus, the (Latin) Patriarch of Antioch."<sup>2</sup>

Jacques de Vitry, in his "Historia Hierosolymitana," speaks of "a people called Maronites from the name of a certain man, their master,

<sup>1</sup> "Religion in the East," p. 104.

<sup>2</sup> "Religion in the East," p. 106.

Maron, a heretic, who affirmed that there was in Jesus but one will or operation. They remained separated from the Church nearly 500 years. At last, their hearts being turned, they made profession of the Catholic faith in the presence of the venerable Father Amaury, Patriarch of Antioch, and adopted the traditions of the Roman Church."<sup>1</sup> Dr. Wortabet adds the testimony of John of Damascus, who "pronounced the Maronites to be heretics, with whom he could have no communion;" also of Timothy, a Presbyter of Constantinople, who wrote a service for the reception of repentant heretics into the Church, including Maronites; also of an Arabic MS. in his possession of the History and Acts of the Councils, "in which the Maronites are expressly mentioned by name as being of the number condemned by the Sixth Council for Monothelism."

This historical evidence is convincing, and Mosheim says that leading Catholic scholars are agreed that the origin of the Maronites is tinged both with Monothelism and Monophysitism. Out of respect, however, for Maronite traditions, Rome, while she has not canonized the two Marîns, has practically recognised the local patron saints of what is now a loyal portion of the Church. The position is illogical, but admirably illustrates the adaptability of Rome. In various Papal documents addressed to Maronite Patriarchs, it is affirmed that the Maronites have remained loyal to the Roman Church from the earliest days of Christianity.

The union with Rome was at first loose; indeed the celebrated Jacobite writer, Gregorius Bar-Hebraeus, known also as Abulpharagius, who died in 1286, speaks of the Maronites as Monothelites.<sup>2</sup> The formal act of union took place at the Council of Florence in 1445, when they acknowledged the supremacy of Rome in ecclesiastical discipline. Churchill, in speaking of the period previous to the union, says:<sup>3</sup> "For three centuries there existed a church in the Lebanon Popish in all its forms and doctrines, saving the cardinal point of submission to the Pope."

At this time the Pope Eugenius IV. gave the Maronite Prelates a general sanction to hold Provincial Councils for the regulation of matters of faith and discipline, the proceedings of which should be transmitted to the Pope by a legate present at the Council. Such a Council was held in the year 1736. Its acts and decisions form the constitution of the Maronite Church to-day. These were printed in Arabic in 1788, at the press of Mar Yuhanna, a Greek Catholic Convent, situated in a rocky valley opening into the Dog River Gorge, and in Latin early in the present century at Rome. The versions differ enough to give rise occasionally to varying interpretations, in some cases the text being fuller and more explicit in the Arabic version, and in others in the Latin.

<sup>1</sup> The date of this union is given as 1182.

<sup>2</sup> "Assemanus Bibliotheca Orientalis," tom. ii, p. 292.

<sup>3</sup> "Mount Lebanon," vol. iii., p. 75.

Accordingly, to avoid trouble between Maronites and the mother church, a translation of the Latin text has been recently made into Arabic—in press at the date of writing. It is interesting to notice that the Latin version will serve as the single standard.

At the end of this version there are printed various ancient documents, such as Papal Bulls, Indulgences, and Acts of Maronite Synods. Among these we may note the Synod held by Serkis, Patriarch of Antioch, March 19th, 1596, in which the anathema of the Maronite Prelate is hurled against errors ascribed to him and his nation, as well as against his defamers; these include: Monothelitism, procession from the Father alone, denial of purgatory, denial of original sin, view that one may deny the faith with his lips but hold it in his heart, view that Confirmation is not distinct from Baptism, view that divorce may be permitted for fornication or because of incurable disease. Serkis had evidently been suspected of Greek orthodoxy. The Council of Trent is quoted, and at the close Papal Confirmation is asked.

Under date of 1562 we find the Pope Pius IV granting authority to the Patriarch to absolve certain heretics of the Maronite nation. He compliments the Patriarch upon his devotion to the See, and begs him to leave a warning to his successors to report carefully to Rome. In 1577, Gregory XIII sends to the Patriarch an Arabic translation of the Decrees and Canons of Trent and of the Catechism for Parish Priests, that errors may be more carefully avoided. Paul V, evidently in the interests of the individuality of the Maronite Church, writes to their Patriarch in 1610 concerning the restoration of certain Maronite rites which he had changed—"ancient customs not contrary to the Catholic Faith." In 1713, Clement XI declares the deposition and resignation of the Patriarch Jacob null and void, and commands the Bishops to yield him obedience and subjection. These references are enough to show that the Papal See kept careful watch over the Maronites after the Council of Florence.

According to the correspondence between the Patriarch and the Roman Prelates with reference to the Lebanon Council, given at the end of the Latin edition, the initiative was taken by the former. In letters sent to Pope Clement XII and to the Propaganda, under date of July, 1734, the Patriarch Yusif el Khazin and the Maronite Bishops speak of things in their nation which ought to be reformed and corrected; they acknowledge that they need the help of Rome, and to this end beg that the learned Yusif el Sim'any (called at Rome Josephus Assemanus), their fellow countryman, may be sent to co-operate with them in the work of reform. In the introductory note the Maronite Prelates are represented as desiring to preserve intact the dogmas of the Catholic Faith as received by St. Peter, and recognising that some foreign elements have crept in they are anxious for reform. A year later the Propaganda issued a decree empowering Assemanus to visit the Lebanon as an Apostolic Legate to assist the Maronites in arranging their discipline, according to the instructions to be given him by the Propaganda,



and, if it should seem necessary, to call a General Council, in which he should have a vote together with the Bishops; matters of grave moment to be referred to Rome. Assemanus was librarian of the Vatican and *Prelatus Domesticus* to the Pope. He was a distinguished scholar and author of many works, chief of which is the "Bibliotheca Orientalis," in four handsome volumes, published respectively in 1719, 1721, 1725, and 1728; it is a Thesaurus of Syriac literature, containing the lives of different authors, orthodox, Monophysite and Nestorian, and extracts from their works, with comments. In a letter to the Patriarch, Clement XII speaks of the piety and wisdom of Assemanus, and especially of his learning in Oriental subjects and the rites of the Maronite nation, which the Pope likens to a rose among thorns, and to a rock in the midst of the sea standing firm against the raging waves of numerous heretics, schismatics, and infidels, vehemently persecuting the Patriarchate of Antioch.

Assemanus arrived in Syria July 17th, 1736. It seems probable that he had prepared fully beforehand the Constitution to be presented to his fellow Maronites, for when the Patriarch came from Qannûbîn to the Convent of Raifûn in the Kesrawan in July, he appointed there private meetings, beginning September 14th, at which were presented "the propositions decided by the Apostolic Seat" and others not yet defined. At Raifûn there arose certain differences regarding the distribution of the chrismatic oil, the extent of dioceses, &c., &c. The Patriarch belonged to the famous feudal house of Khazin, and his relations seem to have supported him against the Legate. Assemanus, to avoid contention, withdrew to the Convent of Lowaizi, above the mouth of the Dog River, accompanied by the missionaries and other clergy. Here, on September 26th, the Patriarch suddenly followed him, and a friendly discussion of three days ensued, followed by the announcement of a General Council. This was opened at the Convent of Lowaizi on September 30th, and lasted for three days. There were present the Syriac Catholic and Armenian Catholic Archbishops of Damascus and Aleppo, the Abbots-General of the two Orders of Lebanon Monks, with their directors, Latin missionaries of four orders, sixteen Heads of Monasteries, the Maronite Bishops with many of the lesser clergy, chiefly nobles from the house of Khazin, and sixteen from the house of Habeish.

After mass and the reading of correspondence, the Council opened with a solemn subscription to a Confession of Faith, including the Nicene Creed, and referring to the Councils in detail, ending with that of Trent. A sermon was preached by a Jesuit father. At the six sessions of the Council, which occupied the mornings and afternoons of three days, the decrees were read and approved.

In a letter to the Propaganda the Jesuit at the head of the 'Antura Mission says that not a few abuses were corrected; he praises the wisdom, learning, and long suffering of the Legate, by which he overcame difficulties raised by Bishops, Governors, and the Patriarch himself, to the satisfaction of all. As the Canons fill 350 pages in the Arabic edition, there could have been no discussion at the Council itself. They are

divided into four parts:—Part I is on the Catholic Faith ; the first sentence is as follows : “ Among the especial benefits with which Almighty God has wished, by reason of his unspeakable goodness, to adorn the Apostolic Church of Antioch and our Syrian Nation of Maronites, is one to be perpetually remembered by us with due gratitude to His Majesty, namely, that the Orthodox Faith from the first preaching of Peter, the chief of the Apostles, in the region of Syria, has remained intact and unchanged to these times, so that, among the great changes wrought by heretics, schismatics, and infidels, it has suffered no loss of the sacred, Catholic, and Apostolic truth.” It contains chapters on the Creed, on Preaching, on the Use of books, on Fasts and Feasts, and on the Reverence for Saints, Relics, and Images. Part II treats in detail of the Sacraments, Indulgences, and Penances, and of the sins which can be absolved alone by the Bishops and Patriarch. Part III treats of sacred offices, from Sacristan to Patriarch. Part IV treats of Churches, Convents, and Schools, with a concluding chapter on the rules of the Council, in which, among other things, it is said that this book has been derived from the rules of the Pontiffs, the decision of Councils and ancient fathers, and the rites of the ancient church of Antioch ; the customs of former Maronite Prelates are to be followed with veneration, except as they may be contrary to the present Constitution, but their censures are to be revoked and only those sanctioned by their Council are to have force ; the present Constitution is not to limit the authority of the Patriarch or of the Provincial Synod.

In theology the book is strictly Tridentine. All traces of heresy have long ago disappeared from the Maronites, nor are there to be found among them any peculiarities of belief. Their difference from Latin Catholicism to-day consists not in doctrine, but in the language and form of their ritual, and in the permission given to their parish clergy to marry.

The subscriptions include not only the names of the Maronite Prelates and Nobles, but those of other Catholic clergy present. The Maronite Bishop of Damascus preached a closing sermon from the text “ Jesus began to do and to teach,” upon the necessity of good works.<sup>1</sup> The benediction was pronounced by Assemanus.

An example of Oriental hyperbole appears in a letter written after the close of the Council by the Patriarch to the Pope : “ God so loved the world that He sent His only begotten Son ; so most Blessed Father thou hast loved us as to send us a man most acceptable to thee and to us.” Assemanus reports on his Mission in a letter dated January, 1737, in which he says that the decrees are to be sent to the Pope, to be changed, corrected, amended, and confirmed.

<sup>1</sup> I cannot forbear quoting an amusing and unique illustration used by the Bishop. He probably preached in Arabic, but I copy from the Latin version : “ Qui enim docet, nec facit, similis est fictitiis dentibus, quorum usus est ad verba proferenda, non ad cibum sumendum.”

We learn from the Bull of Benedict XIV, found in the Arabic version, dated September 1st, 1741, which confirmed the Council, that there arose some difficulties between the Patriarch and the Legate (who after the Council had made a tour of inspection among the churches and monasteries) in regard to putting in force some of the decrees of the Council, namely, the complete separation of Monks and Nuns; the money given to the Patriarch and Bishops for the distribution of the chrismatic oil; and the extent and permanency of Episcopal Sees which had been somewhat altered by the Council. The Patriarch consulted Rome by letters in 1737, and later by special envoy. The matter came up finally before the Apostolic Court, when the following questions were put and answered:—

- 1st. Did the Lebanon Council meet legally? Answered affirmatively.
- 2nd. Is the Council's regulation for the separation of women and nuns from Monks to be confirmed? Answered affirmatively.
- 3rd. Does the regulation forbidding the Patriarch to take money for oil deserve confirmation? Answer: It does, but the Pope will graciously make up the loss to him.
- 4th. Is the rule requiring the residence of Bishops in their Sees to be confirmed, and what is to be said as to the divisions of the Bishoprics and as to the permanency of a Bishop in his See? Answer: The Canonical decrees on this point are to be confirmed.
- 5th. Shall the Pope be asked to confirm the Council by a Bull? Answered affirmatively.

In apology for speaking at such length of this Council, we may say that it is important because it settled the constitution of the Maronite Church as it is to-day, and because it shows the methods by which Rome deals with a distant branch of the Church. It occupies a unique position among the Syrian churches. Until the breaking down of feudalism during the last century the Maronite Church and nation were one. The Patriarch was often chosen from a noble house, thus more truly representing the nation. The Greek Bishops are often imported, though less frequently than formerly, but a foreign Maronite prelate would be a contradiction in terms. The Maronite ritual in Syriac and Arabic is peculiar to the sect, and the ancient ecclesiastical polity is preserved. This feeling of nationality comes out in the chapter of the Council of Lebanon, which treats of the Maronite College at Rome, in the anxiety lest the attractions of the Latin ritual tempt the students to desert their own. They are forbidden to receive the Sacraments of confirmation and ordination by any rite except the Maronite, or to enter Monastic orders. A student whose loyalty to his own church is doubtful is instantly to be sent back to the Lebanon.

Though the Maronite Church has home rule, yet there are indications that Rome is strengthening her hold upon it. The Pope's Legate, who lives at Beirût, has a superintendence over all the Catholic Churches of Syria. Churchill, writing in 1852, speaks of his influence among the Maronites as slight, and of the despotic authority of the Patriarch, from which there is no appeal. The last forty years have worked change. Within a few years the monks of the Lebanon division of the Order of St. Antony, withdrawing from the Patriarch, put themselves under the protection of the Legate. At their last triennial Council he endeavoured to dictate in the election of Abbot-General, and when the monks did not comply he closed the Council. The matter was referred to Rome. The Legate was appointed Patriarch of Jerusalem, and a *locum tenens* was appointed to the duties of the Generalship till the next election. I understand that the Order now wishes to return to the allegiance of the Patriarch. Every Maronite to-day has the right of final appeal to Rome. A case in point was related to me. A certain convent in the Kesrawan had been built by the family of Zwein. It fell under the control of the Bishop, but the family of the founders reserved the right of appointing the Abbot, and claimed its support for their sick and poor. Upon the death of the Abbot, not many years ago, the Bishop and Patriarch seem to have demanded the unrestrained management of the convent. The family of Zwein, supported by the Legate, appealed to Rome, and a deed of possession was sent to them.

Speaking of the election of the Patriarch, Churchill says, "the debates usually last for many days, and even weeks." Here, again, we may contrast the past with the present. For after the death of the Patriarch this last spring his successor was elected on the ninth or tenth day, it being understood that if within that time the Bishops had made no choice the right of appointment would revert to the Pope. It was even hinted that Rome would have been pleased to prove the ineligibility of each Bishop in order that in failure of a choice within the given time, she might declare the Legate competent to assume all the patriarchal functions, thus giving a death-blow to Maronite independence. The Jesuits are doing much in Syria for the mother church. Besides their superbly endowed college and Medical School in Beirût, their schools are found in the principal Maronite villages. It is said that the churches of the Lazarists and Jesuits in Beirût are fuller of Maronites than are their own churches. It has become the fashion to confess to Latin fathers, and also to observe the Latin fasts rather than the Maronite.

The Maronites may usually be distinguished by their features and general appearance. Whatever their early origin, a sense of nationality has probably done much to preserve them intact for over a thousand years. They are apparently more unified than any other Christian sect in Syria. The Arabic spoken by the Maronites in the remote and lofty regions of Bsherreh preserves some peculiar vowel sounds of the Syriac. It would have been strange if the Kesrawan and Belad Bsherreh had not

produced a type; until recently the inhabitants have seldom left their mountain homes, marriages have taken place within narrow geographical limits, often within the same family, and intermixture with other sects has been rare. In the Kesrawan the following type is common: face broad, but square rather than oval; thick, rather curly, black hair, with heavy beard and moustaches appearing early, at first glossy but apt to become grizzled and stiff; well-set eyes, almond-shaped, black or brown, with clear whites; nose inclined to be broad; straight mouth, with regular white teeth; complexion a healthy olive, with almost no red colour; medium stature; good shoulders; a fine, free carriage, and a dignified smile. Fair complexions and blue eyes occur, but they are an exception. In Bsherreh the women are handsome, with round faces and a pink and white complexion.

Like the rest of the Lebanese, they are engaged chiefly in the cultivation of wheat, the vine, mulberry, &c. Many hundreds of the women and children are engaged in the silk factories. In the large cities there are wealthy Maronite merchants. Within the last few years there has been an extraordinary craze, especially in Zahleh and the Bsherreh districts, for going to America and Australia. It is not an emigration; very few have any intention of settling in those countries. Most of them go as adventurers, often taking with them their women and children. They carry goods from Jerusalem, as well as cheap Parisian jewellery, and peddle them from State to State. As they manage to live in America on a few cents a day, making sometimes a few dollars, they return to the Lebanon with what are considered large sums of money. Hasrûn and other towns are full of fine, new houses built by these returned adventurers, who went away as poor peasants. While many succeed more are reduced to beggary, and the slums of New York are full of these Lebanon Maronites and Greeks. This exodus is discouraged by the Lebanon Government.

The three chief noble houses of the Maronites are those of Khazin—by far the most important—Habeish, and Dahdeh. Churchill says that the Habeish Sheikhs are the oldest, having been allies to the Crusaders. The feudal power of these families is altogether lost, but they are still very particular about their family alliances. During the last century the Lebanon branch of the Shehaab emirs became Maronites.<sup>1</sup> The emirs of the house of Bilemma' were originally Druze, but became Maronite shortly after the Shehaabs. They have been for centuries in the Lebanon, and remains of their castles are to be found in five towns, but several have passed out of their hands, the massive castle at Solîma having become a Latin school. The style of building is solid and simple,

<sup>1</sup> Their faces furnish a good illustration of the stamp given to physiognomy by religion. Their race is Arab (they boast descent from the Koreish) almost unmixed, as their alliances have been only with old emirical families, and yet we must look closely to distinguish them from other Maronite Christians. The Hasbeya Shehaabs are still Moslems, and show this clearly in their faces.

but the gateway at Falugha is a piece of elaborate carving in the Persian manner, with rude lions, platters of fruit and Saracenic border. From being feudal lords, with almost unlimited power, these emirs are now reduced to comparative poverty, having no political influence except what may accrue to offices held under the Pasha of the Lebanon.

The origin of the Khazins is obscure; their power in the Kesrawan began towards the close of the 16th century. The celebrated Emir Fakhredeen Ma'n, whose career is one of the most romantic in Lebanon history, passed his early years in a sort of exile under the roof of Sheikh Abu Nadir el Khazin. Later, when the Emir became head of the Lebanon, he made Sheikh Abu Nadir lord of the Kesrawan. The Khazins rapidly became the acknowledged leaders of the Christians. They built palaces, churches, and endowed many monasteries. They made alliances with the French Kings, who became protectors of the Maronite nation. Churchill gives the text of letters of protection issued by Louis XIV and Louis XV, enjoining French Consuls in the Levant to look after the interests of the Maronite Patriarch and people. For a long period the agents of the French Government in Beirût were chosen from among the Khazins. Sheikh Naufel el Khazin received as gifts from Louis XIV a sword and a ring. Rome conceded to them the right of giving investiture to the Patriarch-elect.

The Lebanon nobility exercised far into the present century all the rights and privileges of the feudal system. They regulated the dress and manner of living of the peasants, demanded personal service as well as homage, and appropriated lands very much as they liked. On the other hand, they kept open house, and extended royal hospitality. The power of the Khazins, though somewhat abated, lasted till the year 1858, when the peasants, restive under the feudal yoke, instigated by the Patriarch and the French agent at Beirût, arose in insurrection and drove out the Khazins from the Kesrawan. Some years later they returned, but their power was gone.

The last remnants of feudalism were destroyed when the Government was reconstructed after the massacres of 1860. In regard to the civil wars between the Druzes and Christians in 1845 and 1860, it may be said that the troubles were political rather than religious. It is a matter of surprise to those who know how greatly the Maronites outnumber the Druzes that the latter should have had the advantage. Two things must be remembered: first, that the Druzes were far more united than the Maronites, whose present tendency is to follow local rather than national leaders: and, second, that the Druzes rightly relied upon the inaction, if not upon the sympathy, of the Turkish troops, a state of things, of course, paralyzing to the Christians.

As to mental and moral characteristics, habits and manners of life, the Maronites differ little from the other Christians of the country. They are more bigoted than the Greeks, and in purely Maronite regions Protestant missionaries have been unable to establish schools. We may trace the sources of their bigotry in their sense of national pride, as well as in real

evotion to their religion. Toleration is the child of broad-minded charity, but it may be the child of indifference as well. The Maronites are certainly not indifferent. Believing in the infallibility of their Church and of its dogmas, and cherishing a deep attachment for it, it is no wonder that they resist anything which they suppose to be hostile to its teaching. They share with all Syrians of whatever creed a vivid sense of God's Providence. In the West a belief in Providence is intellectual rather than practical, but with the Orientals the weather, health, sickness, affliction, good fortune are all referred directly to a Divine source. Repining or rebellion against God's decrees would be never thought of. On the other hand, it must be said that spirituality is at a low ebb. Of course, it is not necessary to add that there are many exceptional cases. The priests are formal in the discharge of their duties. Piety is more apt to take the form of devotion to the ceremonies of the Church than of growth in spiritual life. A lofty, disinterested ideal of character does not seem to be contemplated. The Bible is in no sense a household book. In the smaller villages preaching is unknown, and it is rare anywhere. The Virgin and the Saints are exalted practically to the loftiest rank, and share in the devotion which might otherwise be devoted to God alone. However, as will be seen further on, there are embedded in the Maronite ritual many passages of spiritual force and beauty. It is impossible to forecast the future of the Oriental Churches, but if they ever become vitalised again the Maronite Church will have preserved in its ritual germs of great spiritual power.

(To be continued in April "Quarterly Statement.")

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REVIEW.—*The Life and Times of Joseph, by the Light of Egyptian Lore.*

By the REV. H. G. TOMKINS.<sup>1</sup>

SUCH a book as this might be adduced as in itself an illustration and a defence of the work which this society and scholars in Assyrian and Egyptian lore have been accomplishing during the last quarter of a century. It is not too much to say that such work has absolutely given life to dry bones. The history of Joseph, as we read it in the Bible, is intensely human, even to the most careless readers. It presents a character drawn in firm, strong outline. But it stands against the sky. There is no setting—no background—no atmosphere. These things are given to it by the discoveries of modern times. We see, by the help of Mr. Tomkins' pages, Kharran, the "road," in the country of Padan Aram, by which passed continually the caravans, the pilgrims, the tribes, the armies on their way. It was not in the desert that Joseph grew up. Again, when Jacob moved south and settled at Shalem, it was not in a green wilderness, but in the road of trade and travel.

<sup>1</sup> The Religious Tract Society.

Again, it was not because Joseph was a favourite that his father dressed him in a coat of many colours, it was because he was the son of "Jacob's wife" (Gen. xlv), the first-born son of the wife—not the son of Leah, or of Bilhah, or of Zilpah, but of Rachel. His dress marked his position in the household. The Egyptian pictures show that the Semitic nations of Western Asia wore coats and kilts of richly-coloured designs, and that the chieftain was distinguished by the especial form and ornamentation of his tunic. Again, in a small but significant illustration, in Joseph's dream, his sheaf arose and stood upright—in Egypt the sheaves are not set upright, but are laid flat on the ground. Again, as to the vision of the sun and moon and eleven stars, Lenormant and Sayce give sets of twelve stars taken from the ancient monument.

When Joseph is sold it is to Ishmaelite traders from the land of Midian going down from Gilead into Egypt. Their trade was in spices, of which an enormous quantity was wanted in Egypt for embalming the dead and for incense in the temples.

It would not be fair to the book to pursue the history any farther. We have here called attention to the work because such a book is in itself a justification, if one were wanted, of our work. What has been done by Mr. Tomkins for Joseph here, and in a previous work for Abraham, may be done for Joshua, for David, for any of the Biblical characters; that is to say, they can now be presented to the reader as they were, moving among the men of their own time, clothed in their own dress, speaking their own tongue, obeying their own laws. The chief danger in such a restoration is, of course, that we are prone to forget that their laws were not ours, and that their ideas, on subjects which have now become by the development of religion, vital to Christians, were not ours.

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THE  
PALESTINE EXPLORATION FUND

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NOTES AND NEWS.

THE Executive Committee has arranged for the delivery of a series of afternoon lectures on the work of the Fund, in the months of May and June next, at No. 20, Hanover Square, a few doors from the office and museum of the Fund. Sir Charles Wilson, Major Conder, Canon Tristram, Canon Dalton, Professor Hayter Lewis, Mr. Walter Besant, Mr. Flinders Petrie, and Mr. Henry A. Harper, are among those who have promised to lecture. Application for tickets for a single lecture or for the whole course should be made early to Mr. George Armstrong, Assistant Secretary. See leaflet with present number for particulars.

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Mr. Bliss's detailed report of the work of the season at Tell el Hesi is published in the present number. Some of the objects found are of great interest, particularly the bronze weapons from the lowest, or "Amorite" town. Several fragments of pottery have inscriptions on them, of which drawings are given. *Funds for the continuance of the excavations are urgently needed.*

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It has long been thought by many students of the topography of ancient Jerusalem that "Herod's monument" is to be sought further south than the Birket Mamilla, where Schulz had placed it. Herr Schick reports that it is believed to have been found on the "Nicophorich" ground, where the Greek Convent, to whom that property belongs, has been making extensive excavations.

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Herr Schick sends an account of these interesting discoveries, with plan and section of the spot, and we are indebted to the courtesy of a Russian correspondent for plan of the rock-cut tomb chambers found there, and drawings of the ornamentation of the sarcophagi in them.

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We are happy to state that M. Clermont-Ganneau is actively engaged on the letterpress which is to accompany the drawings of M. Lecomte, illustrating M. Ganneau's Archæological Mission, and that it is confidently hoped the volume will be published by the end of the present year.

The Rev. J. E. Hanauer reports that one of the sculptured figures in the cave at Saris has been cut out and taken away.

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A squeeze of a long inscription in Phœnician characters, stated to have been recently discovered at a place not far from Jaffa, has been forwarded by Mr. Bliss. It appears to contain about 200 letters. A paper upon it from the pen of Major Conder will be found at page 171.

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We regret that owing to the illness of Major Conder, his promised paper on the decipherment of the Hittite Inscriptions has had to be postponed.

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The Rev. J. Llewelyn Thomas, M.A., Briton Ferry, Glamorganshire, has been appointed Lecturer for the Fund in Wales.

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The Rev. T. E. Dowling, honorary secretary of the Fund at Jerusalem, reports the formation of "the Jerusalem Association of the Palestine Exploration Fund." This local society numbers already fourteen members, and has Bishop Blyth for its chairman; it has opened a Reading Room in the Holy City, where the maps and books of the Fund may be consulted by travellers and others, and has made arrangements for the delivery of a number of lectures on the Archæology of Jerusalem and Palestine, by local antiquaries, during the season of visitors.

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The publication of a valuable series of barometrical determinations of heights in Lebanon, Anti-Lebanon, and on Hermon, by Prof. R. H. West, has been postponed until the July number of the *Quarterly Statement*.

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The museum of the Fund, at 24, Hanover Square, is now open to subscribers between the hours of 10 a.m. and 5 p.m., except on Saturdays, when it closes at 2 p.m.

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The Committee will be glad to receive donations of Books to the Library of the Fund, which already contains many works of great value relating to Palestine and the Holy Land.

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It may be well to mention that plans and photographs alluded to in the reports from Jerusalem and elsewhere cannot all be published, but all are preserved in the offices of the Fund, where they may be seen by subscribers.

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The following gentlemen have kindly consented to act as Honorary Local Secretaries:

The Rev. W. H. Cavanagh, 43, Harvey Street, Germantown, Phila., Pa.,  
U.S.A.

The Rev. H. Hamilton Jackson, Cheriton, Bromley Common.

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The price of the remaining copies of "Palestine under the Moslems" has been raised to 10s. each to subscribers to the fund, and 16s. to non-subscribers.

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The first volume of the "Survey of Eastern Palestine," by Major Conder, has been issued to subscribers. It is accompanied by a map of the portion of country surveyed, special plans, and upwards of 350 drawings of ruins, tombs, dolmens, stone circles, inscriptions, &c. The edition is limited to 500. The first 250 subscribers pay seven guineas for the three volumes; subscribers to the "Survey of Western Palestine" are privileged to have the volumes for this sum. The price will be raised, after 250 names are received, to twelve guineas. The Committee are pledged never to let any copies be subscribed for under the sum of seven guineas. Mr. A. P. Watt, 2, Paternoster Square, is the Sole Agent. The attention of intending subscribers is directed to the announcement after Maps and before Contents of this number.

Mr. H. Chichester Hart's "Fauna and Flora of Sinai, Petra, and the Wâdy 'Arabah" has been completed and sent out to subscribers.

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The books now contained in the Society's publications comprise an amount of information on Palestine, and on the researches conducted in the country, which can be found in no other publications. It must never be forgotten that no single traveller, however well equipped by previous knowledge, can compete with a scientific body of explorers, instructed in the periods required, and provided with all the instruments necessary for carrying out their work. The books are the following (*the whole set (1 to 13) can be obtained by subscribers to the Fund by application to the Head Office only (24, Hurver Square, W.), for £3 1s. 6d., carriage paid to any part in the United Kingdom only*):—

By Major Conder, R.E.—

- (1) "Tent Work in Palestine."—A popular account of the Survey of Western Palestine, freely illustrated by drawings made by the author himself. This is not a dry record of the sepulchres, or a descriptive catalogue of ruins, springs, and valleys, but a continuous narrative full of observations upon the manners and customs of the people, the Biblical associations of the sites, the Holy City and its memories, and is based upon a six years' experience in the country itself. No other modern traveller has enjoyed the same advantages as Major Conder, or has used his opportunities to better purpose.
- (2) "Heth and Moab."—Under this title Major Conder provides a narrative, as bright and as full of interest as "Tent Work," of the expedition for the *Survey of Eastern Palestine*. How the party began by a flying visit to North Syria, in order to discover the Holy City—Kadesh—of the children of Heth; how they fared across the Jordan, and what discoveries they made there, will be found in this volume.

- (3) Major Conder's "Syrian Stone Lore."—This volume, the least known of Major Conder's works, is, perhaps, the most valuable. It attempts a task never before approached—the reconstruction of Palestine from its monuments. It shows what we should know of Syria if there were no Bible, and it illustrates the Bible from the monuments.
- (4) Major Conder's "Altaic Inscriptions."—This book is an attempt to read the Hittite Inscriptions. The author has seen no reason to change his views since the publication of the work.
- (5) Professor Hull's "Mount Seir."—This is a popular account of the Geological Expedition conducted by Professor Hull for the Committee of the Palestine Fund. The part which deals with the Valley of Arabah will be found entirely new and interesting.
- (6) Herr Schumacher's "Across the Jordan."
- (7) Herr Schumacher's "Jaulân."—These two books must be taken in continuation of Major Conder's works issued as instalments of the "Survey of Eastern Palestine." They are full of drawings, sketches, and plans, and contain many valuable remarks upon manners and customs.

By Walter Besant, M.A.—

- (8) "The Memoirs of Twenty-one Years' Work."—This work is a popular account of the researches conducted by the Society during the past twenty-one years of its existence. It will be found not only valuable in itself as an interesting work, but also as a book of reference, and especially useful in order to show what has been doing, and is still doing, by this Society.
- (9) Herr Schumacher's "Kh. Fahl." The ancient Pella, the first retreat of the Christians; with map and illustrations.

By George Armstrong—

- 10) Names and Places in the Old and New Testament and Apocrypha. This is an index to all the names and places mentioned in the Bible and New Testament, with full references and their modern identifications, as shown on the new map of Palestine.
- (11) Besant and Palmer's "History of Jerusalem."—The "History of Jerusalem," which was originally published in 1871, and has long been completely out of print, covers a period and is compiled from materials not included in any other work, though some of the contents have been plundered by later works on the same subject. It begins with the siege by Titus and continues to the fourteenth century, including the Early Christian period, the Moslem invasion, the mediæval pilgrims, the Mohammedan pilgrims, the Crusades, the Latin Kingdom, the victorious career of Saladin, the Crusade of Children, and many other little-known episodes in the history of the city and the country.

- (12) Northern 'Ajlûn "Within the Decapolis," by Herr Schumacher.

By Henry A. Harper—

- (13) "The Bible and Modern Discoveries."—This work, written by a Member of the Executive Committee of the Palestine Exploration Fund, is an endeavour to present in a simple and popular, but yet a connected form, the Biblical results of twenty-two years' work of the Palestine Exploration Fund. The writer has also availed himself of the discoveries made by the American Expeditions and the Egyptian Exploration Fund, as well as discoveries of interest made by independent travellers.

The Bible story, from the call of Abraham to the Captivity, is taken, and details given of the light thrown by modern research on the sacred annals. Eastern customs and modes of thought are explained whenever the writer thought that they illustrated the text. This plain and simple method has never before been adopted in dealing with modern discovery.

To the Clergy and Sunday School Teachers, as well as to all those who love the Bible, the writer hopes this work will prove useful. He is personally acquainted with the land; nearly all the places spoken of he has visited, and most of them he has moreover sketched or painted. It should be noted that the book is admirably adapted for the School or Village Library.

By Guy le Strange—

- (14) "Palestine under the Moslems."—For a long time it had been desired by the Committee to present to the world some of the great hoards of information about Palestine which lie buried in the Arabic texts of the Moslem geographers and travellers of the Middle Ages. Some few of the works, or parts of the works, have been already translated into Latin, French, and German. Hardly anything has been done with them in English, and no attempt has ever been made to systematise, compare, and annotate them.

This has now been done for the Society by Mr. Guy le Strange. The work is divided into chapters on Syria, Palestine, Jerusalem, and Damascus, the provincial capitals and chief towns, and the legends related by the writers consulted. These writers begin with the ninth century and continue until the fifteenth. The volume contains maps and illustrations required for the elucidation of the text.

The Committee have great confidence that this work—so novel, so useful to students of mediæval history, and to all those interested in the continuous story of the Holy Land—will meet with the success which its learned author deserves.

By W. M. Flinders Petrie—

- (15) "Lachish" (one of the five strongholds of the Amorites).—An account of the excavations conducted by Mr. Petrie in the spring of 1890, with view of Tell, plans and sections, and upwards of 270 drawings of the objects found.

By Trelawney Saunders—

- (16) "An Introduction to the Survey of Western Palestine, describing its Waterways, Plains, and Highlands, with special reference to the Water Basin—(Map. No. 10)."
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The first edition of the new map of Palestine is nearly exhausted and a second edition is in progress. This map embraces both sides of the Jordan, and extends from Baalbek in the north to Kadesh Barnea in the south. All the modern names are in black; over these are printed in red the Old Testament and Apocrypha names. The New Testament, Josephus, and Talmudic names are in blue, and the tribal possessions are tinted in colours, giving clearly all the identifications up to date. It is the most comprehensive map that has been published, and will be invaluable to universities, colleges, schools, &c.

It is published in 21 sheets, with paper cover; price to subscribers to the Fund, 2*s.*; to the public, £2. It can be had mounted on cloth, rollers, and varnished for hanging. The size is 8 feet by 6 feet. The cost of mounting is extra (*see Maps*).

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In addition to the 21-sheet map, the Committee have issued as a separate Map the 12 sheets (*viz.*, Nos. 5-7, 9-11, 13-15, 20-22), which include the whole of Palestine as far north as Mount Hermon, and the districts beyond Jordan as far as they are surveyed. *See key-map to the sheets.*

The price of this map, in 12 sheets, in paper cover, to subscribers to the Fund, 12*s. 6d.*; to the public, £1 1*s.*

The size of the map, mounted on cloth and roller for hanging, is 4½ feet by 6¾ feet.

Any single sheet of the map can be had separately, price, to subscribers of the Fund, 1*s. 6d.* Mounted on cloth to fold in the pocket suitable for travelling, 2*s.* To the public 2*s.* and 2*s. 6d.*

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*A copy of names and places in the Old and New Testament, with their modern identifications and full references, can be had by subscribers with either of these maps at the reduced price of 2*s. 6d.**

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Branch Associations of the Bible Society, all Sunday School Unions within the Sunday School Institute, the Sunday School Union, and the Wesleyan Sunday School Institute, will please observe that by a special Resolution of the Committee they will henceforth be treated as subscribers and be allowed to purchase the books and maps (by application only to the Secretary) at reduced price.

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The income of the Society, from December 21st to March 18th, was—from annual subscriptions and donations, including Local Societies, £650 16*s. 8d.*; from all sources, £1,137 17*s. 3d.* The expenditure during the same period was £700 6*s. 4d.* On March 19th the balance in the Bank was £684 5*s. 6d.*

Subscribers are begged to note that the following can be had by application to the office, at 1s. each:—

1. Index to the *Quarterly Statement*, 1869–1880.
2. Cases for Herr Schumacher's "Jaulån."
3. Cases for the *Quarterly Statement*, in green or chocolate.
4. Cases for "Abila," "Pella," and "Ajlûn" in one volume.



Early numbers of the *Quarterly Statement* are very rare. In order to make up complete sets, the Committee will be very glad to receive any of the following numbers:—

No. II, 1869; No. VII, 1870; No. III, 1871; January and April, 1872; January, 1883, and January, 1886.



It having been reported to the Committee that certain book hawkers are representing themselves as agents of the Society, the Committee have to caution subscribers and the public that they have no book hawkers in their employ, and that none of their works are sold by itinerant agents.



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.



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.



The only authorised lecturers for the Society are—

The Rev. Thomas Harrison, F.R.G.S., Member of the Society of Biblical Archaeology, Hillside, Benenden, Staplehurst, Kent. His subjects are as follows:—

- (1) *Research and Discovery in the Holy Land.*
- (2) *In the Track of the Israelites from Egypt to Canaan.*
- (3) *Bible Scenes in the Light of Modern Science.*
- (4) *Eastern Palestine.*
- (5) *The Dead Sea and the Cities of the Plain.*

The Rev. J. Llewelyn Thomas, M.A., Briton Ferry, Glamorganshire, South Wales. His subjects are as follows :—

- (1) *Explorations in Judea.*
- (2) *Research and Discovery in Samaria and Galilee.*
- (3) *In Bible Lands ; a Narrative of Personal Experiences.*
- (4) *The Reconstruction of Jerusalem.*
- (5) *Problems of Palestine.*

Professor Theodore F. Wright, Ph.D., Cambridge, Mass, Honorary General Secretary of the Palestine Exploration Fund for the United States. His subjects are as follows :—

- (1) *The Building of Jerusalem.*
- (2) *The Overthrow of Jerusalem.*
- (3) *The Progress of the Palestine Exploration.*

Application for Lectures may be either addressed to the Secretary, 24, Hanover Square, W., or sent to the address of the Lecturers.

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BALANCE SHEET FOR THE YEAR ENDING 31st DECEMBER, 1891.

RECEIPTS.	£	s.	d.	EXPENDITURE.	£	s.	d.
To Balance in Bank 31st December, 1890 .. ..	811	7	7	By Exploration .. ..			
Donations and Subscriptions .. ..	1,637	13	11	Printing and Binding, including <i>Quarterly Statement</i> .. ..			850 18 6
Proceeds of Lectures .. ..	13	8	5	Maps, Lithographs, Photographs, Illustrations, &c., including those for the <i>Quarterly Statement</i> .. ..			719 8 9
Sales of Maps .. ..	183	10	2	Management, including Rent, Salaries, Wages, Advertising, Insurance, Stationery, and Sundries .. ..			239 11 0½
Sales of Memoirs of Western and Eastern Palestine and other Books published by the Society .. ..	759	11	2	Postage and Carriage of <i>Quarterly Statements</i> , Books and Maps.. ..			656 0 2
Sales of Photographs and Slides .. ..	45	18	0	Museum Fittings and Removal of Office .. ..			131 3 5½
				Liabilities paid off, due at end of 1890.. ..			121 14 1
				Balance in Bank 31st Decem-ber, 1891.. ..	£314	6	3
				Less Subscriptions paid in advance on account of 1892 .. ..			314 6 3
				Net Balance .. ..	297	0	9
					£3,451	9	3

## TREASURER'S STATEMENT.

It will be seen that the total expenditure on exploration was £850 18s. 6d. The very heavy sums paid for printing, binding, maps, lithographs, illustrations, photographs, &c., for the most part represents books and maps published by and sold by the Fund, and the *Quarterly Statement* distributed among the subscribers gratuitously.

In the statement of assets and liabilities, it will be seen that a large amount of these publications, for nearly all of which there is a steady demand, remains on hand.

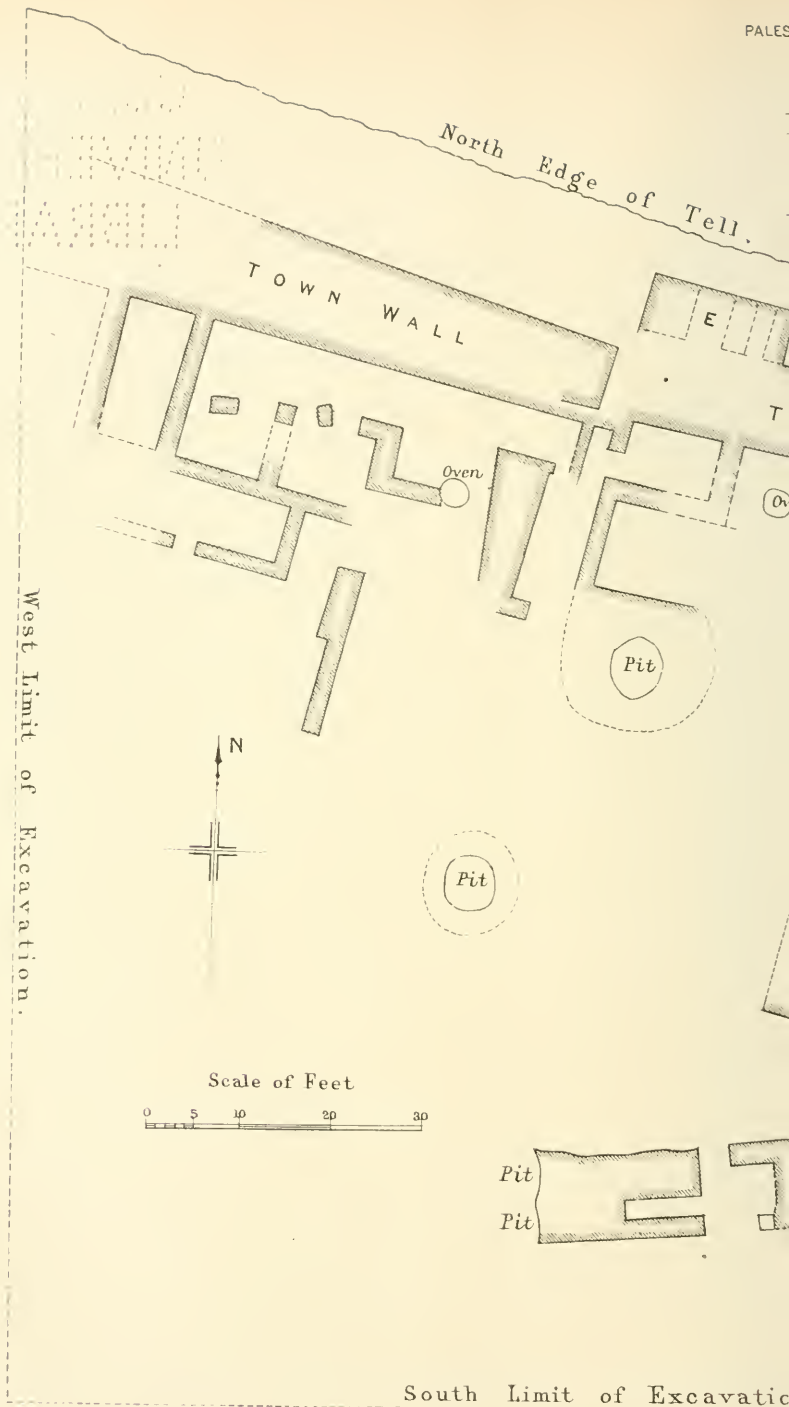
Special expenses were incurred during the year in consequence of the offices of the Fund being removed to 24, Hanover Square. During the quarter in which this took place rent had to be paid for both the old and present offices.

Outstanding liabilities to the amount of £418 were paid off during the year.

ASSETS.				LIABILITIES.			
	£	s.	d.		£	s.	d.
Balance in Bank.. ..	314	6	3	Printing, Lithographing,			
Stock of Books, Maps,				Rent, and Current Ex-			
Photos, &c., on hand..	1,500	0	0	penses .. .. .	671	0	10
Surveying Instruments..	100	0	0	Excavations.			
Show Cases, Furniture							
and Fittings .. ..	100	0	0				
In addition to the above							
there is the valuable							
and unique collection of							
antiques, models, &c.							

W. MORRISON,  
*Treasurer.*



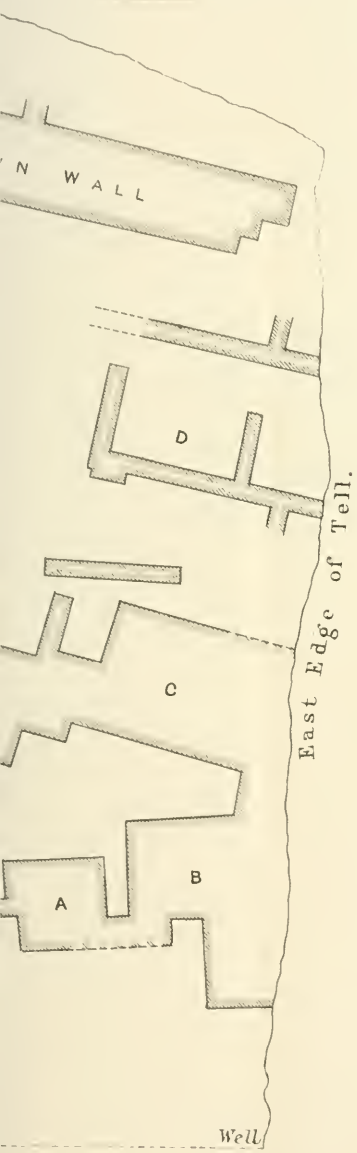


South Limit of Excavation

PLAN III.

Plan of  
Excavations at N.E. Quarter of  
**TELL EL HESY.**

Age Depth below top of Mound .15 feet.  
Height above Sea .about 310 feet.





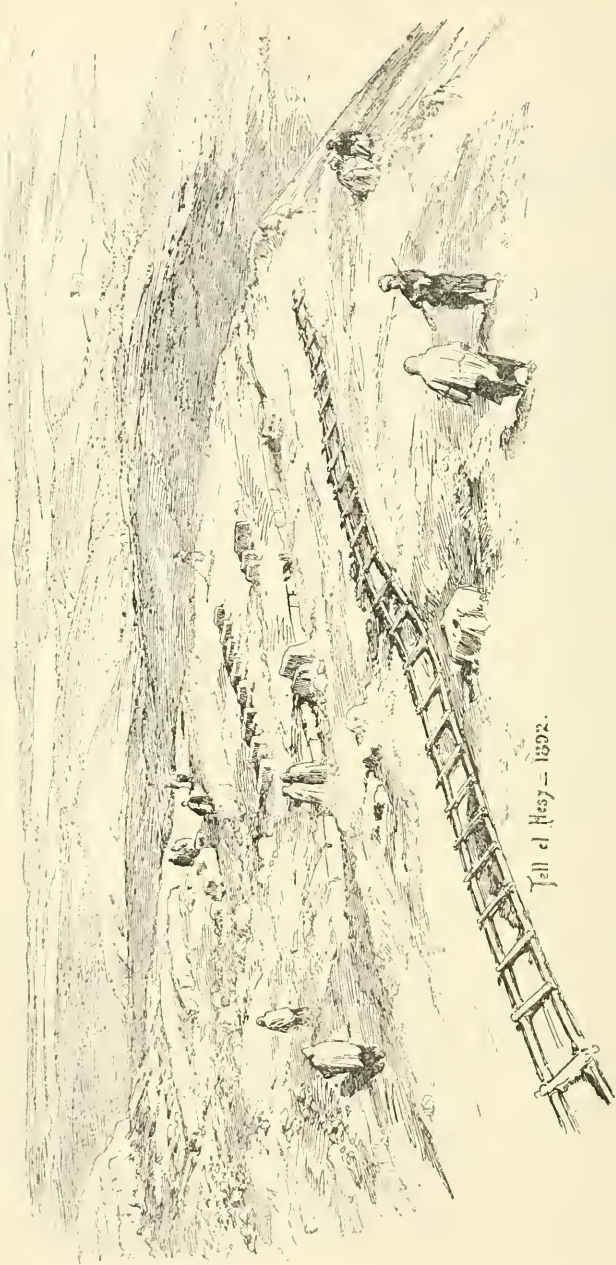
REPORT OF THE EXCAVATIONS AT TELL EL HESY,  
FOR THE AUTUMN SEASON OF THE YEAR 1891.

By FREDERICK JONES BLISS, B.A.

THE excavation was resumed on October 13th. Readers of my report for the spring season will remember that I had cut down the north-east quarter of the Tell to an average depth of  $12\frac{1}{4}$  feet; the mound slopes down towards the north, so that, although the floor of the excavations was pretty level, the deepest cutting was at the south end, near the wall marked on Mr. Petrie's plan, where I had gone down  $18\frac{1}{2}$  feet. As the mound is narrower at the south end, I had, as far down as the digging went, thoroughly investigated actually more than one quarter of the mound, more nearly one-third. I took up the work where it was left off, and on December 19th, when the storms drove us away, the excavation had reached an average depth of  $22\frac{1}{2}$  feet, the part near the wall being  $28\frac{1}{2}$  feet below the top of the mound at that point. Of course, as we descend the area of the excavation increases in proportion to the slope of the hill.

Wishing to reach the Amorite period somewhere, I took advantage of a place partially cleared by Mr. Petrie in front of the Pilaster building, and in a plot 50 feet by 20, dug down till I reached the earliest dwellings founded on the original soil, 25 feet below the level of the Pilaster building. Taking into account this second excavation, the increase of area in the first, and the debilitated condition of the work-people, many of whom were reduced by fever, I think the work went on as rapidly as could be expected, and compares favourably with the work in the spring.

It will be remembered that I had uncovered the parts of two towns lying within the limits of my area, the second lying at an average depth of  $7\frac{1}{2}$  feet below the top of the mound, and that after this I dug through about 5 feet of *debris*, which yielded little result. We had been at work hardly an hour on October 13th when the bases of wallings of a third town appeared, and in a few days I was able to make Plan III, which represents the walls lying at an average depth of 15 feet, about 310 feet above sea-level. Whether the large depth of *debris* between the base of the second and the wallings of the third town are due entirely to the ruins of the third town, or to very much decayed ruins of an intermediate town, I cannot decide. In my report in the October *Quarterly Statement*, page 289, I wrote: "Rooms A, B, and C in the plan of the second town were built on ruins of similar walls in this intermediate period. Signs of other walls were found, but not satisfactory enough to plan." I insert



VIEW OF EXCAVATION AT TELL EL HESY.



this quotation to show that I do not speak of the town uncovered in the middle of October as the third town dogmatically, but for convenience, as it is the third town clear enough to be planned.

This third town, then, is interesting, as it is bounded on the north by the wall which Mr. Petrie suggests may be ascribed to Manasseh. My observations in regard to this wall differ from his in some particulars. Starting from the east edge (*see* Petrie's "Tell el Hesy," Plate II), his wall runs for about 150 feet north,  $69^\circ$  west. Starting at the same point my wall runs north,  $78^\circ$  west (magnetic) for 39 feet, when there occurs a platform projecting to the north. The wall then changes, the direction, running north,  $71\frac{1}{2}^\circ$  west (magnetic) for 43 feet, after which it was so decayed that I could not decide whether it continued in the same direction, or turned towards the north for a few feet before continuing west. The whole wall gave me some trouble at first, as it was worn down to 2 or 3 feet above its base, but when I came to destroy it, I was confirmed in my measurements. For example, from the north-east corner to the platform E (*see* Plan III), I found decay and burning outside my wall, while the wall itself was solid brick, with a clear face. This part rested on rough stones. At 29 feet 6 inches from the north-east corner there were remains of a thin walling running north, between which and the platform the main wall was slightly bent for 7 feet. The platform was quite clear, with decided corners at the angles it made with the wall. This may have been a tower or a gateway. I have indicated by dotted lines the solid squares of bricks which remained after the decay had been removed from the platform.

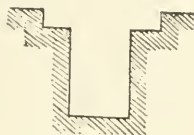
From the platform west the face was very clear; outside the decay contained small fragments of pottery, the wall itself, when broken up, revealed none. We found the face by approaching through the outside decay, and as we got nearer, by giving a sharp tap of the pick, when the decay, hardly distinguishable to the eye from the brick in place, would fall off from a face of solid walling. The wall in this part rested on solid brick.

The whole town was worn down almost to its base. The thickness of walls A, B, and C make it probable that they were the mud brick floorings of small rooms. Room D was rectangular; the inside measurements of the north and south walls being 14 feet 3 inches, and of the east and west walls 13 feet 2 inches. The northern, southern, and western walls were 21 inches thick, and the eastern wall separating it from a room, the walls of which came to an end where the east edge is worn away, was 13 inches thick. This town contained ovens and pits.

Plan IV represents the foundation of structures found at an average depth of 20 feet, about 305 feet above sea-level. We find here a puzzle—roughly parallel lines of isolated stones and brick wallings, worn down to two or three feet from their base; the whole covering a large area. The measurements of the builders were rough. For example, the line of stones C, having the direction north,  $18^\circ$  east (magnetic), is exactly parallel to line B, but walling D has the direction north,  $15\frac{1}{2}^\circ$  east (magnetic); line E,

north,  $14^{\circ}$  east (magnetic); line F, north,  $17\frac{1}{4}^{\circ}$  east (magnetic); and wallings H and I, north,  $16\frac{1}{2}^{\circ}$  east (magnetic). The stones in each line are only approximately equidistant; the eight stones in line C are severally 41, 43, 45, 43, 40, 41, and 42 inches apart, and drawn accordingly. Again, the stones in one line are not opposite to the stones in another. They are of rough sandstone very roughly squared, the surfaces bearing the marks of a tool with a broad thin edge at one end, while the other end was small and rounded. Each stone was placed on a thin bed of fine yellow sand, which occurred nowhere between them. Their average size was  $30'' \times 15'' \times 15''$ . Near A, B, C, and D, on a level with the top of the stones, and in some cases a few inches above their level, but never lying on the stones themselves, was a rough pavement of pebbles. I have indicated by dotted lines the places in the rows where the stones were missing, but may properly be inferred. Three stones in row E were placed on a low line of brick. Also the second stone from the north in line F was placed on a stand of brick, extending a few inches beyond the stone to the east. The walling M is at right angles with the rows, but if it belonged to the system it could not have extended far without intersecting the last stones in lines C and F. Walling P buries the last stone in line J, and is at right angles with O and N, which are decidedly out of line with I and K, so the three wallings O, P, and N, I, shade with red as undoubtedly belonging to a later period. The distance between A and B allows exactly for a walling midway between them, but as no indication was found of one, I do not represent it on the plan even by dotted lines. However, if A belongs to the system, it is probable that such a walling did exist; calling this A', then A and A' would correspond to H and I in the system. Line K, being at the west limit of excavations, I made trial trenches and cuts at the proper intervals, in search for lines of stones and wallings farther west which might connect the system with Petrie's north-west tower, but found nothing. The level of line K is from two to three feet lower than that of line A, and the level of the southernmost stone in A is higher by a foot or so than that of the northernmost stone in the same line, so that the structure slopes down from south to north and from east to west. Under line C ran a thick wall of laid mud, not of individual brick; at the south end of C this wall was met by other similar mud walls running west, and laid side by side, the whole forming a sort of foundation for the system of stones. This platform, formed of mud wallings, pebbles, &c., comes to an edge at C (4 feet from the north stone of line C, and at right angles with the line), which is a battlemented face descending vertically for 2 feet. This battlement, or more properly this ornamental edge, was traced for only 16 feet, but it may have edged the platform along the extent of its north face. It is strange that so unsubstantial a structure should have been preserved at all. On Plan IV I have enlarged it. The rough small stones of the platform reach nearly to the edge where their sides were coated with a layer of mud which was covered with plaster to the thickness of half an inch, forming the back wall of the alcoves. The partitions between the alcoves are of individual bricks put

in place after the back wall (or layer of mud), for as I have indicated in the plan by dots, the plaster occurs behind each partition. The sides of the alcoves are plastered, but the faces of the partitions were worn away, so that their exact depth could not be measured. The irregular alcove is a puzzle. The bricks may have been plastered before they were built in, and I would suggest this as the original form of the alcove :—



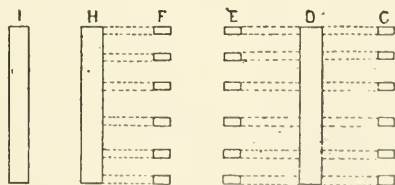
This bears a singular resemblance to the false doorways on the outside of the small Fourth Dynasty Mustabas at Meidum, Egypt.

The earth burying this whole structure contained few stones, little burning, and was chiefly of decayed brick and rubbish.

Having now given the measurements and other details of this singular structure, I may remark :—

(1) The rough pavement extending around the isolated stones, either at their level, or a little higher, but never over them, seems to prove that these stones were below the flooring of the structure. They may have been bases for small columns probably of brick, as we find not a single trace of stone columns above. This takes the lines of stones out of the category of stone circles and similar arrangements of stones, which are themselves prominent objects above ground.

(2) Until I found the alcove bordering, I thought that each stone might have been placed under the termination of a small brick wall running back to the larger walls, so that we would have a series of small chambers :—



We would thus have a sort of bazaar with streets between the lines of chambers. In the modern bazaars we do find shops almost as small as these, 10 feet by  $3\frac{1}{2}$  feet. But the ornamental edge gives the place the look of some public structure in which it would be difficult to explain a lot of little rooms. The theory of brick columns seems more tenable.

(3.) The decided slope of the structure, both to the north and to the west, suggests that it was not a covered building, which would naturally have a level floor. We cannot prove the absence of a wooden roof, how-

ever, by our failure to find charred wood, for such remains might have been cleared away. On the other hand, if we take the stones to be bases of pillars, some sort of a roof would naturally be expected.

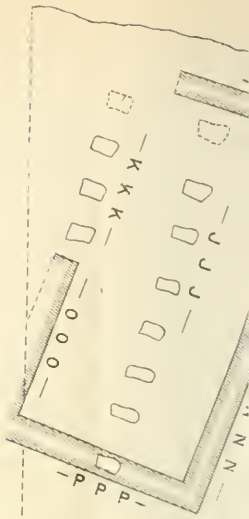
(4.) Whatever the place was it occupied a large part of the town, covering from one-tenth to one-ninth of its area. I confess that the place still puzzles me, and I await with interest the suggestions of others as to its original form and use. The stones, wallings, and platform on which they rest were of the same dull brown colour, and all so low as to give little variety of shade, so that, although I tried repeatedly, I failed to get a good photograph. To secure any result at all I was obliged to dig away part of the platform, leaving each stone standing on a little pedestal.

Plan IV contains also the ruins of some interesting rooms, which I shade with red, for they seem to belong to a later period, though not much above the level of the lines of stones. The north side of room S is paved with large bricks, 19 inches by 12 inches by 6 inches, separated from each other by slits,  $\frac{1}{2}$  inch thick, filled with fine yellow sand, and one part, shut off by a thin partition, contains in the corner a mud oven. This paved part is separated from the rest of the room by a long, deep slit, also filled with yellow sand. The pit oven marked in black is lower and older. I is a small outer room, which probably had no roof, with a seat in the corner. The oven outside of room Q is not a pit oven, but a rounded construction of brick, narrowing to a small mouth, on which a pot could have been placed. On its front side there is a round opening. Such ovens are found near Baalbec to-day. The fire is kindled at the bottom, and when it is reduced to coals, the side opening is closed with a round piece of clay, dough is plastered on the inside to bake, and a pot is put on top. The oven on the bricks in room S is also not a pit oven.

After the remains indicated on Plan IV were cleared away, we dug down for about 5 feet more but found little but brick decay. In the north-east of the excavations there were several jar burials, similar to those in the "Cemetery" described by Petrie, and of the same period. The brickwork was much consolidated and difficult to resolve into walls. In one part, from the nature of the decay between two parallel wallings, 3 feet apart, it looked as if we had found graves with mud brick sides, but of this I cannot be sure, though bones appeared.

I have mentioned the smaller excavation in front of the Pilaster building, where we went down till we reached the original hill. The earliest buildings we found here at a level of 286 feet, and not at 278, as Petrie marks them. Noting the discrepancy, I examined the soil very carefully, which was unmistakably native, yellow sand, with a cap of reddish clay, white-spotted, the typical soil of the district. The whole east face was covered with brick ruin, fallen from above, and a lot of solidified decay, lodged on the face of the hill ten feet below, might easily have been taken for brick in place. Indeed, I repeat that I am constantly astonished at the accuracy of Mr. Petrie's observations in his rapid survey over the whole ground. His book has been an invaluable aid.



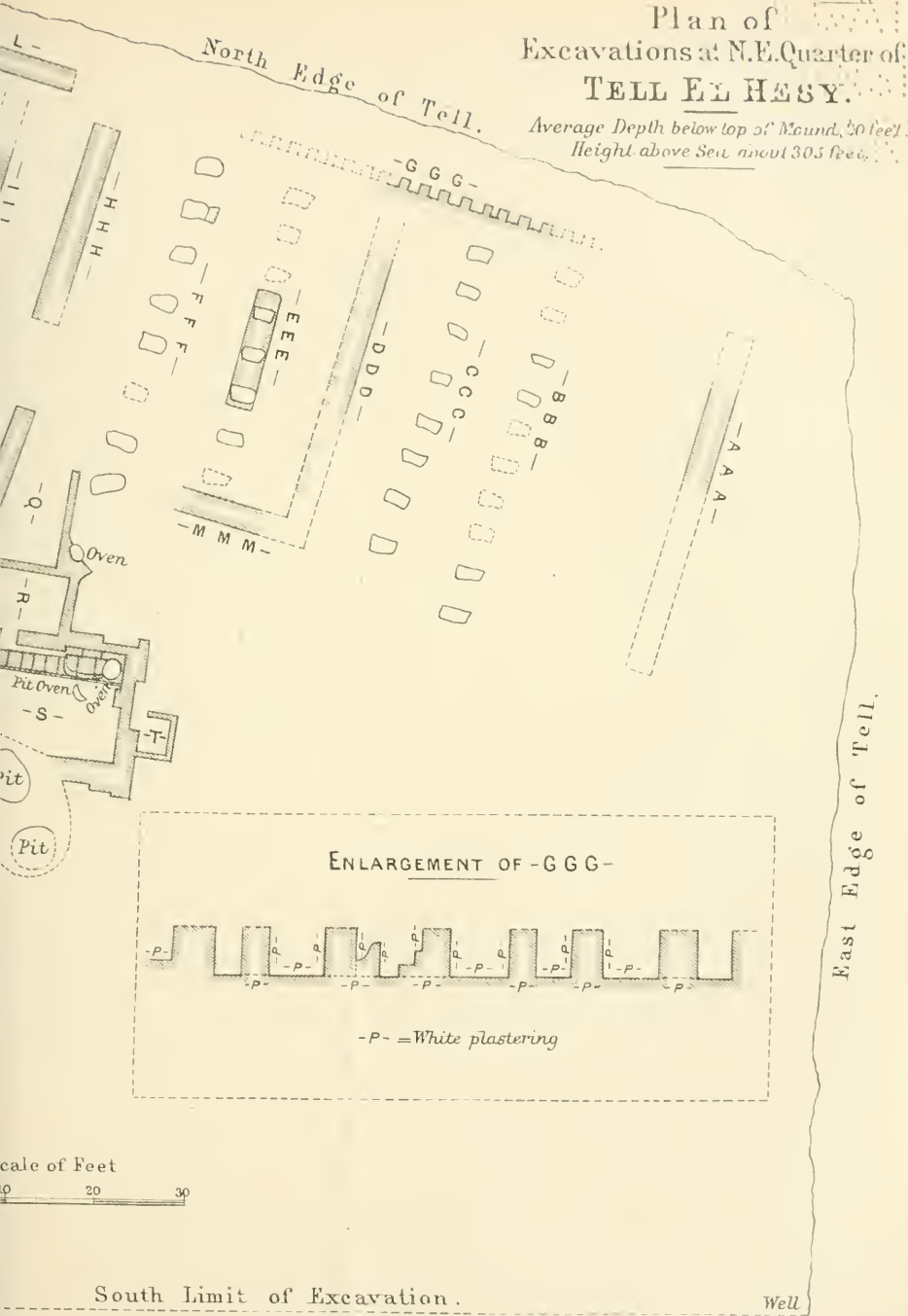


West Limit of Excavation.



# Plan of Excavations at N.E. Quarter of TELL EL HESI.

Average Depth below top of Mound, 50 feet.  
Height above Sea, about 305 feet.



Scale of Feet  
0 20 30

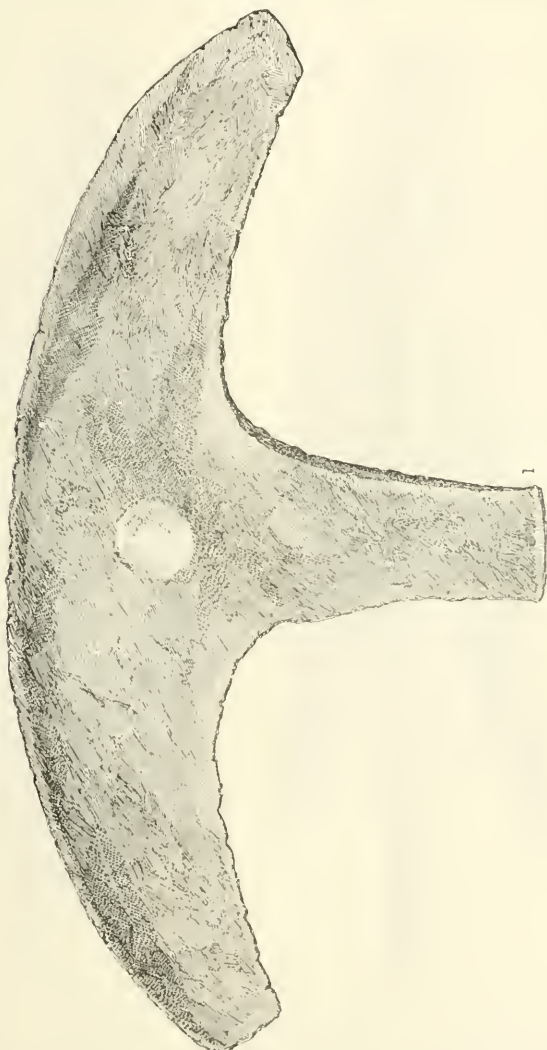
South Limit of Excavation.

Well





In this smaller excavation I found much solidified stuff, but only two sets of wallings clear enough to plan. I was at the 293 level, 48 feet below top of mound. It is noticeable that the walls running to the east



No. 1 Battle Axe (?)

come abruptly to an end, showing how much of the east face of the hill was worn away by the eating in of the stream below. The brickwork here was dark brown, containing but little straw, and so solidified as to

appear one mass. But on our destroying the walls they would fall to pieces in regular blocks, showing the original courses of bricks. In these rooms were found all the varieties of Amorite pottery.



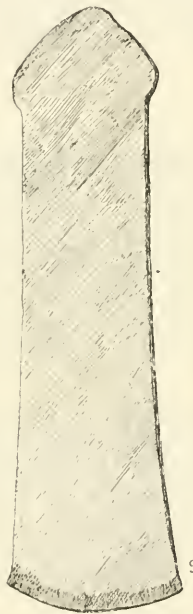
Nos. 2, 3. Spear-heads.

But it was II that rewarded us for this side excavation. In room A were found the Amorite objects in bronze. The small circle was a hole in the ground, 15 inches in circumference, with a smooth, rounded stone at the bottom, and opening into rooms A, B and C. I have photo-

graphed the objects in bronze and drawn them, actual size. Those more versed in old weapons and tools than myself must determine their exact use, but I make some suggestions. The numbers follow the plates of drawings.



No. 4. Spear-head.



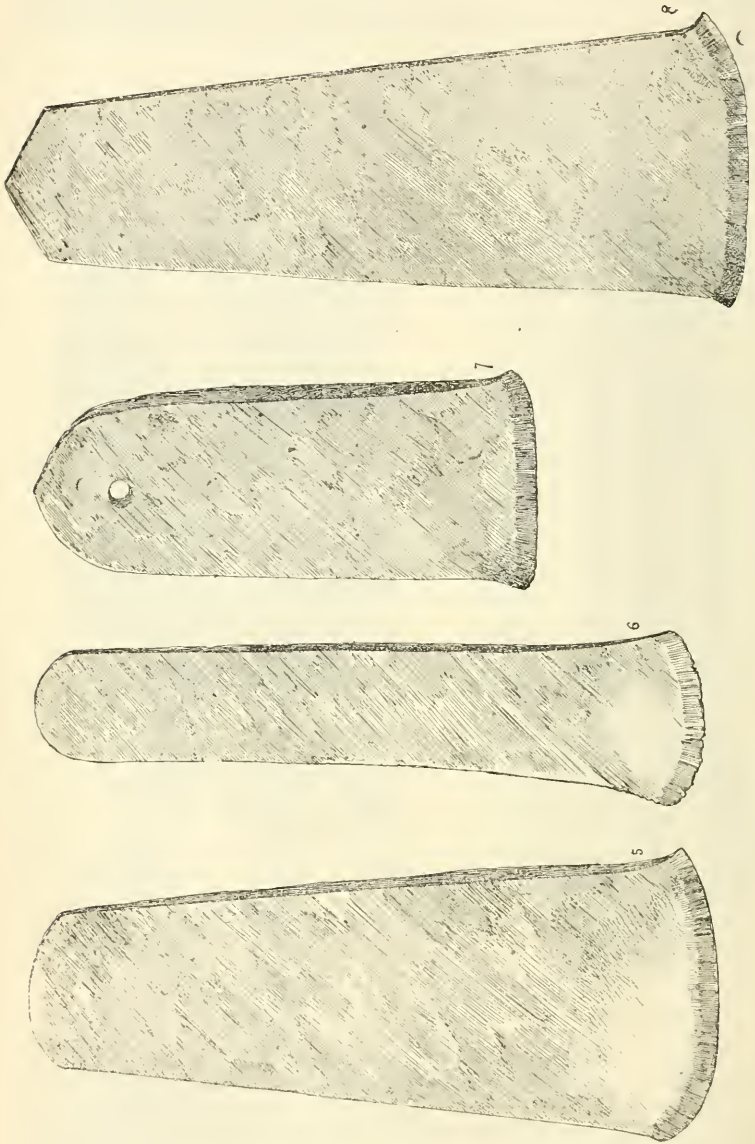
No. 9. Adze (?).



No 10. Knife (?).

No. 1 looks like a battle-axe, coming to a thin edge ; but the curving up at the end is odd, and it is difficult to see how a wooden handle could have been fastened. It has a low boss in the centre. It also suggests a chopper. 2, 3 and 4 are spear-heads. On 2 is attached a murderous little projection, aimed to lacerate when the spear should be drawn out of the victim's flesh. This spear has a loop in the end, suggesting again a difficulty

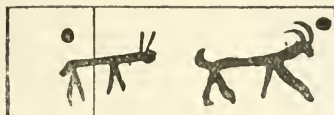
in regard to the handle. 5, 6, 7, 8 and 9 seem to be different forms of



Adzes (?). Nos. 5, 6, 7, 8, 9, 10, found with Spear-heads 1, 2, 3, 4.

adzes. 7 is very heavy, being exactly 12 millimetres (or about half an

inch) thick. Near the rounded top it has a hole, and comes to a fine edge at the other end. 8 is nine millimetres thick. 9 is very light. 10 is a very thin knife. 20 is a lath-stone of slate. 56-68 are marks on fragments of Amorite ware incised before the clay was hardened. No. 56 has a little knob, beside the incisions. 58 was at the rounded bottom of a vessel. 64, in the inside base of a bowl. This cylindrical wooden seal was found :—

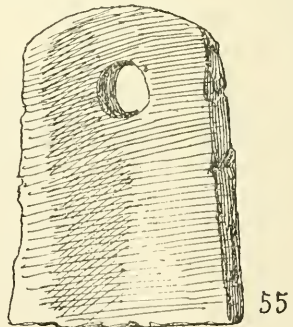
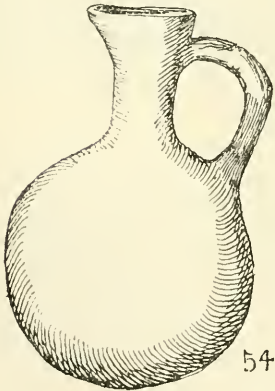
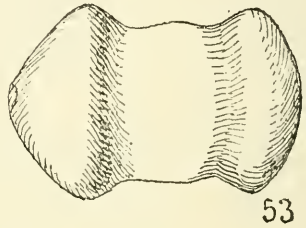
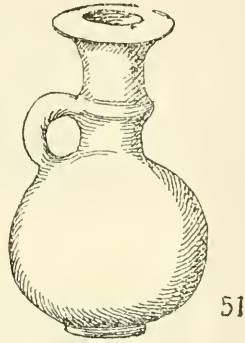
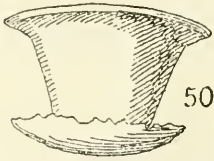


Also a flat wooden seal, with a pattern, of which I send an impression.

I will now return to the larger excavation and will speak of the pottery. The Greek ware, so prevalent above disappeared below the 310 level, though some examples were found. It will be remembered that while Petrie found only a few fragments of the red and black polished ware, and these on the summit, I found them to a depth of 18 feet. I have had some correspondence with him on the subject. It will be noticed in all my plans, that the remains of wallings are usually found towards the north and east of my excavations, and that a considerable area in the south-west part, *i.e.*, near the centre of the Tell, yielded no clear ruins. In looking over my notes I find that, in general, this later ware, which Petrie assigns to the fifth century B.C., was found in this unoccupied part of the area, which may have been originally an open place filled in with rubbish irregularly, so that fragments belonging to buildings at a higher level might have been thrown down into this depressed centre of the Tell, which, in course of time, by frequent deposits, was filled up to the general level. Still, even with this allowance, I think that the discovery of this ware through more than 15 feet of digging, suggests that it was here used both later and earlier than the fifth century B.C.

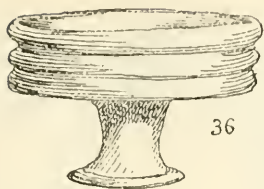
52 is an example of the brittle purplish ware found so much above, which did not occur much below the 310 level. Small vases, like 37, 40, 44, 51, and 54, were common. Some were so thick that they could have contained but a couple of drams of liquid. 43 is singular; it is hollow, like a drain-pipe, but one end is larger than the other, and this would seem to rule out the idea that it was meant to fit into similar pipes. 48 is a beautiful unique specimen, made of fine paste, somewhat polished with rings of sienna; level, between 305 and 310. 53 is a rattle, with a bit of stone or pottery inside; this was found at about 305 level, but another rattle of somewhat different shape occurred a few feet above. Large deep bowls with four handles occurred. At about this level we found fragments of plates and dishes like our modern table plates and saucers. Bowls like 49 were found in connection with buried jars at 300-305 level. 36 was of crystal, but not very symmetrical. Two such vases were found purposely

buried with large jars and the bowls. The handles below 310 level were wheel-turned; those streaked down by the fingers being characteristic of higher levels. What was probably the neck of a jar had been shaped into

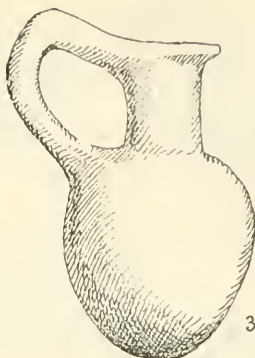


No. 50. Found at various levels.  
 „ 51. Jewish. Height... .. 4 3/4 inches.  
 „ 52. „ „ „ „ 7 „  
 (Has a purple wave.)

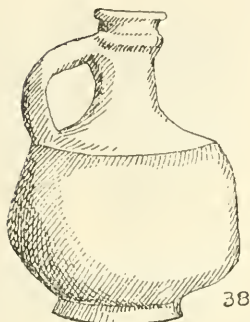
No. 53. Jewish. Height... .. 4 inches.  
 „ 54. „ „ „ „ 3 „  
 (Black, smaller specimens olive.)



36



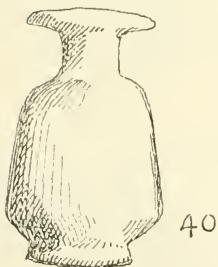
37



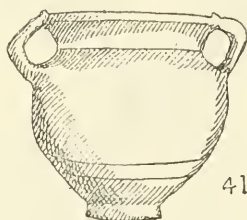
38



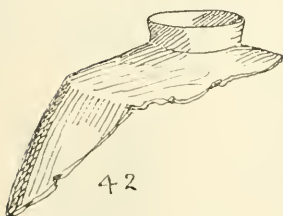
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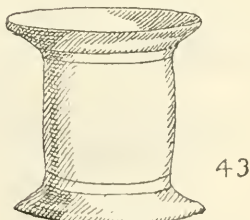
40



41



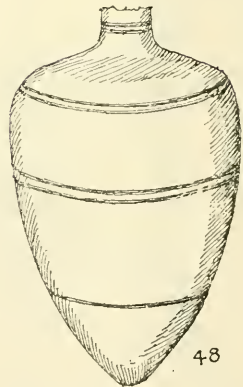
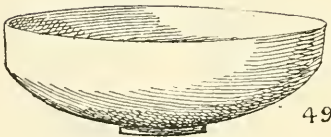
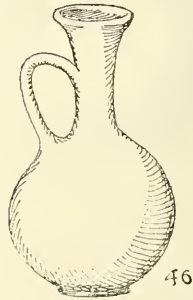
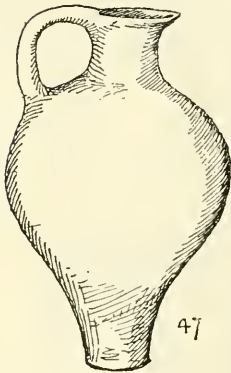
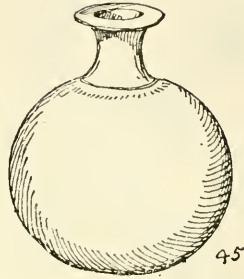
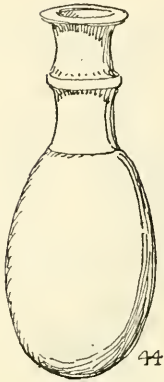
42



43

No. 36] Crystal, found buried with  
 large jars. Height ... 3 inches.  
 ,, 37. Jewish. Height ... 3½ ”  
 ,, 38. ” ” ... 3½ ”  
 ,, 39. ” ” ... 3½ ”

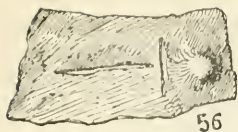
No. 40. Jewish. Height ... 3 inches.  
 ,, 41. ” ” ... 10 ”  
 ,, 42. ” ” ... Large  
 ,, 43. ” ” ... 10½ ”



No. 44. Jewish. Height ... .. 4½ inches.  
 „ 45. „ „ „ ... .. 4½ „  
 „ 45. Phœnician „ „ ... .. 6 „  
 (Black paste polished)  
 „ 47. Amorite. Height ... .. 5½ „

No. 48. Jewish. Height ... .. 5½ inches.  
 (Fine light brown paste; rings of  
 darker brown, somewhat polished)  
 „ 49. Jewish or Phœnician. Various sizes  
 in this shape. Purposely buried.





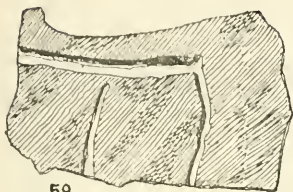
56



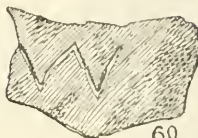
57



58



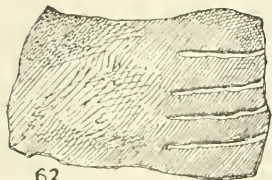
59



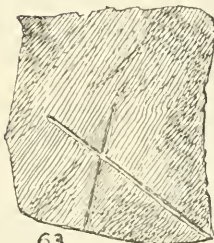
60



61



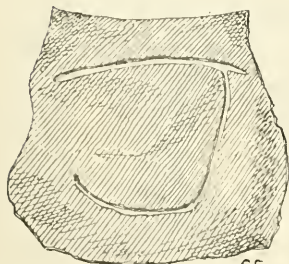
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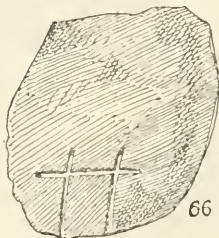
63



64



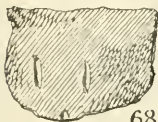
65



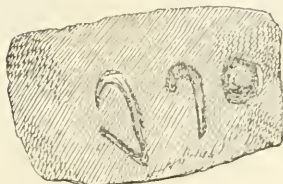
66



67



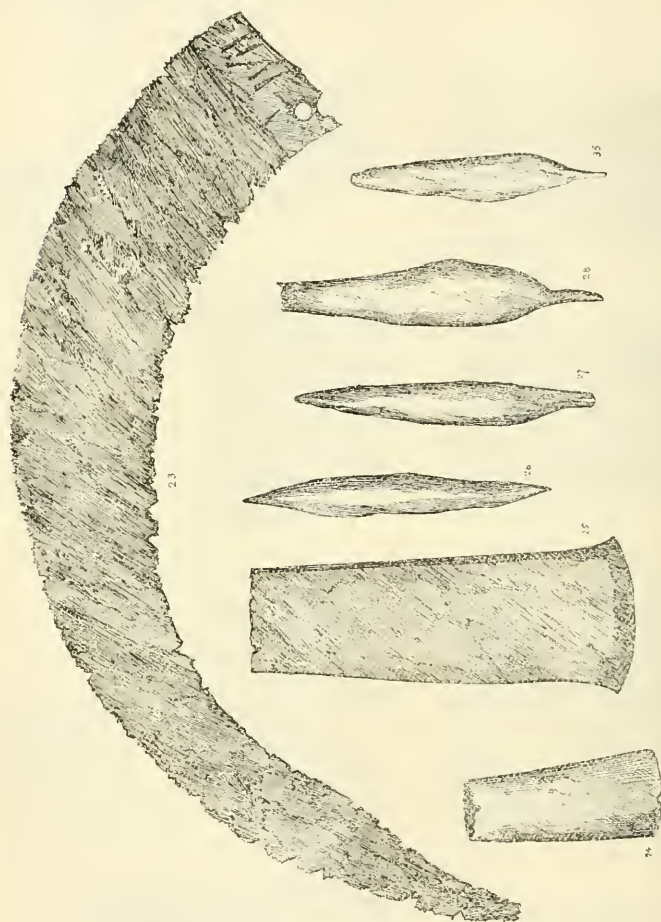
68



69

56-68 are markings on Amorite pottery, incised; 69 is copied from inside of Phœnician bowl.

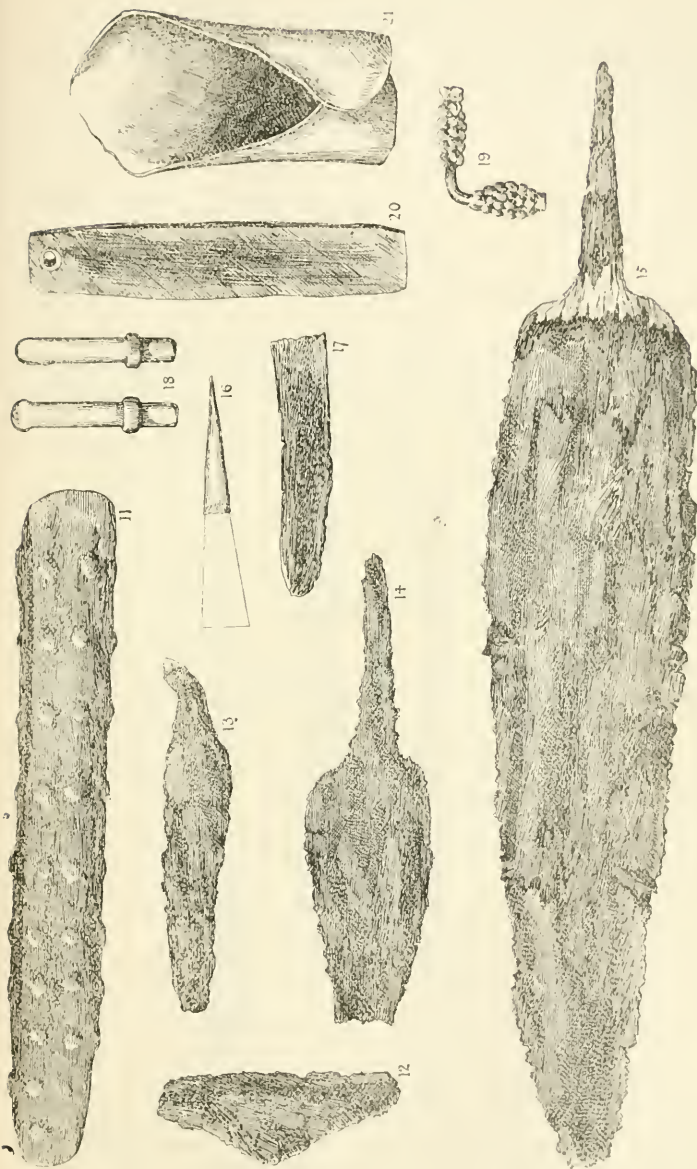
the rough bust of a woman, with the head gone. Also a head of a man or woman, not much larger than the thumb, with a hood showing the face, and drawn somewhat closer at the chin, was found. I send a cast. A human penis in pottery, of actual size, rough, but probably uncircumcised, was exhumed. Heart-shaped objects in clay seemed to be stoppers for jars.



25. Adze (?) Jewish or Phœnician; bronze or copper.  
26, 27, 28, 35. Iron arrow-heads.

23. Iron sickle or Khanjar, Jewish.  
24. Bit of spear, iron.

69 contains three Phœnician letters on the inside of a bowl, found at about 300 level. They had been cut in before the bowl was baked, as shown by the roughened and furrowed edges. A stamped handle was found at this level; it is much worn, but I make out a figure of a bird. I send squeeze, and wax impression. I also send impressions of three scarabs



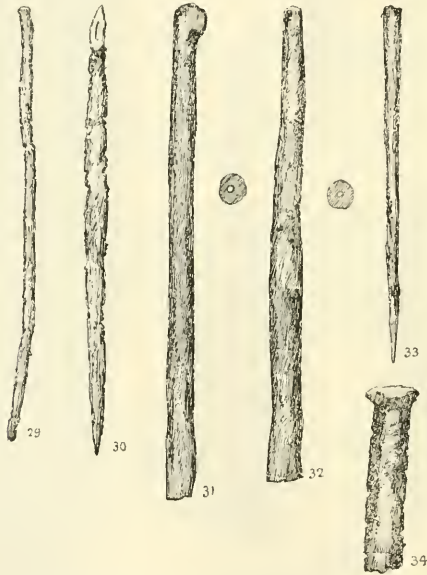
No. 11.	Iron chisel (?).	No. 15.	Knife.	No. 19.	(?) Handle of vase, bronze or copper.
" 12.	Iron.	" 16.	Bronze or copper.	" 20.	Slate lathe. (Amorite?).
" 13.	Iron knife.	" 17.	Knife, bronze or copper.	" 21.	Bronze or copper.
" 14.	Spear-head	" 18.	Goldsmith's tongs (?); bronze or copper.		

All apparently Jewish with the exception of 20.

of cement. The one with pattern was found at about 306 level ; a few feet lower occurred the second with two human figures ; the third, at about 297, is in hieroglyph. Such scarabs are commonly found near Gaza. A small cylindrical seal of blue cement, at about 300 level, had bird-headed figures, and plants.



The following objects in iron were found between the levels 300-310: 15 is a large knife which fitted into a wooden handle, as a few slivers of wood still clinging to the end show. 14 and 24 are probably fragments of spears. 26, 27, 28 and 35 are arrow heads ; 26 being the most rounded. 11 is like a cold chisel, rounded at one end and with an edge



30. Bronze or copper needle. Jewish.  
31, 32. Blow-pipes.

33. Pin or needle.  
34. Iron nail.

on the other. It is very much rusted but the knobs were probably on it originally. 23 is a sickle or dirk ; it has a small knob at the end and traces of wood where the handle fitted. 13 is a knife-blade.

In bronze or copper we have the following :—18 may have been a pair of goldsmith's tongs, the parts were found stuck together ; 17, a knife-blade ; 29 and 33, long pins ; 30, a long needle ; 22, a bracelet or anklet ; 31 and 32, tubes or blowpipes, possibly for use in goldsmith's work ; 21, perhaps a weapon for prodding the enemy at close quarters ; the handle fitted in where the parts fold over ; this weapon is drawn about  $\frac{2}{3}$  actual size. 19, evidently the handle of some vase ; 16, a scraper ; and 25, an adze found at about 297 level, and suggesting the early Amorite types unearthed in the smaller excavation.

We found several dishes in stone, mostly rough ; but one of fine limestone, about two feet long, had smooth well-rounded sides, with rims at the end for lifting. An oval cover to a stone coffer, 20 inches long with a hinge at the end turned up. Also a spike-shaped handle of an upper millstone. Also several stone pestles.

Flint instruments were as common as ever. The long thin well-polished specimens were chiefly of the Amorite period. One flint arrow-head occurred. I will mention here three beautifully made, symmetrical vases, of black paste and highly polished, found, purposely buried in the smaller excavation, at about 297 level.

A large number of stone weights were turned up. Many were broken, but I carefully weighed 63 which were approximately whole. I am sending the list to Mr. Petrie, the authority on weights and measures, who will doubtless be able from these to settle the standard weights of the Tell. I may say here that the more common weight seemed to have been somewhere between 301 and 310 grams, as I found nine weights between these limits.

From the above report it will be seen that though nothing of great importance has been found, our autumn season has been more productive than our spring work. In other words the lower towns seem to be of greater importance. We have not yet in our larger excavation reached the period corresponding to that of the Pilaster building, and when we do, similar work may turn up. Then the marked pottery belongs to the lower levels. To find a dozen fragments inscribed with Phœnician letters would be interesting, and it may be hoped for, as Petrie and myself have already found two such fragments.

I am constantly struck with the smallness of the place. The first Amorite town probably covered an area a quarter of a mile square ; but through the subsequent centuries of the Tell's history the towns were hardly 200 feet square. I am inclined to think that in its post-Amorite history the place was hardly more than a fortification to defend the springs. I have shown that the buildings are found on the edge of the Tell, and that the centre was probably an open place. This would be in favour of the fort theory. Any miserable mud village in the vicinity covers ten or twenty times the ground occupied by Tell el Hesv. Perhaps the idea of a fort, rather than of a town, may throw some light on the mysterious lines of stones and walls.

NOTE.—*All the illustrations are reproduced half the original size.*

## NOTES ON THE RESULTS AT TELL EL HESY.

BY W. M. FLINDERS PETRIE.

MR. BLISS has favoured me with a list of sixty-two weights discovered by him ; pending the conclusion of the work at Tell el Hesy it would not be worth while to treat these in much detail, but I find peculiarities in them which are of historical value. Only one (585 grams) cannot be identified ; the others are as follow—

System.	Number.	Per Cent.	Mean Value. grains.
Phoenician	27	44	217
Aeginetan	18	99	192
Attic	6	10	65·6
Egyptian	4	6	151
Assyrian	3	5	128
Hittite	3	5	80·5

It is strange that no small weights seem to have been found, all of these being between 6 and 26 ounces, and therefore more used for food than for valuable imports. They show the weights to be almost entirely on the Phoenician and Aeginetan systems ; the latter is of great antiquity, as the oldest known weight from Egypt (4,000 B.C.) is of that system. It is very remarkable that the Egyptian and Assyrian standards seem to have such very slight influence ; and it shows that the foreign trade line did not touch Lachish. The mean values found for the standards are stated in the last column, and they agree well with what is known elsewhere, except that the Phoenician is rather light.

The curious lines of stone bases found by Mr. Bliss seem to have been the supports for pillars, either of brick or of wood. The three halls indicated—each of 40 × 27 feet—do not seem to be parts of a temple or palace, by their equality and want of connection ; nor to have been store-houses, for which smaller separate chambers are more adapted ; the lack of trade, which we have noticed above, prevents our calling them a market ; but as the place was always a strong fort, many soldiers must have had quarters here, and these large equal halls are well suited for barracks. It is possible that the niches along the north wall may have been for a line of men to stand on guard in the shade, and out of the way of traffic, lining the approach to the Governor's quarters, which would, doubtless, be close to the barrack. I found similar niches for guards on the outside of the fort at Tahpanhes, on the road between Egypt and Syria.

I may add that I have obtained here at Tell el Amarna, in Egypt, the Phoenician *bilbils* with long necks, the pointed-bottom little jugs, and the Cypriote hemispherical bowls, all dated to 1,400 B.C., fully confirming the age which I assigned to them at Lachish. I have also found the waste

scraps of the Cuneiform scribe, who wrote here the answers to the celebrated tablets from Babylonia, discovered here a few years ago.

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## LETTERS FROM HERR SCHICK.

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### I.

#### RECENT DISCOVERIES AT THE "NICOPHORIEH."

JERUSALEM, *November, 1891.*

IN my last I mentioned that the Greek monks had made some excavations in their ground called "Nicophorieh" on the western hill outside the town. They found some things of much interest of which I now report.

In the Ordnance Survey plan of Jerusalem, scale  $\frac{1}{2500}$ , edited 1864-65, will be found marked west of the city, on the top just opposite the southwest corner of the present city wall, west of the "Birket Es Sultan," and 1,200 feet distant from the city wall (measured as a straight line in the air) a narrow long rock extending north and south, and on its side the word "cave," as there is a cave beneath it. This place is called "Awairiyeh," *i.e.*, the place of "Awair" or of the Awair people. At several points the rock looks out from the ground with indications of scarps, and any one examining these points closely comes to the conclusion that there was once something of importance there. Here the monks were digging with the intention to make a cistern, as they wanted water there for gardening purposes.

The late Dr. Schulz, the first German (at that time Prussian) consul at Jerusalem, says in his "Vorlesung" on Jerusalem, Berlin, 1845, page 39:—"A little south of the little Greek church St. George, and on the height of the ground are the ruins of an Arabic village called 'Abou Wair,' which for 100 years has been deserted." In the Jerusalem volume of the Survey, also, page 343, under the number 87, the name "Abu Wair" is given. It had a small castle called "Kusr-el-Asafir"—"the birds' castle"—of which the ruin is still existing (*see* Ordnance Survey plan  $\frac{1}{10000}$ ). At page 72, Schulz (when speaking of Titus's wall of circumvallation, according to Josephus, Bell. v., 12, 2) identifies the "Camp of Pompeius" with the hill-top Abu Tor ("Jebel Deir Abu Tor" or "hill of evil counsel" on the map) where the wall made a bend towards the north, and after which Josephus mentions as the next point the village "Eribinthaë," and after it the "Monument of Herod." Schulz put the said village at "Abu Wair," and the monument of Herod in the neighbourhood of the "Birket Mamilla," as there are there some ancient rock-cut tombs. This identification is open to objections, so Baron von Alten, German Consul in Jerusalem from A.D. 1869-1874, points out that

“Eribenthae” was south of Abu Wair, and that the latter is the site of the Monument of Herod. He thought the long ledge of rock formed the basement of the monument, taking it not as a tomb but as a monument in memory of some event or deed of Herod. This identification I considered hitherto as correct, and what has been found now supports this idea. I send plan and sections of the spot. The rock rises about 14 feet above the present surface of the ground, originally its full height was 20 feet; in form it is a rectangular space 92 feet long and 31·4 wide, with perpendicular sides. On the south side it had a prolongation for 35 feet, but much less in height than the main rock, and this was very likely the place for a wide and fine flight of stairs, enabling people to go up to the top of the rock and to the monument itself. (See plan and section.)

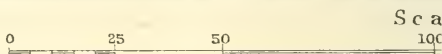
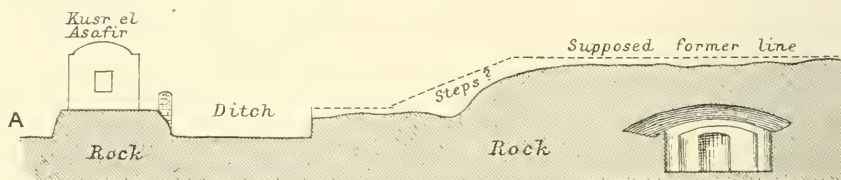
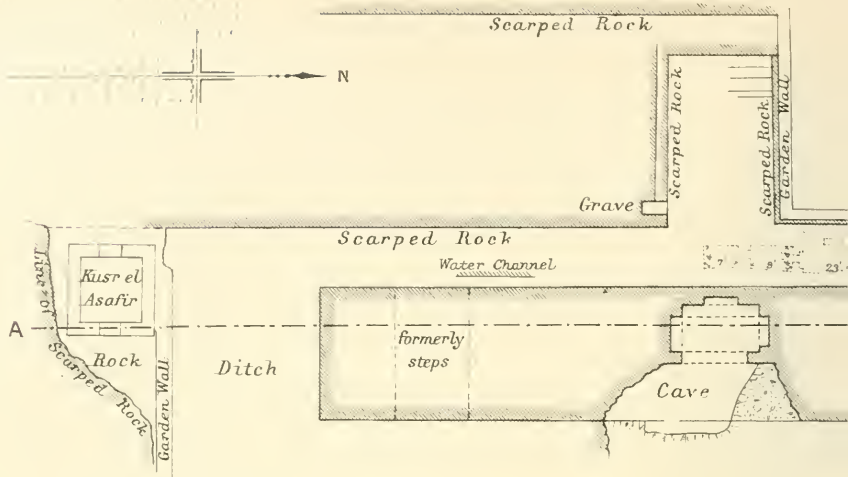
Round this mass of rock there is cut out a trench, on the south and north, 34 feet wide; west, 14 feet wide. On the east its breadth has not been ascertained, as there the rock is under the surface. The bottom of this trench is tolerably level, as far as has been ascertained. On the western side there is, near the foot of the rock, a water-channel hewn into the rock, so as to carry off the water running down from above. Under the rock is a cave, hewn, not natural. The opening is on the eastern side, and now rather large, as in course of time it has become wider and higher by the decay of the soft part of the rock, and by the hands of men. The inner and lowest part of the cave is very well preserved, and similar to the hall or vestibule of a large rock-cut tomb group; but it was not such, as there are no openings or loculi, and the ceiling is very different, being in steps, the height diminishing always—so that the innermost recess is the lowest, and the wide opening of the cave the highest, as shown in the section.

South of the rock and its trench stands the ruin called the “Birds Castle,” on a scarped rock 25 feet wide and about 8 feet high. The Kusr or castle itself is of no great interest. North of the rock and ditch is a scarped rock of about 14 feet thick, on the northern side of which the monks made their first excavations, and found there a kind of pool, or sunken ground with perpendicular rock-cut walls, of a somewhat irregular form, on an average 31 feet long, 23 feet wide, and 10 feet deep. The western half of the northern side is open—that is, has no rock wall—but is walled up with rather remarkable stones. They are very nicely and smoothly dressed, so that the joints in the wall can hardly be recognised, and look exceedingly *white*, as I had not seen any before. Since the rains came on and the stones are exposed to the sun, the whiteness has diminished in some degree. The stones are 2 feet 4 inches high, and on an average 2 feet 9 inches long, put exactly horizontal, and the lower row, of an inferior sort, inserted into the rock. There is one complete layer of the white stones going from the right angled corner northwards, and also for 20 feet westwards, whence there are two layers complete. The excavators followed the lines northwards for 100 feet, and the branch going west for 58 feet, where there is the corner in two layers preserved. The western line goes on only for 17 feet, and the last stone looks as if it had

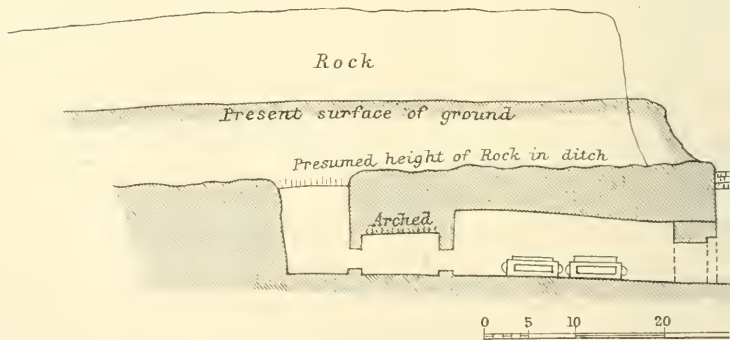




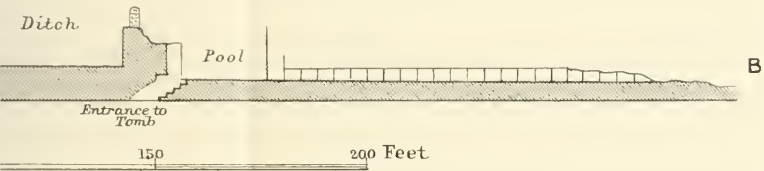
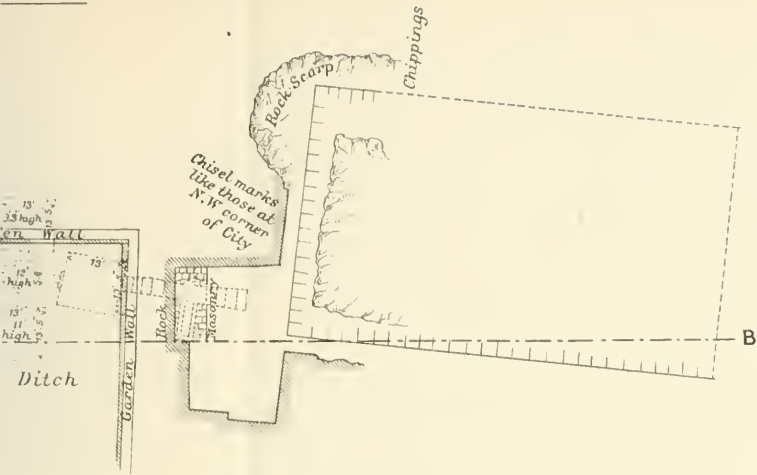
# PLAN OF EXCAVATION



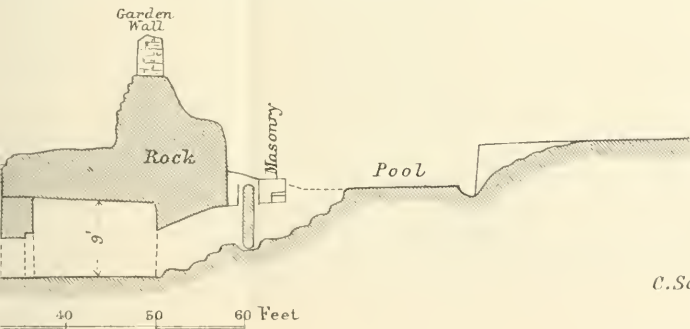
## SECTION



AT NICOPHORIEH.



ION OF TOMB CHAMBERS.



C. Schick.



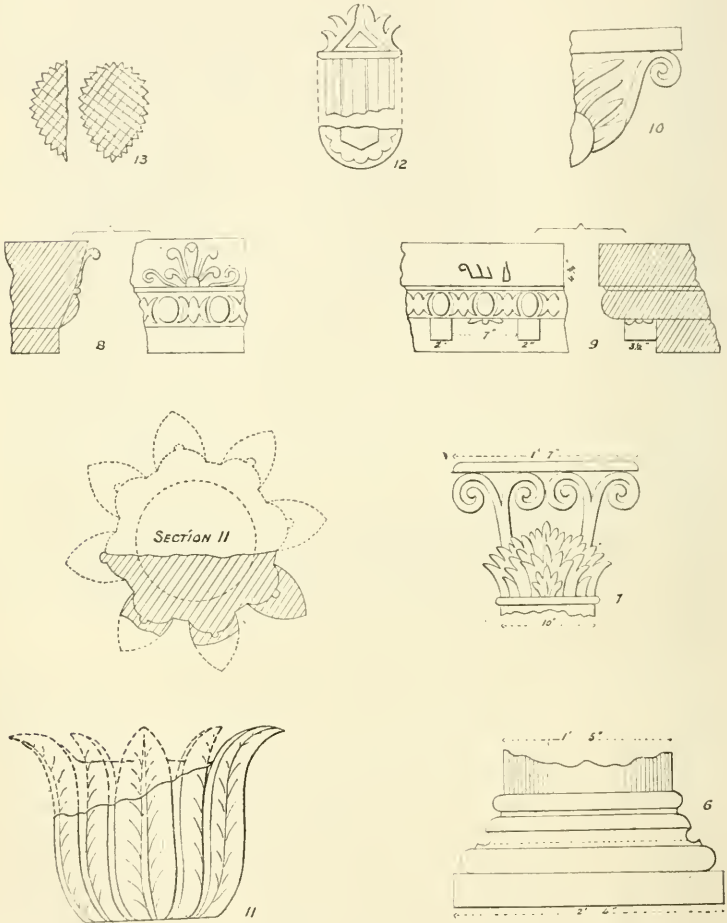
been a corner stone, or if this western wall went parallel with the eastern wall to the same length, then there was a building 100 feet or more long and 58 feet wide. These walls enclose rocks and earth, so that what we now see was simply the basement for some building erected over it. Now there are a few olive trees standing there, one even on the white stones of the wall itself. At the south-western corner of this basement, the rock is cut out as if for the purpose of making room for the building to be erected. These cuttings are very similar to those found on the north-western corner of the city, on which I reported in one of my former papers<sup>1</sup> and appear to be of the same period.

Opposite the south-east corner of this building, on the southern wall of the "Pool" or sunken ground, they found a small opening going downwards into some chambers. But the Patriarch ordered it to be shut up again, and that no one should be allowed to go in, so they put large stones before it, and I cannot describe what really exists there. I was told by one of the labourers, who had been in, that there are six chambers, and in one, two stone sarcophagi, of one of which the lid is taken away, and the other undisturbed. When they had found this, they were, at the convent, encouraged to go on with the excavation, and to follow all the scarps. In doing so, they found, west of the scarped rock, a similar pool or sunken ground, much more regular in form, but hitherto no opening on either of its walls has been discovered. When I last visited the place it was only partly empty, much earth and small stones still lying there. This "pool" (if I may call it so) is 38 feet long from east to west, 25 feet wide, and 12 feet deep. It has, on its east side, no wall, but is connected with the trench. Near its south-eastern corner there is a grave cut into the rock, existing already when the pool was made. From this grave westwards, along the upper edge of the scarp, is a rabbet or broad cutting 2 feet 3 inches wide, as if intended for something to rest on.

*Various Remains.*—In the northern "pool," where the tomb-opening was found, and in the neighbourhood of the white stone building many pieces of stones of architectural forms were found—for instance, pillar shafts, which have a diameter, on an average, of 1 foot 6 inches; one of the best preserved basements I give in No. 6, but there were pieces of capitals of another kind belonging to pillars of only 10 inches diameter; in No. 7 I give a restored one. Then there were pieces once belonging to a cornice, of which I give two (Nos. 8 and 9), each in view and section. Between the dentils, which are 7 inches distant one from the other, are, on the under side of the covering plate (which is an Echinus), rosettes. On the flat front side of the abacus, which is  $4\frac{3}{4}$  inches high, are engraved a few figures; one seems to be a very high triangle, and the other looks like a Hebrew *shin*. No. 10 represents a corbel or bracket, apparently of the same period as No. 7, and No. 11 of which I give plan and view. This seemed to me most interesting, as it is an imitation of "lilies," celebrated in Solomon's time. Only one of the leaves is perfect, the others

<sup>1</sup> *Quarterly Statement*, 1892, page 18.

are broken, and only the half of the whole is left, but being so symmetric, I was able to restore in the drawing the whole. As there is not anything for an abacus—it seems the capital was used not for carrying any archi-



“Various Remains” found at “Nicophorieh.”

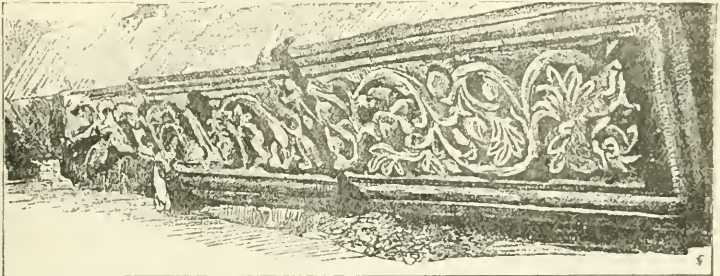
trave, but simply for some ornament like a ball, or flowers, or a lantern, or was used as a candlestick,

No. 12 is also curious, and for a similar purpose, or merely a wall ornament. No. 13 was certainly an ornament on a plain wall, or a lintel, or bracket.

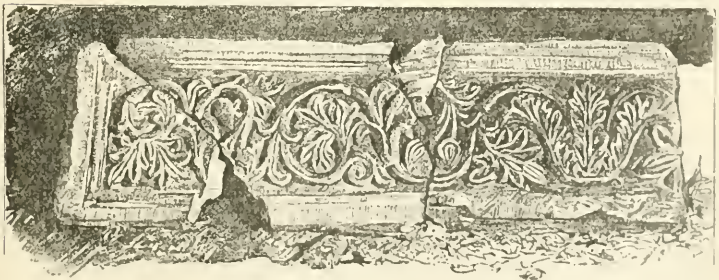
There is a kind of mason's mark engraved on one of the stones. 9

There are many other hewn stones found of no special interest, but all this shows that something of importance must once have stood here, and this leads to the question—What was this site? The monks told me that some of their learned men think there had been here the Moloch service, and on my remark, that that was near Bir Eynb at "Tophet," they said: there were two Molochs, one in the valley, and the other, having nothing to do with fire, here. But I think there is no room for doubt, that we have, in this place, the Monument of Herod, according to the passage in Josephus, quoted above.

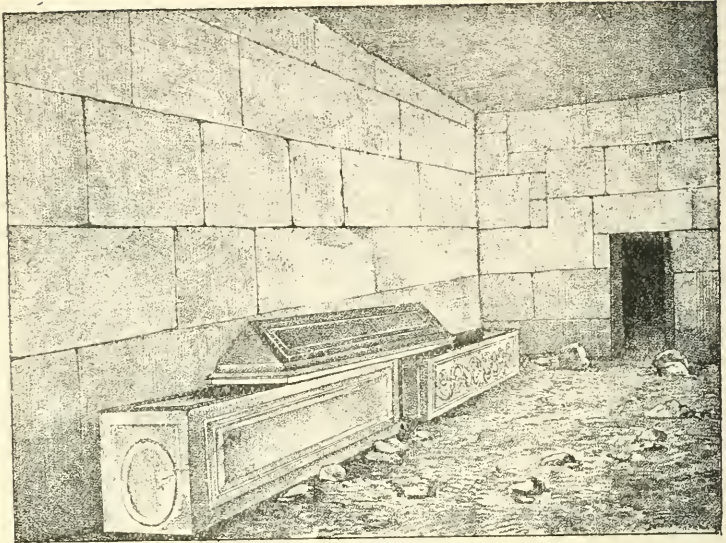
[M. KHITROVO, of St. Petersburg, has courteously sent to the Fund a plan of these chambers, with drawings of that in which the sarcophagi were found and of the ornamentation on the latter, which are here reproduced.—Ed.]



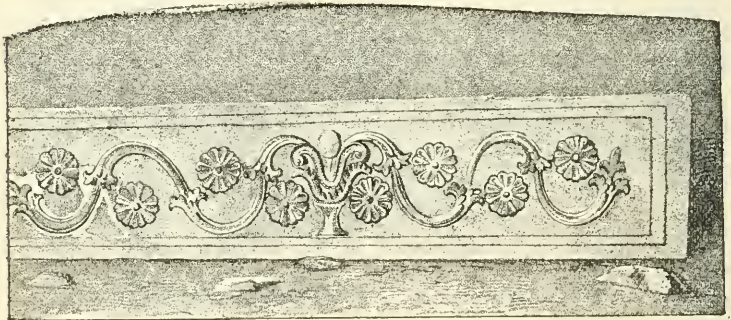
Ornamentation on other side of lid of Sarcophagus,



Ornamentation on lid of Sarcophagus.



Interior of Chamber with Sarcophagi.



Ornamentation on side of Sarcophagus.

## II.

### "GORDON'S TOMB."

JERUSALEM, *November 17th, 1891.*

ACCORDING to instructions received I have prepared "plan and sections" of the tomb which the late General Gordon believed to be that of Christ, situated near Jeremiah's Grotto, on the western foot of the so-called "Skull-hill." The tomb is 860 feet in a straight line distant from the Damascus Gate, and 280 feet east of the main road going north, generally called the Nablus Road. It is a rock-cut cave, the entrance in a perpendicular rock-scarped wall.

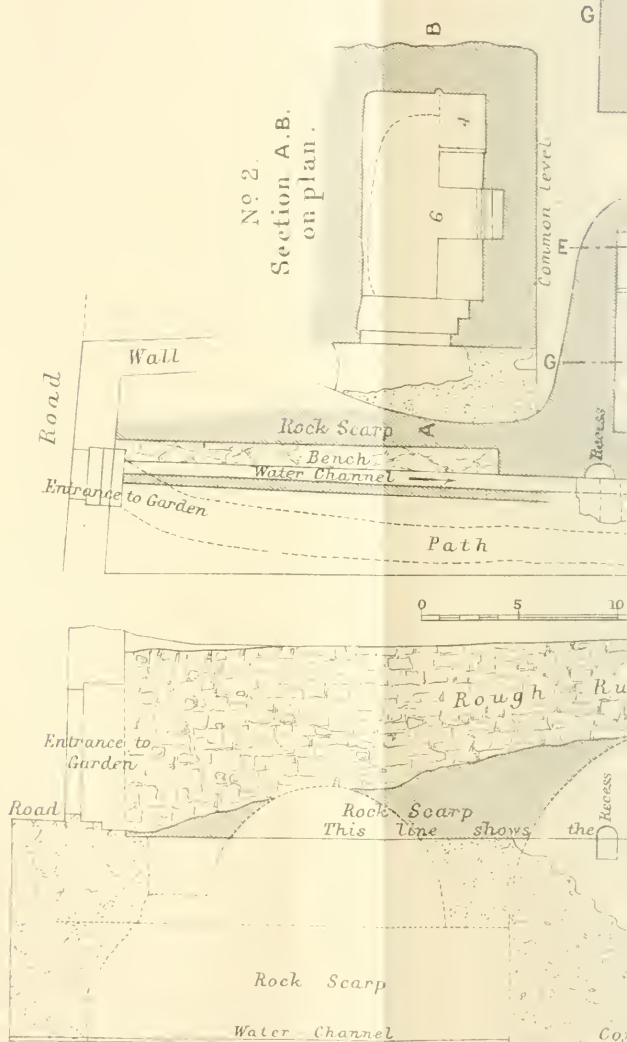
The tomb was originally a rather small, rock-cut *Jewish* tomb, but



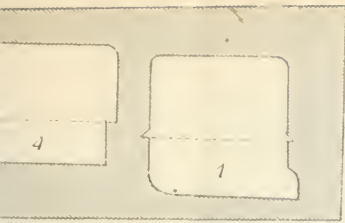


Nº 1.

Plan of the  
**ROCK-CUT TOMB**  
suggested by  
the late General Gordon  
to be the  
**SEPULCHRE OF CHRIST.**

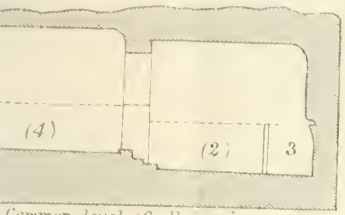


Nº 6. Front View of the ROCK-CUT TOMB, suggested by



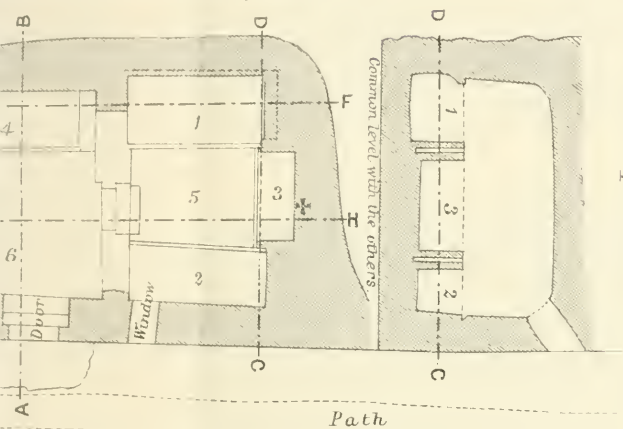
Nº 4.  
Section E.F.  
on plan.

*Common level of all drawings.*



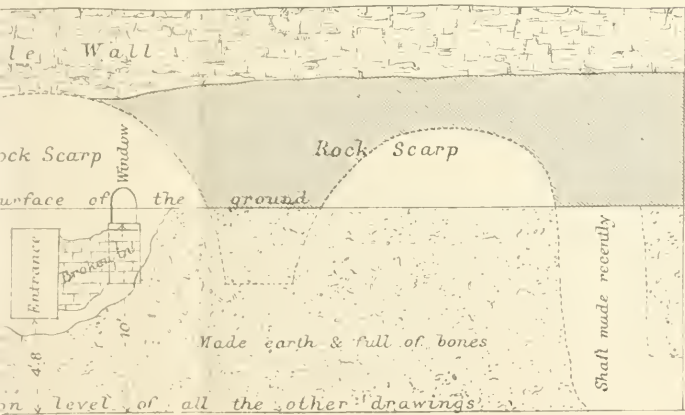
Nº 5.  
Section G.H.  
on plan.

*Common level of all drawings.*



Nº 3.  
Section D.C.  
on plan.

20 30 Feet



late General Gordon to be the **SEPULCHRE OF CHRIST.** C. Schick



became afterwards a *Christian* tomb, not only by its being used again, but by being greatly altered. As it is *now* it is a specific Christian tomb, exactly like some which were found on Mount Olivet, and especially at the Khirbet Mird, four hours distant east of Jerusalem, in the neighbourhood of Mar Saba, which certainly are of the fifth century after Christ, at the time when at Khirbet Mird there existed a Laura, and later on a convent of Enthymios. So this tomb, as it is now shaped, is from the fifth or sixth century, A.D. Jewish tombs have always a comparatively *small* entrance, and the places for the dead bodies are arranged so that each one is by itself, but the Christian tombs are arranged collectively; the departed were *brethren*, so they are united also in the silent chamber.

This tomb, of which so much is now spoken and written, was discovered (if I am right) in the year 1867, and I was one of the first who saw it. The proprietor of the ground, a native Greek, came one day to me, stating that he had found an interesting "cave" with a *cross* in it, and asked me to come and see and give my opinion about it. So I went there, and found that the rubbish and made earth, which was about five feet deep, had been removed for a short distance along the rockscarp wall, so that an *opening* (or rather two—the door and the window—*see* view) was visible, through which we could creep into a kind of cave of moderate size, filled to within about two feet of the roof with skulls and other bones and mould. On the east wall I observed a cross made with red paint, and at the four corners were Greek letters. We left the place, and when coming out I saw in the rubbish and earth a skeleton of a man in its whole length, lying three feet under the surface of the ground. The proprietor said he thought of making a cistern from the cave, and asked me whether this was advisable or not. I said, "No, for here is apparently a former cemetery, and to make a cistern into such is not advisable! I would leave things as they are, and stop up the hole and fill up the trench again." But the man, very likely in the hope of finding some treasure, cleared out the whole cave, so when after a few months I came there again I found the skeleton still in its place, but the whole cave empty, and that there were four or five troughs or Christian graves, formed by stone slabs only  $2\frac{1}{2}$  to 3 inches thick, and about 7 feet long, and 3 feet 6 inches high, inserted as the plan shows; also it now appeared that the cave consisted of two chambers. From the doorway, which is 5 feet high, and 2 feet 4 inches wide, two steps lead downwards into the first chamber, which is 10 feet long, nearly 8 feet wide, and 6 feet 6 inches high. It has only *one* trough grave on its northern side. On the eastern side is a door in the wall, which latter does not go up to the ceiling, but only as high as the trough graves are, and this is the reason that at my first visit, when the place was full of mould, I could not see that there were *two* chambers. From this door three steps lead down into the *second* chamber as shewn in plan. In this chamber were *three* trough graves (1, 2, 3), and 5 was originally simply the place where people could stand when they brought the dead bodies to be laid in one of these troughs. These troughs are

very much too large for one body (being from 3 to 4 feet wide, and  $2\frac{1}{2}$  to 3 feet deep), and they were apparently intended to be filled with a number of bodies; and when the troughs were full, the places 5 and 6 were also filled, and so on, till no more could be brought in. This way of burying



[From a Photograph.]

INTERIOR OF "GORDON'S TOMB."

dead bodies is even now practised by the Mohammedans. The proprietor of the ground died about the year 1870, and his widow sold the ground. Nothing more was done there except that some of the slabs were removed, and very likely utilised elsewhere. In 1883 General Gordon saw the tomb, and according to his "skull idea" considered it to be the *tomb of Christ*.

I have to add a few remarks more :

(a) The trough 1 is not only the largest, but has at the bottom of the east end a recess, and at the opposite, or west end, is slanting, which is not the case in the others (*see* Plan and Section No. 4).

(b) The thin stone slabs inserted as partitions were fitted into *grooves* cut into the rock.

(c) At the entrance door the holes for the pivots of the wooden or iron door are clearly seen, and it appears that this door could be locked.

I think the original Jewish opening was small, as shown in the view (No. 6) with dotted lines, and afterwards, in the Christian time enlarged, at which period the arched window was hewn in order to have the necessary light inside ; and that later, when the caves were already half filled with dead bodies, the window was enlarged by lowering, so as to form a kind of door, as may be seen in the view. Still later, when the tombs became rifled, the rock wall between the two openings was broken away, as the view shows. This was open when I first saw it, and remained so till recently, when the opening was filled up with masonry.

(d) On the western side of the main door there are, on the surface of the rock wall, two *recesses* ; the smaller has a square form, the larger is arched at the top (*see* View and Plan No. 1).

(e) The real bottom *in front of the grave*, I am sorry to say, is not ascertained, but as, 9 feet west of the door and 14 feet east of it, the rock is at least 5 feet lower than the sill of the door, one may conclude it will be so also in front of the tomb itself ; the door, therefore, is 4 feet 8 inches and the window 9 or 10 feet above the old ground. How could St. John stoop down and look into the tomb without having with him a ladder ?

(f) If the door was at that time as large and high as now—which the advocates of this tomb being the tomb of Christ generally believe—how could a great stone be rolled before the entrance, when the latter was so large and so high above the ground ?

(g) The front face of the rock is so shaped that one look is enough to show that *there was once an arched building in front of the cave*. It would be well to find, under the 10-foot-thick layer of earth and mould the opposite wall, or perhaps only the two piers. Some years ago I searched along the rock wall west of the tomb (as shown in the view). Once an arched building was there also, but smaller. I hoped to find there another cave, but failed to do so. Nine feet west from the main door the rock has a rabbet, or setting back, which forms a kind of bench 17 inches broad,  $4\frac{1}{2}$  feet under the present surface of the ground. The scarp goes perpendicular 6 feet further down, where there is a level bottom of *rock*. Hewn into this rock is a water-channel about 1 foot wide, the decline going east, and so towards the large cistern I have described in *Quarterly Statement*, 1890, page 11. I cleared the rock surface for 20 feet, but was obliged to give up advancing further, as there was danger that the boundary wall, with the garden gate, &c., would

tumble down. Recently some excavations were made east of the tombs but without result.

(h) About 160 feet south of this tomb were found, at the time when the tomb was discovered, the cribs or mangers of the "Asnerie" of the Middle Ages, about 7 feet under ground; so at that time the level of the ground was 9 or 10 feet lower than now, and the whole face of the tomb was above ground, and visible. Very likely the *arched buildings* then stood in front of the tomb. The whole accumulation of earth is of later date.

(i) Captain Conder, in *Quarterly Statement*, 1881, page 202, gives a view and plan of another rock-cut tomb found in this region 500 feet west of this one, which he thinks might have been "the real tomb of our Lord" (page 205), so that every one may choose which he likes from the three we now have.

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### III.

JERUSALEM, *January 2nd*, 1892.

A few months ago the American Consul here, Dr. Merrill, made some excavations at the American burial ground, near the Neby Daud building, and invited me to come and see what he had found. It was the basement of once a large building, standing on a floor of concrete 5 feet under the surface. There is only *one* layer of well dressed but large stones, over 3 feet high. A projecting pier has no indications, except northwards, of having been connected with walls, but was a pier standing by itself; it seemed to me to be Christian work, and not Jewish; perhaps a part of the large old Church of Zion. North of it other pieces of masonry, very likely from the same or some adjoining building, were found, but I could not make much out of them.

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### LETTER FROM MR. G. R. LEES ON LAMPS, &c.

JERUSALEM, *December 16th*, 1891.

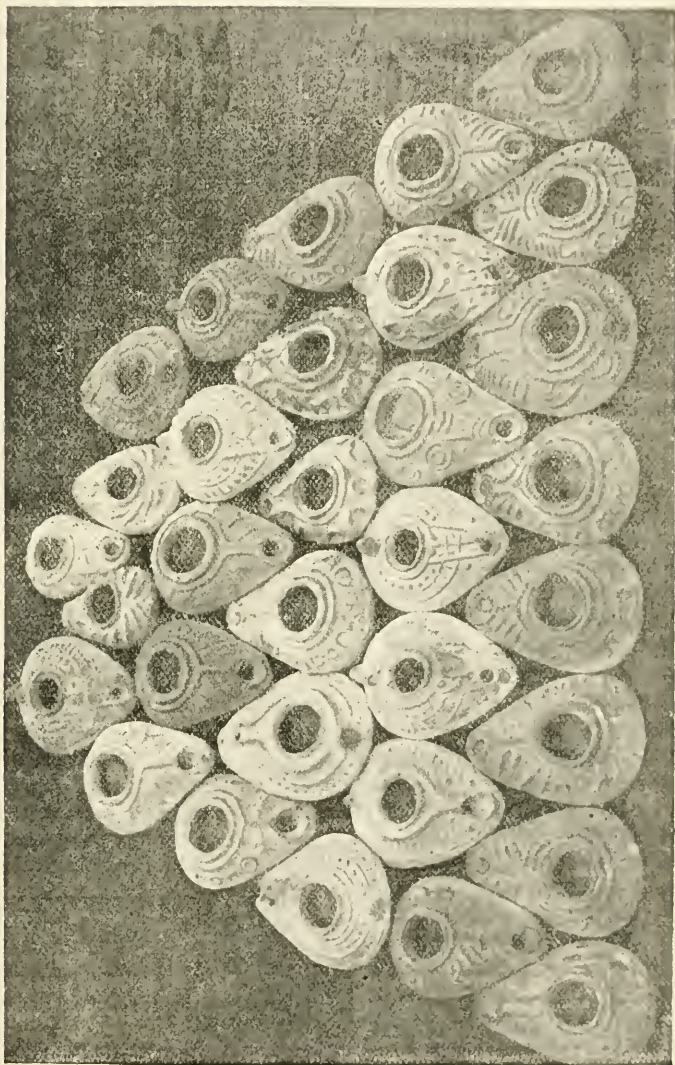
Two other tombs have been opened below the Mount of Olives, and one contained a lamp and tear bottle, exactly like those found in the tombs containing the sarcophagus on which was the name Drosos, *see Quarterly Statement*, 1891, page 243.

The acquisition of this lamp is of great value to me, as it enables me to date a large number, and I think I can trace several changes in lamps of this and an earlier period. I hope soon to send you photographs with descriptions of lamps.

In passing, I may say that whenever lamps are found in the vicinity of Jerusalem, I visit the place, if possible, and purchase the pottery direct from the owner and finder, giving commission to my informant. I have intimate friendly relations with a native here, who works well and



honestly for me. Many times has he been tried and tested, and after three years I still find him trustworthy. He brought me the *Pottery*



[From a Photograph.]

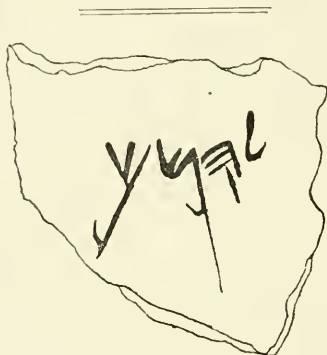
LAMPS IN THE COLLECTION OF MR. LEES.

*Mask* from a Fellaah who brought chickens from Gaza to the Jerusalem market. The man said it was found near Ascalon.

It is undoubtedly ancient, and very much worn; of very light red pottery, quite unlike anything made at the present time. The back part is 4 inches long and 3 inches wide; length of face  $3\frac{1}{4}$  inches from forehead to chin; from the top of forehead to back of head 2 inches. Originally there was a hole at each side, showing that it must have been tied to something, but one is now broken.

I have since received another mask, very similar, but much more worn and badly broken.

I fully recognise the importance of sending squeezes instead of copies of inscriptions, and shall endeavour to do so, when practicable. Unfortunately, I was unable to do this at Busr-el-Hareer, and after many attempts I failed to secure good squeezes of the lamps.



### THE HEBREW-PHENICIAN INSCRIPTION OF TELL EL HESY.


I HAVE received the cast of the inscription of the fragment of Tell el Hesy, and I thank you very much for it.

Had I seen it sooner I should have proposed a reading and translation different from those suggested to me by the sight of the drawing, imperfect in certain respects, published in the *Quarterly Statement*, 1891, pp. 70, 240, and 250; different also from those previously proposed by Major Conder, Professor Sayce, and your anonymous correspondent.




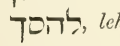
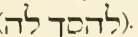
I am now of opinion that the four readings: להבוך, לסמך, להמך, and להשך must be equally rejected. An attentive examination of the cast now leads me to read להסך. M. Renan, to whom I have submitted it, is of the same opinion, and I think that persons, competent in Semitic paleography, will easily agree to it.

The first and the last letter are unquestionably *lamed* and *caph*.

$\begin{matrix} 4 & 3 & 2 & 1 \\ \text{ד} & \dots & \text{ל} & \end{matrix}$ . The second letter presents all the constitutive elements of a *he*: a nearly vertical stroke to which are joined, on the left, three

horizontal strokes—only under the regular letter, exists a little vertical stroke, unconnected with it, which has led several persons to conclude this letter was a *samech*; but, supposing this to be the case, one cannot account for the presence of the other vertical stroke, against which the horizontal strokes lean, and which certainly forms an integral and essential part of the character. The small lower vertical stroke, on the contrary, does not belong to it; it is *isolated* and without contact with it. I look upon it as a false incidental stroke, not to be taken into account. The third character is the most puzzling of all. It is composed of a vertical stroke, to the upper part of which a zigzag complex is joined on the left. It is impossible to consider it as a *mem*, as it has been proposed. Neither the head of the letter, nor the direction of its tail, corresponds to the description of the *mem*: the tail should be oblique from right to left (like that of the *cap*h which follows); instead of which it is vertical and has even a slight tendency to lean from left to right. Moreover, it is not terminated at the lower part by a hook, as might be thought from the sketch published by Mr. Flinders Petrie; it breaks off abruptly; only the point used for the engraving has slipped upon the clay, and made a false stroke looking like a hook. This false stroke is engraved much more lightly than the rest of the inscription, and is again continued so as to immoderately prolong the vertical stem of the letter. I had at first thought that this stem might be a part of the preceding letter, and form with it a *heth*; but the cast clearly shows: 1st, that there is no actual connection between this stem and the upper horizontal stroke of the *he*; 2nd, that there is, on the contrary, an intimate contact between this stem and the complex engraved to the left, a complex that I was inclined to consider as isolated, and to recognize as a *chin*. It appears to me certain, henceforth, that we have to do with a character, which, divested of these parasitical elements, presents this form .

This character cannot be a *mem*, for the paleographical reasons previously explained. I look upon it as a *samech*, recalling the Aramean type.

The reading  being admitted, the physiognomy of the little epigraph changes completely, and the translation which obviously suggests itself is that of AD LIBANDUM.  is the perfectly regular infinitive of the verb  of the *hiphil* form: "To pour out, offer a libation." The formula , *lehassëk*, is even employed in full in the Bible, in a manner applying very properly to the destination of the vase of Tell el Hesy, and giving it a special interest; it is when Jeremiah (chap. xlv, verses 19 and 25) reproaches the Jews with their idolatrous practices, their worship of the "Queen of Heaven," and their libations (drink offerings) to her: .

Were the libations, for which the vase of Tell el Hesy was in-

tended to be used, of a sacred or profane order? I leave the question in suspense. In any case one may easily understand the presence of an indication of this sort, rather than that of a proper name, considering the position of the inscription which, from the shape of the fragment, must originally have been engraved upon the body of the vase, a little below the lower part or base of the neck.

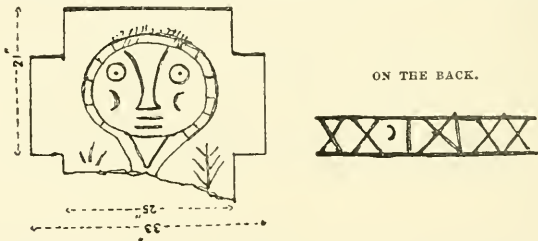
If we had to do with a proper name, one would rather expect to find it written in a less apparent place, for example, either upon the handle, or under the foot, as was customary. I would mention, to confirm this, the Hebrew Phœnician names, stamped upon the handles, found at Ophel, and a Phœnician name engraved under the foot of a vase of Sidon, still unedited, which I shall shortly publish.

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In looking over Mr. Flinders Petrie's book on the Excavations at Lachish (Tell el Hesy), I notice another vase (Plate IX) No. 201) which appears to me to have an *aleph* of Phœnician form engraved upon it, but written backwards.

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Further on, page 62, the author gives the reproduction of a fragment of a large mortar of black trachyte, seen by him at Aker (Ekron), with



handles pierced so as to turn it over on pivots to empty it. Upon one of its sides a curious subject is carved, impossible at first to define. Mr. F. Petrie is inclined to recognise in it "The Egyptian *tat*, with the sun and moon on each side, and palm branches above" (*Statement*, 1890, p. 245). I think he is under a delusion; for it suffices to reverse the engraving, to see that it is, in reality, a human head, of gorgonian appearance, viewed full face and very naively drawn. What Mr. F. Petrie takes for the well-known Egyptian symbol is nothing else than the nose with two strokes representing the mouth; the two "suns" are the two eyes, and the two "crescents" two curves marking the contour of the cheeks. The direction of the two little palms, accompanying it to the right and left, proves that it is certainly from this side that the figure must be viewed in order to be properly understood.

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## ESSAYS ON THE SECTS AND NATIONALITIES OF SYRIA AND PALESTINE.

(Continued from *January "Quarterly Statement,"* p. 83.)

### THE MARONITES.

By FREDERICK JONES BLISS, B.A.

#### II.

#### THE CLERGY, CHURCHES, AND SCHOOLS.

The book of the Council of the Lebanon gives a list of 52 Maronite Patriarchs, with their places of residence, from Yuhanna Marûn 685, to Yusif el Khazin who was present at that Council in 1736.

In his "*Bibliotheca Orientalis*,"<sup>1</sup> Assemanus presents the life of the first Patriarch. He quotes from a treatise against the Jacobites, written in 1495 by Barclajus, Bishop of Nicosia, who used an ancient Arabic manuscript; and also from Quaresmius, who published the same facts in Latin, in 1639, in his "*Elucidatio Terræ Sancti*." Assemanus convicts both authors of certain anachronisms. He refers to a work of a Maronite Patriarch, Stephen Edenensis, who uses Barclajus and Quaresmius.

According to Assemanus John Sirimensis was born in the 7th century on Mount Suaidia, near Antioch, of noble and pious parents, Agathon and Nohema, which seem to be "Frank" names. He was educated in things human and divine in Antioch, then in the Convent of Mar Marûn on the Orontes, and lastly in Constantinople where he learned the Greek language and the "mysteries of wisdom." Thence he was called home by the death of his parents. He had two nephews, Abraham and Cyrus, the former he placed at the head of his house, and the latter he took with him to the Convent of Mar Marûn. There he became a monk, and then a priest. Many flocked to hear his preaching. The Latins in Antioch called the attention of the Papal Legate to his zeal, and John was created Bishop of Botrys, "that he might maintain the Lebanese in the Roman faith." He cultivated the vine of the Lord (so says the chronicle) so faithfully in the shores of Phenicia, that he led into the obedience of the Church of Rome many Monophysites and Monothelites. His success extended not only through the Lebanon, but as far as Jerusalem and the provinces of Armenia. In these places he appointed tribunes and prefects, as well as bishops and priests. His military leaders, one of whom was Abraham, became a terror to Persians and Saracens. Twice he was obliged to flee to the monastery of Mar Marûn. When, in the second year of the Emperor Justinian, the Patriarch Theophanes died, John, who happened to be in Antioch, was unanimously elected his successor. He built churches and monasteries,

<sup>1</sup> Vol. 1, chap. 43, p. 496.

and consecrated many bishops and priests. He died on February 9th 707, in the Monastery of Mar Marûn, in the castle of Caphar Hai nea Botrys. Numerous clergy and an infinite number of people flocked to his funeral, to receive a blessing by touching his body. Assemanus then attempts to vindicate Yuhanna Marûn from the charge of heresy. Then follows a list of his works found in the Vatican Library:—1. "Liturgia." 2. "Libellus fidei ad Libanotas adversus Monophysitas et Nestorianos." 3. "Liber Adversus Monophysitas." 4. "Ad Nestorianos." 5. "Epistola de Trisagio." 6. "De Sacerdotis." 7. "Commentarium in Liturgiam St. Jacobi."

Such is the account of their first Patriarch received by the Maronite scholars. We have shown before, however, that during the period in which he lived the Maronites, including their prelates, were Monothelites.

But, as we have just seen, this account represents Yuhanna Marûn's election as unanimous, and as taking place at Antioch where he succeeded Theophanes.<sup>1</sup> I believe there is no clear, authentic account of the circumstances and place connected with the beginning of Maronite independence.

The head of the Maronite Church bears the title of Patriarch of Antioch, and of the whole East.<sup>2</sup> Since 1440 the patriarchal seat has been at Qannubîn in the gorge of the Qadisha River, which breaks forth from a cavern in the face of a precipice below the rolling plateau, where stands the ancient grove of the cedars. In recent years the Patriarchs have spent their summers in Bdîman on the top of the opposite cliff, and have wintered at Bkerke, near Beirût. The late Patriarch Paul summered at Raifûn, as his age and health did not permit him to take the difficult ride to Bdîman. The Patriarch is also *ex officio* Bishop of Jebail. According to the decision of the fourth Lateran Council, the Patriarch of Antioch has the third rank after the Roman Pontiff; the order of Patriarchates being thus:—Constantinople, Alexandria, Antioch, and Jerusalem. Among the Patriarchal prerogatives we may mention

<sup>1</sup> In the recently published pamphlet referred to in a former note (*Cereni Storici Sulla Nazione Siro-Maronita*), G. Notain Derauni, a Lebanon Abbot, tries to prove this succession, by identifying Constantine Deacon of Syracuse, whom the historian Anastasius says was confirmed by the Pope as successor of Theophanes with John Maro whom their own historian following Quaresmius calls his successor by Papal Confirmation. The argument is not strong. The pamphlet, however, is an interesting one. It aims to prove that the true succession to the Chair of Antioch is in the line of the Maronite Patriarchs.

<sup>2</sup> The Greek-Melchites, Armenians, Nestorians, Jacobites, Maronites, Greek-Catholics (a united Greek-Melchites), and Syriac Catholics, each claim a Patriarch of Antioch, the last three being recognized by Rome, which gives precedence over the others to the one longest in office. For about 170 years previous to the expulsion of the Franks by the Saracens in the 13th century there was a Latin Patriarch of Antioch. This office has lapsed, but the honorary title is held to this day by a prelate at Rome.

the following<sup>1</sup>: He may have the cross carried before him except in Rome, or when the Pontiff is present in person or by Legate; he may wear the pontifical robes; he may ride a white horse, caprisoned, and with gold bridle and stirrups; he may write synodical letters to other Patriarchs, and his name is to be remembered in the divine services of other Patriarchates; he may re-examine controversies which have been decided in the dioceses, and confirm or reject the decisions; he may establish canons to be observed by all his Bishops; he may convene a general Synod, and preside over it; he may judge in matters of disagreement between his Bishops and Clergy; he is to see that the Catholic Faith is kept pure; formerly he could depose Bishops for fault, but since 1736 the removal of a Bishop from office is reserved to the Pope, but while the case is pending the Patriarch may imprison the offender in a monastery; he is to supervise the monasteries and monks; he alone may receive penitent heretics and schismatics, and allow marriage in the forbidden degrees of relationship; he may establish new fasts and feasts, and may for cause of war or famine temporarily suspend fasts; he may make changes in the ritual, provided the substance is unaltered; he is to consecrate the chrismatic oil; in all grave matters he is to consult his Bishops, and some questions are to be referred to Rome.

It is impossible to make a definite statement in regard to the Patriarchal revenues. It may be said in general that they amount to several thousand pounds annually. The sources are as follows: the incomes from the many estates belonging to the Patriarchate and its affiliated convents; large sums of money sent from Europe for masses; price of masses from wealthy Maronites; the tithes from the Maronite nation, &c. According to the laws of the church each Maronite man is taxed 3 piastres per annum, or about 5½*d.* Originally, as I understand the matter, these tithes were the due of the Patriarch. To-day, however, the tithe-gathering is not strictly enforced. In one village where other sects are influential, I am told that the tithes have not been collected for three years. In some cases the Bishops are allowed to retain a large part of the tithes, while in others the parish priests may keep them.

Notwithstanding his great income, the late Patriarch Boulos Mes'ad lived in much simplicity. Indeed, the church at Bkerke was small and poorly furnished. The chief reception room was a long white-washed vaulted room, with ordinary divans, a common carpet, and a table. The present Patriarch, Yuhanna el 'Haj, is building extensively, both at Bkerke and at Bdīman. I have been told that Boulos Mes'ad said that his master Jesus Christ was poor, and it did not become his followers to live in luxury. He was born in 1806, of peasant parents in the Kesrawan. At the age of 11 he entered the Ecclesiastical School of Rumiye, and at 14 entered 'Ain Warka. It is said that in one of these schools he did the work of a servant. At 18 he went to Rome and studied at the Propaganda. He was ordained Priest in 1830. Then he became Secretary of the Patriarch Yusif Habeish, in whose service he continued

<sup>1</sup> "Leb. Council," Part III, chap. 6

till 1854, when the Patriarch died. In 1840 he had been created titular Bishop of Tarsus, acting as the Patriarch's representative. Rival candidates for the Patriarchate were supported by two powerful parties; finally a compromise was effected in the choice of Boulas Mes'ad, whose health was so poor that it was not thought he could live long. However, he outlived the rival factions, his death occurring in April, 1890. During all these years he never left the Lebanon, even to visit Beirût, save in 1867 when he was summoned by the Pope to attend a canonization at Rome. He then visited Paris and Constantinople, receiving from Napoleon III the decoration of the Legion of Honour, and from the Sultan the First Order of the Medjidie. This exclusiveness in never leaving his Patriarchate is characteristic of the ancient Maronite independence. The Patriarch was always regarded as the head of the Maronite nation. "The Patriarch is our Sultan," was the reply given to the local authorities in about the year 1850 by the inhabitants of Ehden, when the Turkish Government demanded indemnity for the American Missionaries who had come to that place to spend the summer, and who were instantly driven out, not being permitted to spend the night.

Personally the late Patriarch was gentle and agreeable. He had a refined, delicate face, with soft white hair and a silky beard. He was credited with a knowledge of history. Certainly he was well posted in the annals of the Lebanon, and prided himself upon keeping in memory the intricacies of inter-marriages, and the dates when the various families migrated to various villages. He wrote a book called the "Dur-el-Munzûm," treating of several disputed points in Maronite history. He had the love of his people. At his funeral I witnessed a large gathering of clergy, notables, and peasants. At the end of the reception room the Bishops were ranged on a divan to receive the numerous guests. The French Consul, the Pope's Legate, and the Secretary of the Lebanon Governor had seats of honour. There were also present delegates from the Jesuit Mission, various Catholic Prelates, Lebanon nobles, &c., &c. The court and corridors were densely crowded. Soldiers tried to preserve order at the door of the church. The funeral services were, of course, according to the Maronite rite, but, before these, prayers were chanted in the church by the Greek Catholics and the Armenian Catholics. The dead Patriarch, dressed in full canonicals, covered with his Orders, grasping in one hand a large cross and in the other the staff, was seated in an arm-chair in an opening of the Altar rails. His face was wonderfully natural, and bore a sweet, restful expression. Behind him stood a priest on guard. Many advanced, knelt, and kissed the cross. The chancel was filled with Priests, and when the Special Burial Service for a Patriarch began the chief guests were admitted behind the rails. A simple, eloquent address was made by one of the Bishops. At the close of the service the Patriarch's outer garments were changed, but the lace sleeves sent from Rome were put on him again. Then his chair was borne aloft and carried around the church by several men. The sight was somewhat shocking, as the mitre of the dead Patriarch shook and



almost fell over. Outside the church the body was seated upright in a sort of open Sedan-chair with curtains, and carried by men to a large oak where it was put down, while several laymen made speeches. Then the Bishops and chief guests returned to the Convent for dinner, at which there were speeches, one at least of which made reference to the coming Patriarch, while the Sedan-chair was borne 2,000 feet or more up the mountain to Ashqut, the Patriarch's birthplace. Many relations followed with the peasants of the district. As the procession approached a village the men of the place would come out and bear the Sedan-chair to the next. The interment was in a vault of the church at Ashqut, where, according to rule, the body of the Patriarch was seated in a chair.

Ten days after the death of the Maronite Patriarch the Bishops proceed to the election of his successor.<sup>1</sup> No one is eligible who is under forty, and it is recommended that the candidate be a Bishop, though a simple Priest may be chosen. Six Bishops may form a quorum. The doors of the church where the election takes place are guarded from the outside by a Priest, the Canons says, but a Sheikh of the House of Khazin tells me that this is one of their hereditary privileges. Under seal of secrecy two Priests are admitted as secretaries, two Bishops are chosen to count the votes, and the Bishop who has been longest in office presides. He first writes his choice upon a piece of paper, seals it, and drops it into a cup upon the Altar. When all have thus voted the two Bishops count the votes; if they do not correspond with the number of voters they are thrown, unopened, into a brazier of coals near the door and a new vote is taken. If the number is correct the papers are opened, and the names of those voted for are read aloud and taken down by the secretaries, but not the names of the voters. A two-thirds vote is necessary for choice. Election by acclamation is legal only where it is absolutely unanimous. When any candidate has the sufficient number of votes his election is proclaimed by the President, who with the two Bishops and the two secretaries then approaches him, bending the knee and saying: "The Holy Spirit calls thee to be Patriarch of Great Antioch, and over the whole extent of the Apostolic Seat." All present bow the knee, and the Patriarch-elect answers: "I accept and obey." He is then robed and conducted to the throne at the right of the Altar, where all the Bishops proceed and kiss his hand. The decree of election being signed, the doors are thrown open, and the Patriarch-elect stands near the Altar rails with his Bishops while Psalm xix. is chanted. He then pronounces a general absolution. The next Sunday or Feast Day is appointed for the consecration, after which he writes letters to the Pope, professing devotion to the Catholic Faith and obedience to its head, and praying for a confirmation of his election and consecration. One of his Bishops is sent as special envoy to Rome, who brings back the robe of office.

<sup>1</sup> "Leb. Council," Part III, chap. 6, sect. 7.

The Patriarch is assisted in his duties by two or three titular Bishops, who act as secretaries. Any case of dispute between the Patriarch and Bishops must be decided in Rome, as he is responsible to no one but the Supreme Pontiff. Every ten years he is to send an especially authorised agent to Rome to report on the temporal and spiritual condition of the Patriarchate. Every Maronite Patriarch adds to his own name that of St. Peter, the founder of the church of Antioch.

The Book of the Lebanon Council traces the history of the Patriarchate of Antioch, and of its former Patriarchs, Primate, Metropolitans, and Bishops. It refers to the division of the Patriarchate before the 8th century among the Melchites, Maronites, Armenians, Jacobites, and Nestorians; it deplors the devastation of its territory by the infidels, and states that in consequence of its reduced condition the Patriarch now exercises not only the Patriarchal function but those of a Primate and Metropolitan as well. The book constantly speaks of Metropolitans and Bishops, but it states that the difference between them now is only one of precedence and title. The Council reduced the number of Bishops from sixteen to eight, which are: *Aleppo*; *Beirût*, including part of the Metn district of the Lebanon; *Baalbec*, including part of the Kesronan; *Damascus*, including the rest of the Kesrawan; *Cyprus*, including part of the Metn; *Tyre and Sidon*, including the Southern Lebanon; *Tripoli*, with the adjacent Lebanon district; *Jebail*, including the Bsherreh region. As said before, the Patriarch is always *ex officio* the Bishop of Jebail.

The name of the Sees do not always coincide with the actual seats. There are four *in partibus* Bishops, three of whom attend on the Patriarch; the fourth is at the head of the Convent of Missioners. By title they are assigned to 'Arka, Acre, Hama, and Nazareth. Among these twelve Bishops there are several scholars, trained in the Propaganda, but it is doubtful whether they have attained to the broadest culture. Bishop Dibs, of Beirût, has built up a large college, where French and Arabic are taught. The late Bishop of Cyprus, drawing upon liberal European resources, established a boarding-school in the Lebanon. Here he entertained his guests in the handsomest manner. The late Bishop Na'mtallah, of the noble house of Dah-deh, was a great linguist; he told me that he had studied 15 languages, including Chinese. He was particular that his lower clergy should be men of learning, and I am told that he ordained a surprisingly small number of Priests.

Among the Episcopal functions are the following: the power of ordaining Priests and Deacons; of administering the Sacrament of the Chrism; of consecrating the holy oil; of dedicating churches and altars; of binding and loosing; of governing the clergy and people. The Episcopal revenues vary; they include a portion of the titles and the incomes from properties belonging to the diocese. A Bishop visiting the villages of his See often receives from the chief men the price of Masses, the amount in each case depending upon the liberality of the giver. The Bishops are strictly forbidden to enrich their families from the Episcopal

revenues. However, a Bishop's influence is so great that his relations are at least indirectly benefited by his position.

The Patriarch has the sole authority in the election and consecration of Bishops, but he is to have the advice and consent of the Bishops. The ancient Eastern custom of consulting the wishes of the people is kept up, and to this end agents are sent to all the Priests and chief men of the diocese. According to the Canons the nomination may be either by the Patriarch or by the people. The candidate should be of good character, born in wedlock, learned, and qualified for the duties of the office; he must have been six months in Priests' orders, and should not be less than thirty years of age. The Patriarch usually consecrates the Bishop-elect, but upon necessity he may delegate the duty to three other Bishops. A Bishop must reside in his own diocese, and may not perform his Episcopal functions in the See of another without his permission. He may exercise discipline upon his people and clergy; but after the accused has received his sentence in the Episcopal Court he may appeal to the Patriarch. Great gentleness and charity are enjoined upon the Bishops in the exercise of their judicial functions.

The Maronite Canons recognise several grades of Priests below the Bishop. The Chorepiscopus (Arabic, *الاستقف الحوري*) is described as a

Priest appointed over districts in which he has the general charge of clergy and people. He may wear the mitre and carry two crosses, and he may ordain readers, exorcists, &c. The Archipresbyter exercises the same functions in a city, taking precedence of the Chorepiscopus. Each Bishop may have one Periodonta (Arabic: *بيردوتا*), who is to tour among the villages of the diocese examining the general condition of churches and monasteries. He has no fixed seat. He may not wear the mitre, and can carry but one cross. With the Chorepiscopus he shares the power of consecrating baptisteries and of dedicating altars.

So much for the Canons. Of these grades of the Priestly office I can find but little trace. Even the names are unknown to some of the people. In each district the Bishop has an agent, appointed for a time for facilitating business, but with no such privileges as the Chorepiscopus. In Alexandria, and I believe in other places at a distance from an Episcopal Seat, the local head of the Maronites is called Berdote, but he is not the itinerant Periodonta of the Canons. On great occasions he may wear the mitre and carry the staff. He is also permitted to confirm. He is responsible to the Patriarch directly. Owing to difficulties in the last Episcopal election in Aleppo, a Priest with the title of Berdote is discharging a Bishop's functions to-day. I have been told that the title was once conferred as a mark of honour upon a Priest of Tripoli.

The Maronite priests may be classed under two different heads—the parish priests and the priests who are also monks. There is also a large body of priests without charge, who serve as teachers in the colleges, or as secretaries. The parish priest does not differ much from his flock save

in dress and in the respect due to his office. He may not marry after ordination, but a married man may be ordained, though he cannot take a second wife.<sup>1</sup> He wears a long cassock, usually black, with a girdle, and, when out of doors, an ample black cloak. His head-dress is a round, stiff, quilted turban, wound about with dark blue cloth. This old Syrian head-dress is going out of fashion as it is heavy, and a cylindrical black cap, or even a red fez with black turban, is often seen instead. The priest is usually a man of some means; he owns a house, he has vineyards and fields to care for, and sometimes he engages in temporary business, though this is not approved by his flock. The people usually prefer a priest from their own village. In the town of Hammama, where I write, the families are divided into three groups, each of which has a church and one or more priests from their own number. Thus the priest has a certain family dignity, and the backing of his relatives. The Maronite priests are better educated than any others in Syria, perhaps with the exception of the Greek Catholics. Their morals are said to be higher than the average morals of the people. In former times the authority of the village priest was great, and he could often control the conduct of his parishioners; but the people are rapidly growing independent of such control, though it is still strong in some regions. Terror of being placed under the ban of the Church, formerly so strong, has greatly decreased. Force of character and personal goodness make themselves felt, now as ever. The village priest here assures me that there is a growing tendency to ordain unmarried men, and to appoint strangers over the parishes, whose minds, unburdened with temporal affairs, may be free to attend to the spiritual needs of the people. In this we may trace the growing influence of Rome and the Jesuits.

Each priest is to say Mass once a day, and once only. The ordinary price of a Mass is 3 piastres. The priest may get the price of his Masses from the people, from his Bishop, or from any source. When a Mass or set of Masses are said he gives a receipt. The price of hundreds of Masses are sent yearly from Europe, and are distributed among the priests, giving rise to a good deal of business. For example, a priest wishing to buy a book from the Jesuits, may agree to say so many Masses for it. In one case a number of Masses, paid for in Europe at 5 piastres a Mass, were to be said by the priest for the ordinary price of 3 piastres, the difference going to the village school-teacher. A man who wishes to send his son to the Bishop's school may agree to furnish the price of a certain number of Masses to different priests, from whom he takes a receipt when the Masses are said. This receipt he sends to the school.

The priest has no regular salary, but his people make him yearly contributions of money, wood, grain, or produce. The fees for marriages, baptisms, funerals, churching of women, and the purification of their houses after confinement mount up to a fair sum in the course of the year. Some small villages have no regular priest, but are supplied from a neighbouring convent.

<sup>1</sup> Marriage used often immediately to precede ordination.

The churches are of hewn stone, and are usually more solidly built than the houses of the villages. They are simple, oblong structures, with flat roofs, lighted by small windows high up, and with a door in the north, and sometimes in the south, for the men, and one on the west for the women. The only pretence towards architectural effect is found in the belfries; the material used is white or yellow stone; the open work is sometimes graceful, with slight pillars and a dome and cross. In one case the dome has four chalices at four corners. Over the principal entrance may be found an inscription, with date and rude carvings of chalices and crosses. Some of the more modern villages have tiled roofs and large windows. A fine Cathedral church is building now in Beirût.

The interiors are usually vaulted and whitewashed. A latticed screen divides the church about two-thirds the way down into the parts for men and women. The latter have also sometimes a gallery. High pulpits are found, but sometimes with the stair missing, which may be taken as a commentary upon the use put to them. The great wooden or stone screen peculiar to the Eastern churches, shutting off the chancel, is not found among the Maronites. In its place are the ordinary altar rails. There are usually three altars, with pictures above them, the picture of the patron Saint hanging over the high altar. The pictures are mostly modern, in the Italian style and usually in very poor art. The stations of the Cross are, I believe, a recent innovation. The rich, dark colouring which characterises the crudely drawn Byzantine pictures is missing. The service books are to be found in two desks outside the altar rails. The altars have a rich, if somewhat tawdry, decoration. During hours of service the people preserve silence and a reverent demeanour, the men removing their caps at certain times.

In some churches near the door may be observed a framed sheet with a small bag hanging underneath. On one such sheet I found a list of eighty-four classes of the dead to be prayed for: spiritual fathers; secular teachers; those who in this life adorned themselves with fine clothing; former priests of the village; those who were jealous; those who did not fulfil their oaths; those who held Saint Joseph in honour, etc. In the bag were eighty-four numbered lots; anyone leaving the church may draw a lot, and say a *pater* or a *salve* in behalf of the corresponding class of persons in the list.

If the parish is large and there is but one church, several priests of equal authority may officiate in the same church, with a division of the parish work. In such cases they say Mass, one after the other. In visiting the Maronite villages one notices the interest and pride taken in the churches by the laymen, who are constant worshippers not only on Sunday and Feast days, but often on a week day, at the morning Mass or at vespers. In this respect districts differ, but I was particularly struck with it at B'sherreh. In Hammama there are two offshoots from the parent church. The last church was built recently, and gives a good illustration of the zeal of the people.

Permission being obtained from the Bishop, who gave some assistance, the two or three families who were departing taxed themselves in money and work for the new enterprise. The men and boys brought up stones from the quarry, and men, women, and children carried down the tiles for the roof from a station on the Damascus carriage road. Certain contributions were made by the other villages, and there was a division of the church furnishings between the parent church and the new one. Each church has its lay *wakeel* or steward, appointed by the Bishop, with whom he is to make a yearly account of the church lands, income, and expenditure.

The oldest churches which I have seen are those in Bsherreh and Ehden. In Ghosta, a former centre of the Khazins, there are three fairly old churches, the most ancient dating back 300 years. Mar Yusif, a later construction, occupies a commanding position on a steep hillside, and is visible far out at sea. We read on the walls inside a queer Latin inscription, which connects this high-perched Lebanon church with a brilliant civilisation—"Ex-Ludovigi XV. Galliarum Regis Munificentia Edifigium hoc erectum est, 1769." On a side altar there is a glass case containing a minute skull, small bones, and a receptacle holding clotted blood, relics of Mar Monsur or Ignatius, brought from Rome by the Patriarch Yusif Istafan. He and two Bishops have their tombs in vaults in the thick walls, where they were placed in a sitting posture.

Almost every Maronite village has its primary school, in which Arabic reading and writing and a little Syriac are taught. But few are supported by the villagers themselves. Protestant schools have had a stimulating effect upon Roman Catholic orders. The Jesuits have many free schools throughout the Lebanon, and have erected buildings. In the purely Maronite districts there are very few Protestant schools. In these village schools are to be found boys up to the age of 12 or 13, after which they must leave school for work. We have spoken of the colleges of Bishop Dibs, and of the Bishop of Cyprus in the Lebanon, but these are planned upon foreign models and cannot be called characteristically Maronite. In these schools, with those of the Jesuits at Beirût and the Lazarists at 'Antura, several hundreds of Maronite youths are receiving a higher education. At the Jesuits' and at the College of Dibs there are theological departments.

A purely Maronite institution is 'Ain Warka, the chief theological college, the others being at Rumiyeh, Reifûn, and Mar 'Abda. It is most picturesquely and appropriately situated in an amphitheatre of steep hills, rounding high in the rear and making a great V-shaped opening—pines on the one incline, oaks on the other, filled by the blue of the sea, which though very near is hundreds of feet below. On one side a curious perpendicular structure of rock crops out, on which obvious foundation houses are perched one above the other, cottages of the peasant-partners of the school. The sheer hillsides are terraced, and planted with mulberries. In the bosom of the great recess stands a small group of gigantic pines—

graceful, stately. Above the terraces the white limestone of the mountain walls are embossed with small oaks. On one side of the amphitheatre stands the school, an aggregation of solid, square buildings, well grouped. The doorway of the church is surrounded by rich carving in geometrical figures. The building was formerly a nunnery, but was changed into a school in 1788 by a Bishop of the House of Istafan. The interior of the church is handsome, with good carving in the three arches on the east wall. We were shown a rich collection of robes, &c. The library is not large. A long staircase ascends to the arcaded quadrangle occupied by the school. At one end is the school-room, where we found twenty-three boys, from the age of 8 to 13, seated at desks. They were dressed in black robes (the "ghumbaz"), folding over in front and fastened by a scarlet girdle, with a red fez and thin black turban. Each boy has a separate room, furnished with a little iron bedstead. When the class begins to study philosophy each lad studies in his own room, a chair and table being added. They play in the quadrangle, but twice a week go for a walk, and once a month for an excursion. Cooked food is served every day, but they are given meat only twice a week. The President is from the House of Istafan. The course lasts for ten or twelve years, and only one class is instructed at a time. The class, that entered this last year, for the next three years will study Syriac; for the three years following, Arabic; then during the remainder of their time, I believe, Latin, philosophy, and theology. When they are graduated, and not till then, a new class will be taken. It is curious to find French excluded from the school, and Italian taught in its place. The Preceptor, a graduate of the school, told me that the reason for this lies in the close connection of the school with Rome. The school is endowed (though it was recently closed for some time that the funds might accumulate), and the Patriarch may send free to each class four boys; each Bishop may appoint two, and the House of Istafan two. For other lads the fee is 1,500 piastres a year. To my notice of 'Ain Warka I am pleased to add that I have been twice entertained at the school with cordial hospitality.

It will be seen that the number of thoroughly trained priests must be small relatively to the number of parishes, as the theological schools take on a class only once in so many years. Bishops differ in the care exercised in choosing candidates for consecration. In some cases a man may be made a priest after a few months' notice. Preaching by the parish priest is rare.

In a hollow of the hills, near to 'Ain Warka, nestles the Convent of Missioners, called Deir-el-Krêm, with a Bishop at its head. At various times, but especially during Lent, these priests go from village to village, by twos, making a visitation of eight days, beginning with a Sunday. They hold three services daily, with preaching on various subjects. An American Missionary tells me that he attended several of these services; he found the discourses to be mainly on practical themes, and of an excellent spirit. The people attend in large numbers. Many who have not confessed for years confess to these Priests, who are said to be armed

with especial absolving power from the Pope. Silence is said to be enjoined on the people during the week. I saw two or three Missioners at their services in 'Akura. As a special mark, they have a small red cross on the top of the cap.

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### III.

#### THE MONASTERIES.

Among the chief features of a Lebanon landscape, from almost any point of view, are the monasteries. Not only are these very numerous, but they almost invariably have been placed in some bold and striking position. They dominate the landscape. Perched upon a lofty ridge, crowning some conical hill or jutting out from the steep mountain-side, upon a huge rock foundation—their physical prominence is typical of their social and religious importance in the Lebanon. They are thickest in the region about the Dog River, where we find conventual establishments of the Maronites, Greek Catholics, Syriac Catholics, and Armenian Catholics. The Missionary College of Bzummar, belonging to the latter has for its head a most intelligent man, who, regretting the absence of forests in his Lebanon, due to the ravages of charcoal burners and of goats, is carefully cultivating a noble oak grove among the fantastic rocks where his convent stands.

The three congregations of Maronite monks all belong to the Order of St. Antony, and were originally one. The first division had its origin in the year 1700, when a certain Bishop Gabriel of Belluni sent a number of Priests from the Convent of the Virgin of Tamish to inhabit the Convent of Mar Isha'ya (Isaiah) which he had built on the summit of a hill in Brummana about three hours from Beirût, overlooking the sea, which is 2,500 feet almost directly below it. Soon after Patriarchal permission was given these monks to establish a new order, or sub-order of the monks of St. Antony, under the name of the monks of St. Isha'ya. Later their special book of rules was confirmed at Rome by Pope Clement XII. The Order has now twenty establishments. The remaining monks continued under the name of the monks of Mount Lebanon, but were divided again into two Orders—the Aleppine and the Lebanese. I have not found the exact date of this division, but it was later than 1736, as the Council does not mention the Aleppines. There is a legend, which I give for what it may be worth, that about 150 years ago there arose jealousy at Deir Tamish between the city monks from Aleppo, who were well-fed and lazy, and the Lebanon monks, who complained that after a hard day's work in the fields they were not given enough to eat. One day a priest of the Lebanon party returned to the convent to find his pet lamb killed and eaten by the monks from Aleppo. Such a disturbance followed that the Patriarch made a division of monks and convents that has lasted to this day. The two divisions go by the names of



Halabiyeh and Libnaniyeh, or Beladiyeh, or the monks of Qozhayya, from their chief convent.

A Maronite friend has furnished me with a list of 120 names, which he claims to contain all the Maronite conventual establishments. Fifty of these belong to the Beladiyeh or Libnaniyeh. My friend says that ten years ago the Abbot-General of this Order told him that its monks numbered 1,500; I am inclined to regard this as an over estimate, for while perhaps a dozen convents contain from 30 to 100 monks each, many have much smaller numbers, while several on the list are mere houses where a single priest or monk represents the Order, as in Beirût or Baalbee; or as in the miserable village of Mruj, too poor to support a parish priest, where a monk-priest lives in a room belonging to a neighbouring convent, and ministers to the people. In Hammama there is a house with a chapel, called a school, where a priest and monk look after some lands belonging to the Order. The Order has two nunneries.

The Halabiyeh have 14 establishments, and the monks of Isha'ya, 20. Each of these three Orders has its Abbot-General and Directors, and holds a triennial Council, which in the case of the Beladiyeh, is opened and closed by the Pope's Legate, and in the other cases by the Patriarch. The 36 establishments on the list do not belong to the three Orders (their monks, however, come from the Orders), but are under the direct control of the Patriarch or Bishops. They include the episcopal seats, various schools, and 15 nunneries. Many were built by the noble house of Khazin and other families, who claim certain privileges, as the appointing of priests or directors from among themselves, and care for their poor. The list also includes the two convents of the 'Abbad or servants who wear a peculiar conical cap, and, it is said, go as servants to the nunneries.

The convents have large properties. From one-seventh to one-sixth of the land in the Lebanon belongs to the monasteries of the various churches, and more than four-fifths of this property is Maronite. The revenues are largely spent in building, and in buying more land. The yearly revenue of Deir-el-Na'meh, near the mouth of the Damûn, is said to be between £1,600 and £2,000. The heads of convents are strictly forbidden to enrich their relatives, but they are often accused of it by the people, who entertain a low opinion of the general morality of the monks, an opinion which an observer would concur with, judging from their general appearance, though gentle, pious individuals may be found among them. The nuns, on the contrary, bear an excellent reputation for virtue. The conventual lands are worked by peasant partners, who share in the profits, and in some cases work for wages. Convents under the patronage of a Saint with a reputation for effecting miraculous cures have an especial source of revenue in the gifts of grateful visitors.

The most interesting monasteries are to be found in or near the gorge of the Qadisha, or Sacred River. Around the plateau of the cedars the mountains sweep in a splendid amphitheatre; the plateau comes

abruptly to an end in a precipice, in the face of which a cavern sends forth a stream, falling over in a series of cascades, and soon entering the deep canyon which, in the course of ages, itself has formed. In some parts this canyon is 1,600 feet deep, but one can call across it to a friend on the other side. At the bottom foams the Qadisha, and a rich vegetation climbs the terraces to the foot of the massive limestone cliffs which form the walls of the valley. In the early Christian ages Anchorites inhabited the caves in the Sacred Valley, many of which can be traced to-day. It may be supposed that later these hermits formed communities, giving rise to the monasteries which we still find in this wild gorge. This region contains the large Maronite towns of Ehden, Hasrûn, Bsherreh, Hadeth, &c., &c.

Near the head of the valley, where it is somewhat more open than further down, hiding itself under the cliffs, indeed built partly in a cavern, is the ancient convent of Mar Elisha'. On entering and ascending some dark, winding stone steps we found it difficult to distinguish between the natural and artificial, between hewn stone and the wall of the mountain. We were entertained hospitably by the Abbot in a broad window leading off the corridor. One monk used a quaint euphemism in the phrase, "I pray in the food," by which he meant to tell us he was cook. Mar Elisha' has 25 monks. We were surprised to hear that until within 50 years, some Franciscans lived in the same convent. These have since built a convent for themselves further up the mountain. Near Shweir there is a double convent of Mar Elias, which from a distance appears one, where the Maronites and Greeks, who regard each other as heretics, live side by side in harmony. Two parish churches, also Greek and Maronite respectively, with a wall in common, occupy the same site in the village of Deir el Harf in the Metn.

At Mar Elisha' the cells are small and dark, the corridors low, and the whole building has an ancient and musty odour; but the monks have recently built a fine new convent on the edge of the opposite cliff, for a more comfortable winter residence.

The convent at Bdïman, a few miles further down along the cliff, has been of recent years occupied by the Patriarchs who find that Qannubîn is an inconvenient place, even for spending the summer. From Bdïman to the bottom of the Qadisha valley a mule path zig-zags down a side gorge. The road is very steep, with sharp turnings, which make anyone not possessing the strongest nerves to shudder, but with the exception of a few places it is not stony. We rode to the bottom, crossed a narrow bridge over the torrent, foaming below over rounded boulders, and rode up the opposite valley-wall till we reached the gardens of the convent 300 feet above the stream. The simple stone buildings, placed at different angles to each other, which form the convent of Qannubîn, crouch under the limestone cliffs. The chapel, which is built into a cave, opens on to an irregular court-yard surrounded by rooms, some quite modern, some of great antiquity. Tradition says that the convent was built by the Emperor Theodosius in the 4th century. A

small room, at present unused, is pointed out as the ancient chapel. The present chapel is a vaulted room, once covered with frescoes. The priest told me with some pride that as it was soiled he had white-washed it over, except above the altar. There the fresco represents a company of kneeling Patriarchs, with a number of violin-bearing cherubs over their heads. This is the only fresco I have observed in a Maronite Church. The Jacobite Church at Sudud has a vaulted roof elaborately frescoed. We visited the granary and the wine-cellar, where we found some fine old jars, 3 or 4 feet high. The priest and a lay brother are the only inhabitants. The steep hillsides around and below the convent are steeply terraced and richly planted with vines, fig trees, walnuts, oaks, and olives. The convent is dedicated to the Virgin. It was here that As'ad Shidiaq, the Protestant martyr, met his death.

Near the convent is the chapel of St. Marina, who is said to work cures. I give her tradition as obtained from various people.<sup>1</sup> Marina was a maid who desired to lead a holy life, and who, in disguise of a youth, presented herself at Qannubîn as a novice. In due time she became a monk under the name of Marinus. While she was conducting business in a village, a girl fell in love with the supposed monk and made proposals which were rejected. Later this girl bore a child by some lover, and bringing it to Qannubîn, declared that the monk Marinus was its father. When thus charged, Marinus meekly bowed the head and said: "Sar," which means, "What is done, is done." As a consequence, he (or she) was turned out of the convent. The girl-monk took refuge in a neighbouring cavern, where she gave suck to the boy. Some months or years after the convent bell was heard to toll. As no one was ringing it, the monks were alarmed and searched for the cause of this miracle. In the cave they found the dead body of the expelled monk, with the child at the breast. In the hand was a paper which read, "Let an old man undress me." Thus her innocence was established, her true sex revealed, and she became a Saint. It is added that the boy became a monk, and later was made Superior of Qannubîn.

A few miles below Qannubîn a smaller side-gorge enters the Qadisha Valley. The best approach is from Elden, which lies on the hills above. The rough and tortuous path in one place passes between two crags, joined above by an arch surmounted by a cross. Above the road are awful, jagged precipices of limestone, and the opposite side of the gorge is of hardly less terrifying effect. Under the eternal frown of those mountain walls stands the famous Convent of Qozhayya. The present monastery was built in 1732, and is the richest, I believe, in the Lebanon, containing 100 monks. Churchill describes the church as being in a subterraneous cave, but the present church is large and airy, with an elaborately carved façade. The reception room is ample.

The convent contains a printing press, whence Syriac and Arabic

<sup>1</sup> I have found in the Sinksar the same traditions with variations. Qannubîn is not mentioned.

books have been issued. But the interest of the place centres in a cave which pierces far into the mountain above. The opening is small, and guarded by a stout door. Within, the cave widens and slopes upwards and inwards. We could look in for perhaps 50 yards and then all was lost in darkness. The legend runs that St. Antony once came from Egypt to visit the hermits of this region and slept in the cave. The full name of the convent is Mar Antonius Qozhayya, which is erroneously derived from *Kanz el hayat* (كنز الحياة), treasure of life.

To this convent and cave are brought the insane that St. Antony may drive out the evil spirit. Moslems, Druzes, and members of the various Christian sects visit the place, but especially in the spring "when the blood runs full," so a priest of the place told me. The convent has a wide-reaching fame, which adds much to its revenues.

The priest told me that sometimes the patients are cured by simply passing under the arch and cross, mentioned above; others, when they enter the conventual precincts; and still others in the church, where a priest exorcises the evil spirit by adjuring him in the name of God and beating the patients on the head, sometimes with a shoe. If the evil spirit will not come out of the man he is taken into the cave, and an iron collar is fastened around his neck, and if violent he is further chained. Several madmen may be chained in the cave at the same time. The priest in charge visits the cave occasionally, giving the patients to drink of the holy water which drops from the roof, but feeding them very little. The cure is effected when the patient is found without the iron collar; its removal is said to be the work of St. Antony, whose appearance is sometimes described by the patients.

The crazed wretches may remain in the horrible place anywhere from one day to two weeks. If no cure is effected it is concluded that the man has no devil to be exorcised, but has a disease of the brain, for which the place professes no cure. The priest told a ghastly story of two desperate madmen who with great difficulty were chained in the cave; the door was locked upon them; but when next day the cave was opened, the chains were lying on the ground and no trace was found of the maniacs, who have not been heard of to this day. It would be interesting to pass some time at Qozhayya and to follow up the people, in whose mental condition the place, with its circumstances, undoubtedly effects some change.

While on this subject I may mention that belief in diabolical possession is strong, and the exorcist is a recognised functionary in the Maronite Church. Not alone in Qozhayya, but in the village churches, devils are said to be cast out. Many stories are told, with ludicrous remarks, of the evil spirit, who may mock the priest, saying, "Get out of my sight, you and your cross;" or may call out to the crowd, proposing to enter into this one or that one, who promptly turns and runs. In one case it is said that the priest beat a girl on the head with his shoe for two hours before a very impudent spirit came out of her,

but at length the picture of St. Antony floated of itself from the altar and touched her lips, whereupon the devil left her, and she asked for food, which she had not touched for two weeks.

Bkerke, the winter residence of the Patriarch in the Kesrawan, has a curious history. Churehill<sup>1</sup> quotes Volney's story of Hindiyi, which is as romantic as it is horrible. According to Volney, about the middle of the 18th century, a Maronite girl acquired the reputation of a hermit and of a worker of miracles. She had many followers, from whom she collected money enough to build the double convent of Bkerke for monks and nuns, which was for a time under the general direction of the Patriarch. For 20 years this Hindiyi was the real director of the two establishments, which seemed very prosperous, except that a large number of deaths occurred. Finally, a traveller happening to sleep on the ground outside the convent had his suspicions aroused by a secret burial at midnight, three monks and two men bearing a long white bundle to a piece of ground full of stones and rubbish. He reported the matter to a man in Beirût who had two daughters in the convent, to which he at once repaired and asked to see his children. When his request was refused he brought the affair before the Emir Yusif Shehaab, at the seat of Government. The convent and grounds were searched; the eldest daughter was found almost dead within, while the body of the younger had been buried in the rubbish. Hindiyi was seized, but in her turn prosecuted the Patriarch. In 1766 the affair was referred to the Propaganda at Rome, and "infamous scenes of debauchery and horrid cruelties were discovered." It was proved that Hindiyi had procured the death of nuns to get hold of their property. This extraordinary woman consecrated the host and pretended to fall into heavenly ecstasies. So much for Volney's account. The people tell many legends of her. Her name is said to arise from her nocturnal visits to India, where she was borne by spirits. She confined the nuns in horrible dungeons. She used to be carried up in the air by devils. When the Bishop wished to prove her wickedness he sent a priest to say Mass for her, who purposely gave her a piece of unconsecrated wafer. Hindiyi, after partaking of it, declared that never before had she been so filled with holy influences, that this was the most heavenly morsel—which was taken as proof positive that she was an impostor. She was shut up in various convents, but Volney says that she always retained a party in her favour, and was believed in by some to his day. One legend has it that she died repentant.

The more modern monasteries are solid structures, built in quadrangles, with covered corridors, ample cells, lofty chapels, and red-tiled roofs. Visitors are received with hospitality.

The monastic rules differ but little in the three orders. In a letter dated in 1732, Clement XII, confirming the regulations and laws of the Lebanon monks, refers to the ancient institution of Oriental monks

<sup>1</sup> "Mt. Lebanon," Vol. I, pages 78-85.

founded by St. Antony, and spread in Egypt, Syria, and all the East by his disciples. The gathering of some of the Lebanon monasteries into a congregation with an Abbot-General had its origin in Elisha'. From other sources I have heard that the scholar Germanus Farhat, with two other brothers, when a monk in his monastery, organised the ancient rules into a constitution. The Pope says that these rules have been sacredly preserved in the monasteries of the Orient, and have never been disapproved by Rome, as nothing can be found in them contrary to piety and the Orthodox faith, but that to avoid calumny it is better that they should have a confirmation from Rome. This was obtained by the Abbot-General, who visited the city for the purpose.

The monks of Mar Isha'ya also received Papal confirmation of their rules, which were later printed at Rome. Of this book I propose to give a brief analysis. It must be said that it contains the ideal of the monastic life; how far the real daily life falls short of the ideal can be known only to one who has lived long in a convent. Many particulars are mentioned by the people in which the monks disregard their rules. In many cases the monks are recruited from the lazy and from those who have some prudent reason for seeking the seclusion of a monastery, though some novices enter from religious motives. The Superiors are much taken up with directing the worldly affairs of their convents, and are often lax. With this *caveat* I give the rules, some of which will be found to contain much excellence.

First, the vows of obedience, chastity, and poverty are considered. A monk must hold his Superior in the place of Jesus Christ, and must obey him in everything except in sin. He must love him in his heart and show his love by his acts. He must do nothing without his permission, nor criticise his administration. He must tell him everything he thinks or does. He must not teach, preach, comment, send or receive letters, accept a trust, lend or borrow, give or ask alms without his Superior's permission.

A monk is expected to subdue his senses in every way. No woman may enter the monastery.

He must hold no personal property or own anything. The property of his relatives should be to him as the property of strangers. (This rule has apparently been relaxed by this congregation. I am told that a monk of St. Isha'ya may now manage a small property of his own with permission of the Abbot, provided that he does not enrich his relations, and that at his death everything goes to the convent.)

The monk must not ask for promotion but should seek the advancement of others. He is urged to show especial respect to those who do not respect him, to avoid judging others, as well as any word which may give pain or arouse suspicion. He is to purify himself from ambition lest jealousy, the destroyer of love, enter his breast. He is not to give way to anger in the time of his trial, but must overcome by patience.

In dress the monks must use only dark colours. The robe is to be of wool, and near the left shoulder is to be embroidered in blue a scroll or

staff, the sign of the Order. The novices are to wear a hair-robe, and the monks a narrow girdle. In sleep no garment below the girdle is to be taken off. The bed is to be that of a poor man.

Each monk must occupy his cell alone, nor can he enter the cell of another without permission. All the cells are to be opened by one key. A monk may not travel alone, but must ask a companion of the Superior, whom he must inform of his route. When in another convent he is to be subject to its Superior. The monks are to eat but twice a day, and then in silence. No meat is to be taken except in case of sickness and by the Superior's permission. (Indulgence has, however, been granted the monks of St. Isha'ya to eat meat Sundays, Mondays, Tuesdays, and Thursdays. The Beladiyah also have a yearly Papal indulgence to eat meat. All now smoke and drink wine.)

Work is enjoined upon all. A monk may not vary his work without permission. Silence is always recommended, but is required between the second and third times of prayer, at table, and in church. Much silent prayer is recommended, but those who are wearied with much labour are excused. Oral prayer is necessary at the seven fixed times: 1. Evening prayer. 2. Sittar, or before bedtime. 3. Midnight. 4. Dawn. 5. Third hour of the day. 6. Sixth hour. 7. Ninth hour. On Wednesdays, Saturdays, and on the Feasts of the Virgin, the Litany of Mary must be said. Psalm li. is to be repeated five times on Wednesdays and Fridays, and on other days the Pater and the Salutation of Mary five times. Confession must be made at least once a week. The monks should always be ready for communion in deed and desire. They must commune on Sundays and on the Great Feasts, unless too many of these occur in one week, when, out of respect to the Sacrament, the Superior advises the monks to abstain. When in sickness a monk must thank God more than when in health. Mortification of the flesh is not to be carried too far.

The novitiate is to last one year (with the Beladiyah it is two), and the novices must be tried in a convent where there are monks observing the rules.<sup>1</sup> Except by especial indulgence a novice may not be under 16 or over 45 years. He must be orthodox in the faith; if born among schismatics he cannot be accepted without the permission of the General. If he has committed gross sin he must show genuine repentance. He must be unmarried; or, if married, he must obtain permission of his wife, from whom he has been separated, before the priests. If a parish priest, he must give up his charge with Episcopal sanction. He must not be diseased, or crazy, or half-witted. Any Superior of a convent who receives a novice with any one of these disqualifications is to be degraded from office for three years.

For eight days after his acceptance the novice is left in a solitary

<sup>1</sup> The Legate has recently ordered that candidates for the Order of the Beladiyah should all be tried in Deir el Na'meh. The number of Novices is said to have fallen off in consequence of this limitation.

place, dressed in the clothes in which he came, to think over the monastic life. He is then robed in the clothes of a novice. His own clothes are carefully preserved. After his vow he cannot claim these, but within an hour of it he may dispose of them as he wishes. Any gifts he makes to the convent must be presented openly before all the brothers. A vote relative to his acceptance is cast by the monks at the end of the sixth, ninth and twelfth month; the first two votes appear only to serve as indications, the last vote alone being determinative. If chosen, he is given three days to decide whether he will take the vows or not. If he decides to vow, he is taken to the church, with at least two monks, before the Superior, who is seated at the altar. The formula is as follows: "I, N., vow before God Omnipotent, and the Abbot-General, the most reverend M., and his successors after him, to observe obedience, chastity, and voluntary poverty till death, according to our institutions and rules. And I also vow on my soul that I will not desire, wish, or accept, either by my own means or by means of others, any rank, be it of our Order or of others, except by the command of the Superiors."

On entering the convent the novice is to make a confession covering his whole past life. He is to confess and commune once a week, and make an especial confession at least twice a year. If a priest, he may say Mass. In the presence of his Superior and teacher he must keep silence, nor can he speak to outsiders save in the presence of a monk. If the Superior or a priest pass by, he must rise with arms folded and stand, looking at the ground till he has passed. If rebuked he must kneel at once, nor offer any excuse till it be asked for. For half an hour a day a teacher is to explain the rules of the monks, the catechism, and the order of oral and silent prayer. If the novices cannot read, they must learn by rote. At table the novices take an inferior position.

The Superior is to choose with great care the monks who are to be consecrated as priests. Candidates for the priesthood are to be carefully instructed, even on days when there is no labour, for the teaching is sacred. Priests must keep all the rules. They are forbidden to serve the parishes or confess outsiders, unless invited by the Bishop. No monk may own or read a book without the Superior's permission.

In every convent there should be a schedule designating the hours for rising, sleeping, meals, and prayers, and assigning the manual labour. Strangers are not to eat with the monks in the refectory, or, if eating there, take their meals before or after the brothers. A monk going out of the convent must have a companion; he is to avoid the travelled ways, shops, and markets; he should not cultivate the friendship of Government officials.

No new convent can be founded without permission of the Patriarch and the Bishop of the diocese. Superiors may not sell endowed land, or run the convent into debt. If a monk receives an inheritance it goes entirely to the convent, but the use of part of it, such as books, may be reserved to him, provided it does not create jealousy. The endowed property of one convent cannot be transferred to another, but the General



Superior may use the revenues from gifts and the labour of monks for poorer convents. He may also for good cause transfer monks from one convent to another. (I am told that monks often follow a popular Superior from monastery to monastery.)

A long section is devoted to the obedience due to the Patriarch, who is to be regarded as a father and consulted on all essential points. The next speaks of the value of unburdening the conscience to the Superior, an act not identical with confession, but voluntary. The Superior may not act on knowledge thus acquired. He is to put searching questions, as—Is the monk content with his state? Does he keep the rule? Does he love to pray?

On the 17th of January occurs the Feast of St. Antony, when a solemn service is held, at which the monks renew their vows, the Superior first standing forth and repeating the formula in a loud voice. When a monk is very ill he must confess and commune. In the special room for the sick there is an altar, with a consecrated wafer always upon it. On the death of a monk, every priest in every convent is to say a Mass for his soul. When the Pope or Patriarch dies, a funeral service is held in every convent. Monks are to be buried in the convent cemetery in their clothes. (I am told that dead monks are carried to the church on a fleece, and then buried in a vault, but not put in a coffin.)

Five years after taking the vows a monk may, if he wish, lead the life of a hermit, temporarily or permanently, in a cell at some distance. If among the hermits there is no priest they must attend the convent church, which at any rate they must visit at Easter and Christmas, when they may dine at the general table. The hermits are served with food and water by an especially appointed monk. They cultivate plots of ground; the Superior is warned against letting monks take to the hermit's life through laziness. (Hermits are actually found in certain parts of the Lebanon. They spend much time in prayer, sleep on the ground, wear iron girdle, and hair cloth shirt. Their Arabic name signifies prisoners. Some are said to mortify the appetite by gazing longingly at luscious grapes, of which they deny themselves the taste.)

The Book of Rules treats at length of the duties of officials. At the General Council, convoked once in three years, is elected the Abbot-General. He has general charge of the Brotherhood; he may control the conduct of Superiors in their convents; the Superiors are to make accounts with him twice a year; he may not abolish a convent, but he may buy and sell property, if it is beneficial; he may temporarily close a convent; he may impose and remit punishments; if necessary, he may suspend temporarily certain rules; by consulting the Patriarch, he may for cause convoke the General Council before the time; at the Council he has the casting vote; he may accept and reject novices; he hears complaints against Superiors; he must appoint a deputy, who will take his place at death till a successor be elected; in the churches of the Order he may bear the mitre and staff. He must visit in person or by deputy all the convents once a year; keep a list of the monks, and

inform himself of their conduct. He dwells in the convent chosen for him by the General Council, but does not displace its Superior.

The Abbot-General is aided in his labours by four Directors, whom he is obliged to consult in some cases. There are also Local Superiors, having the convents of their districts in charge.

The Heads of convents are elected once in three years by the Abbot-General and the Council of Directors. The Head is to choose at least three monks as advisers, who aid but cannot control him. The slightest details of the convent should be his care, even to keeping the gate-key after bed-time. He must see that no fire-arms, musical instruments, or bad books are admitted. Twice a year he must visit the convent properties, and once a month make an account with the steward who has charge of the revenues. After his secular duties are over he may preach and confess. He is urged to do menial services occasionally.

The Steward should acquaint himself with all the property of the convent, lands, cattle, goats, &c. With the peasant *shrik* or partners he is to make monthly accounts. He is to receive the alms given to the convent. His temporal affairs do not excuse him from his spiritual duties. In his contact with the world he is urged to try to improve it. He must take care that the dependants are instructed to be good Christians.

The appointed preachers are to learn by heart some portion of the Bible every day. They should read Church History, the Lives of the Saints, and Commentaries. They should not preach without preparation, but write their sermons and commit them to memory. They are to be peace-makers.

The duties of the Confessor and Sacristan are described. The Librarian is to make a catalogue, if the books are numerous. He is to register the names of monks who draw books, with the date. No monk may draw a book without the Superior's permission, nor an outsider without permission of Council.

The Steward of the Sick is urged to attend to his duties with patience. He is to carry out the doctor's orders; to watch the stages of the disease; to read good works to the patients; to admit brothers to the sick room for spiritual converse, and to instruct the Sacristan to ring the bell when a monk dies. The funeral is to take place twenty-four hours later.

The Porter is to keep the convent gate constantly closed. He is not to open the door until he decide from the window whether it be necessary. If a monk is called for the Superior must be consulted. Entrance of outsiders to the convent, and especially to the brother's corridor, is not to be encouraged, unless they be men of position or distinguished clerics. Occasionally at night the Superior is to examine the doors, which are not to be opened then for any reason, except at his command. The Porter is to hand all letters to the Superior, who will decide whether it will be best to deliver them to those addressed. Women are to be briefly dismissed, or referred to the Sacristan, who may attend to their business outside the convent. (In twice visiting a convent of this

Order I have found the gate open, and was admitted freely to its different parts. These rules were framed when the Lebanon was the scene of constant wars among the feudal nobles.)

The Steward of the Clothes is to care for those as for the garments of the poor of Jesus Christ. He is to mark the clothes of each monk, attend to the washing, and every Saturday night put clean clothes in each cell.

The duties of the Steward of the Store-room and of the Cells are explained. The readers in the refectory are appointed to read to the monks while they eat. The Bible, Church History, the Lives of the Saints, and monastic works are to be used.

The General Council of the monks of Mar Isha'ya is held once in three years in October, on the anniversary of the first Council of the Order. The Superior of the convent where the Council is held is to make all things ready beforehand. No one is to enter this convent until three days before the opening of the Council, except such as come from beyond the seas. The money for the expenses is collected by the various Superiors from the clergy and people. Besides the Abbot-General and the Directors with their deputies (if ex-Directors) all Heads of districts and of convents must be called to the Council, and have votes. All those who have formerly filled the office of Abbot-General and of Director are to be present; each Superior of a convent is to bring a companion, elected by its Council.

The Council lasts seven days. During the first three days the general condition of the Brotherhood is examined and necessary changes or additions are made. Any one is free to make suggestions. During this time the Superiors make accounts with the Directors. On the fourth day the altar in the church is especially ornamented, and the solemn and secret business of electing the Abbot-General is entered upon. The retiring General presides. After chanting the Litany of Mary he delivers up his seal to the Directors, asking forgiveness for all faults, and proceeds to write his vote. The rest follow in order of rank. The votes are cast in a box, and then taken out and counted by the General, the Directors, and two monks. A majority of votes is necessary for election. The General-Elect is proclaimed by the retiring General, or, if the latter is re-elected, by the first Director. The election of Directors follows.

During the remaining three days particular questions relating to the monks are examined, their propositions are judged, and their faults corrected. On the seventh day the doors are thrown open, and all monks may come in to hear read the list of office-holders, the new laws, the names of new monks, and the patrons to be prayed for. The General grants absolution and closes the meeting. Then follows the Council of the General and Directors, at which the Superiors are chosen. The retiring Superiors of districts and convents come into the church, deliver up their seals of office, and retire. The Secretary reads the complaints which have been sent by the monks and others against the Superiors (brought by their companions, sealed), and if the charges are proved the accused are brought in for reproof or punishment. When they have

gone out, a secret election takes place. The Superiors elect are sent for, and on entering they receive seals of convent and the blessing of the General.

The fifth and last section of the rules concerns itself with faults and punishments. Faults are divided into venial, grave, graver and gravest, and are to be punished accordingly. Venial faults are without number and include tardiness, waste of food, complaint against food, making a noise in cell or church; the punishments are: to repeat a psalm, to say a number of *Paters*, &c. Grave faults include quarrelling, habitual profanity, sowing discord, leaving convent without permission, using medicine without consulting Superior, neglect of fasting, upbraiding a repentant brother, &c. These are to be punished by the imposition of special fasts, prayers, silence, genuflexions, &c. Graver faults include neglect of the church fasts, open commission of mortal sin, false accusations, disobedience of Superior, betrayal of convent secrets, continuing to exercise ecclesiastical functions when under the ban, and others. Such sins are punished by loss of vote, disqualification for office, kneeling before door of church, loss of precedence, &c. Among the gravest sins are apostasy, appropriation of money, books and clothes, striking the Superior, however lightly, betrayal of the confessional, use of magic, forgery, exciting rebellion against Superior, accepting preferment from Bishop without permission of Superior. Those committing such sins may be imprisoned in their cells, and may be unfrocked and lose tonsure; but the Superior is to labour with them, remembering the words of St. Antony: "If a brother fall in the water he is to be pulled out and not to be pushed back to destruction."

The sins for which a Superior of a convent may be punished by the General are enumerated, among the gravest being the taking of bribes, the reception of novices who have some disqualification and conspiracy against the General. The faults of the General are punishable by the Council.

If a monk leave the Brotherhood he is to be searched for diligently, and, when found, brought back in love. He is to be deprived of power of voting and of holding office for five years; he is to be imprisoned in his cell for months, and kept on bread and water, and when released for a time is to have a place alone in church and table. If he has cast aside his robes, the General alone may receive him back.

The General alone has power to put under the ban, and shall exercise it rarely. A monk under the ban may not enter the church or eat at General's table, but is to be avoided by all until he repent.

If a monk remain unrepentant after having received every reproof and punishment, including a final six months' trial, the General, with the Directors, may expel him. But the Patriarch must be appealed to for a final decision. Faults which committed three times deserve expulsion are adultery, apostasy, disobedience to Pope or Patriarch, perjury, giving the sacrament to outsiders without permission of the Bishop, &c. But the Superiors are advised to be patient and long-suffering with all offenders.

Of the nunneries, two belong to the Orders of the Beladiyeh and Mar Isha'ya, and are under the charge of their respective Generals. The rest are under the direct care of the Bishop of the diocese. In these, according to the Lebanon Council, the Abbess is elected by the nuns in the presence of the Bishop or his Vicar. The candidate for Abbess must be forty years old. Should no nun of the proper age be found eligible in a certain convent, and should the Bishop deem it inadvisable to choose an Abbess from another establishment, he may lower the required age to thirty. The Bishop is to appoint a Father Confessor for each convent. The Bishop should visit yearly, either in person or by deputy, all the convents under his charge, and with the Abbess and two nuns he should examine all the cells. Special visits should be made as necessity requires it.

In the last chapter it is stated that the General Council has the authority to modify or change the rules, provided that those contained in the first 18 chapters, dealing with principles of conduct, remain intact. Interpretation is left to Superiors. The rules are to be read at table once a month, with the exception of parts 3 and 4 (dealing with officers and the General Council), which should be read once a year.

The aim of this paper is to present facts rather than to moralise upon them, but as so much space has been given to the monastic system, a few words may not be out of place. Regarded as close corporations, the congregations of monks are powerful and prosperous. They own immense properties, which are constantly increasing. In controlling these they are very largely independent. In relation to the body politic, however, they may be said to be useless, or worse than useless. Monasticism justified itself in the early and Middle Ages by noble charities and brilliant learning. The Lebanon monks have developed the instinct of getting and neglected the instinct of giving. The Lebanon is poorer rather than richer for their existence. The great wealth they accumulate benefits the Order always, the country never. While the brotherhoods contain a few good scholars<sup>1</sup> the majority of the monks are ignorant. The wealthy Orders have no great schools for the public benefit. The Jesuits form an organisation of tremendous power, always seeking the advancement of the Order, but benefiting the people in many ways wherever they go. The Maronite monastic system is also a vast machine, capable of doing much public work, but, unlike the society of the Jesuits, it leaves it undone. Nor are the monks an example in any way to the people in religion and morals. Hundreds of Lebanon youths who might otherwise be of some benefit to their country in active life are withdrawn from this usefulness. Indeed, it would be difficult to name a single benefit which the Maronite people to-day receive from the Maronite monks.

<sup>1</sup> For a list of past Maronite scholars, see the pamphlet of Notain Derauni.

(To be continued in July "Quarterly Statement.")

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## NARRATIVE OF A SECOND JOURNEY TO PALMYRA,

including an exploration of the Alpine regions of Lebanon and Anti-Lebanon, and the southern half of the Nusairy Chain.

By Rev. GEORGE E. POST, M.A., M.D., F.L.S.

THE object of this journey was to examine and collect the midsummer flora of the higher mountain regions and the desert, and to complete the survey of the physical geography of these regions. My companions were Rev. Harvey Porter, B.A., Professor of History in the Syrian Protestant College, and Mr. Alfred Day, M.A., Instructor in the Natural Sciences in the same.

*Monday, July 7, 1890.*—Our first camp was at Khan Muzhir, on the summit level of the Damascus Road as it passes over Lebanon. From this point there is a beautiful view over the great amphitheatre of Ḥammâna, with Jebel Kenîseh and Jebel Şunnîn for a background, and the Metn and Shûf on either flank. In the immediate neighbourhood of Khan Muzhir are numerous storehouses of snow. They are partly excavated in the sides of the hills, and partly built with thick walls, to prevent the heat of the summer's sun from reaching and melting the snow. The snow is collected from the adjacent hills, and shovelled in at a hole in the roof, and packed down until the storehouse is full. It becomes consolidated by pressure and freezing into a conglomerate, which is afterwards quarried out from the base by means of picks and spades, and carried down in carts to Beirût.

*Tuesday, July 8.*—At an early hour in the morning we were in the saddle, and rode around the hill above Muzhir to the fields at the base of Jebel Kenîseh. Around our camp, and on the way to the base of the peak we collected *Cousinia Libanotica*, Boiss., *Bromus variegatus*, M.B., *Prangos asperula*, Boiss., *Vicia angustifolia*, Roth, *Onobrychis Cadmea*, Boiss. (new for Lebanon), *Salvia verbascifolia*, M.B.

Jebel Kenîseh consists of an oblong mass, about 5 miles long, rising to a height of 1,500 or 2,000 feet above the pass of the Damascus Road. An extensive ruin on its top, which I hope hereafter to investigate, has given it the name of Jebel Kenîseh (*Church Mountain*). The ascent is steep, but quite practicable on horseback. We rode to the summit from Khan Muzhir in less than two hours. The barometer at 9 a.m. read 23.6 at the western end of the ridge, which is several hundred feet lower than the eastern. Height, 6,600 feet.

While resting on the top we had a fine opportunity to study the physical conformation of Lebanon. Imagine a ridge 100 miles long, along the whole watershed of which, with the exception of a few miles, the writer of this article has ridden. For 10 miles the northern end of this ridge is over 10,000 feet above the sea. For another 10 miles it is between 7,500 and 8,000 feet. Then for 20 miles it sinks to an average of

from 6,500 to 7,000 feet. Then it rises in the grand truncated cone of *Jebel Sunnîn* to over 8,500 feet. Again it sinks to the plateau between *Sunnîn* and *Kenîseh*, to about 6,000 feet. The highest peak of *Kenîseh* rises again to nearly 7,000 feet. Then comes the pass of the Damascus Road at *Khan Muzhir* 5,022 feet. Then the ridge of *Jebel Barûk* and *Jebel Niha*, over 40 miles long, about 6,500 feet, the latter ending in the picturesque *Twins* (*Tomât Niha*). Finally *Jebel Rihân*, which sinks gradually to the level of the plateau of *Merj 'Ayûn*. *Jebel Kenîseh* and *Jebel Sunnîn*, at the centre of the chain, although not the highest, are, from their isolation, far the most imposing peaks.

From the main chain a series of spurs runs a more or less westerly course for from 15 to 25 miles to the maritime plain, or in some cases to the sea itself. These spurs form four magnificent amphitheatres of mountains—that of *Sîr*, of *Beshherri*, of *Afqa*, and of *Ûammâna*—and a multitude of deep, often exceedingly wild, gorges, into which torrents leap from the heights, and rush in mad career to the sea.

As the strata of the flanks of these gorges dip slightly toward the sea, the water stored in the reservoirs of the main ridge finds its way in rocky channels along them, and breaks out at various levels into perennial fountains. By every considerable fountain is a village, often clinging to the almost perpendicular rocks, the roof of one house forming a terrace for the one above. Almost the whole population of Lebanon, about 200,000 souls, is found on these spurs, and in the valleys between them.

The watershed of the chain is near its eastern border, and thence the mountain descends steeply, in some places precipitously, to the valley of *Cœlesyria*. Where there are spurs they are short and rugged, and the ravines carry only winter torrents. There is, however, a wooded plateau half way from the *Zohr-el-Qodîb* to the *Buqa'*, which encloses between it and the main ridge, the lonely valley of *'Ain-Ata*, and the only two lakes of Lebanon, those of *Yamûni* and *Zeinîyeh*. The valley of *Zahleh* is the only one which at all resembles those of the western slopes of Lebanon. There are few fountains on this face of the range, and very few villages, except at or near its base.

At the top of the range of *Zohr-el-Qodîb*, and the succeeding ranges as far as *Kenîseh*, are immense numbers of funnel-like depressions, in which the snow lodges in winter, and from the bottom of which the water trickles into the great reservoirs in the heart of the range. The fertility of Syria depends on the wonderful provision thus made for collecting and storing snow, to be gradually melted and distributed in the fountains even of far distant parts of the land.

On our way up *Kenîseh* we noted *Berberis Cretica*, L., *Hypericum helianthemoides*, Boiss., *Cerasus prostata*, Koch. *Prunus ursina*, Ky., *Cotoneaster nummularia*, F. and M., *Sedum album*, L., *Astragalus deinacanthus*, Boiss., *A. cruentiflorus*, Boiss., *Eryngium Billardieri*, Lar., *Asperula breviflora*, Boiss., *Centranthus elatus*, Boiss., *Morina Persica*, L., *Chamaepeuce Alpini*, J. et Sp. *Scorzonera* (sp. near *Makmeliana*, Boiss.), *Gundelia Tournefortii*, L. *Cousinia Libanotica*, Boiss., *Centaurea Iberica*, *Podanthum*

*lanceolatum*, Labill., *Acantholimon Libanoticum*, Boiss., *Vinca Libanotica*, Boiss., *Phlomis brevilabris*, Boiss., *Stachys Cretica*, Sibth. et Sm., *Teucrium Polium*, L., *Daphne Olæoides*, *Bromus variegatus*, M.B., *Melica ciliata*, L., var. *Nebrodensis*, Boiss.

From Jebel Kenîseh we crossed to Jebel Barûk by the pass over which the Damascus road winds. Just beyond the pass we came upon a cool spring, 'Ain-el-Beïda, by the side of which we took our lunch. While we were thus occupied several woodmen, with donkey loads of brush, passed us. They had been cutting in the scrub, which goes by the name of forest, on the eastern flank of Jebel Barûk. Near this fountain we found *Phlomis rigida*, Labill. (new for this region), and *Stachys Libanotica*, Boiss.

From 'Ain-el-Beïda we zigzagged up to the top of the ridge of Jebel Barûk. Nothing could be more exhilarating than to ride a good horse along the ridge, 6,500 feet above the sea, for the most part over a hard gravel or shingle, with the mountain range unfolding before us, and to the east and west a panorama of magnificent proportions, changing with every point of view. The ridge is so narrow that in many places we could look down to its base on both sides. To the west, 2,500 feet below us, were the picturesque villages of 'Ain Zehaltah, Barûk, and Mukhtarah, and beyond them range after range of mountains, dotted all over with villages nestling among their mulberry orchards, and far away the dun-coloured sandhills of the coast, and the blue waters of the Mediterranean. To the east was the beautiful plain of the Buqâ', chequered with green patches of maize and sorghum, and the rich umber-coloured soil between, with Anti-Lebanon and Hermon for a background.

Every mile or two we came upon a grassy meadow, from which a snow-drift had lately melted, leaving a tuft of the dwarf *Phleum pratense*, L. var. *nodosum*, Boiss., *Lotus corniculatus*, L., var. *alpinus*, Boiss., (a lovely species with flowers variegated with yellow, orange, and crimson), and *Veronica Orientalis*, Mill. In one of them we found a quantity of the Lebanon Alpine Rose, *Rosa glutinosa*, Fl. Gr. (a species with pink flowers an inch broad, and deep crimson fruits), *Ranunculus Schweinfurthii*, Boiss., and the dwarf cherry *Cerasus prostrata*, Labill. (a whole tree of which is but six inches to a foot in diameter, and from two inches to six in height). In another, in which was an inundated meadow, but lately dried, we found *Barbarea minor*, C. Koch, *Podanthum lanceolatum*, Labill., *Melica ciliata*, L., var. *Nebrodensis*, Boiss., and *Thlaspi* sp. In still another we found *Astragalus emarginatus*, Labill. (so well figured in Labillardière's work a century ago), *A. pinetorum*, Boiss. (new for this part of Lebanon—we found it a month later at the Cedars), *A. coluteocarpus*, Willd., and *Evax Anatolica*, Boiss. et Held.

On the Qal'at-el-Bizzeh, a mamillary projection plainly visible from Beirût, and the most prominent peak of this part of the mountain, we found *Nepeta Cilicica*, Boiss., and *Atraphaxis Billardieri*, J. et Sp. On a rocky peak, growing in a cleft, we found a small tree of *Rhus Coriaria*, L. Among the rocks everywhere *Pimpinella Tragium*, Vill., var. *depauperatum*,



*Boiss.*, *Pyrethrum tenuilobum*, *Boiss.*, *Achillaa odorata*, *Koch*, *Zizyphora clinopodoides*, *M.B.* Less abundant was *Leontodon asperinum*, *Willd.*, *Scorzonera Makmeliana*, *Boiss.*, *Scutellaria fruticosa*, *Desf.*, *Ballota saracensis*, *Sieb.*, *Phlomis brevilabris*, *Ehr.*

We rode on for four hours on this breezy mountain top, breathing the invigorating air, feasting our eyes on the wonderful prospect, and filling our portfolios with rare and beautiful plants. As sunset drew near we made a somewhat breakneck descent of 2,000 feet down the shingly side of the mountain to where our tent was pitched for the night by the copious, almost ice-cold, fountain of Neba' Barúk. The fountain is a considerable brook, welling up through the gravel. It is the source of the Awwali river, which empties into the sea north of Sidon. The ground under our tent turned out to be a large ants' nest. As it was too late and inconvenient to change the position of the tent, we tried pouring hot water into the ant-holes, with little effect, however. After sunset they disappeared, and the next day we were away before they began their morning's work.

*Wednesday, July 9.*—We rode from Neba' Barúk straight up the mountain side to the Cedars. These trees, although far smaller and less picturesquely situated than those of Basherrí, are much more numerous, extending for several miles along the side of the mountain towards el-Ma'âsir. The largest of them measured 27 feet in circumference just above the ground. We lay down for a few minutes under the shade to rest ourselves and our horses, and then pressed on through the grove to the bare top. Among the shingle near the top we found *Draba vesicaria*, *Desc.*, and *D. oxycarpa*, *Boiss.*, and on a rocky hillside *Tragopogon buptalmoides*, *Boiss.*, *var. humile*, *Boiss.*

The highest point of the ridge is flat, and paved with slabs of grey limestone. The barometer at 10 a.m. read 23.68; height, 6,500 feet. During this morning's ride we came across few of the green alps which had so charmed us on the previous day. Most of our way was over shingly rolling hills. Between the Barúk mountain and that of el-Ma'âsir is a depression several hundred feet deep. Halfway down the hill I encountered *Convolvulus Libanoticus*, *Boiss.* The ascent on the opposite side of the pass brought us to the top of Jebel-el-Ma'âsir, where the barometer read 23.6; height, 6,590 feet. A little farther on, among the shingle, we found *Dianthus Haussknechtii*, *Boiss.* (a wanderer from the alpine peaks of central Asia Minor, a small, white-flowered species with needle-like leaves), also a delicate species of *Allium*, perhaps *paniculatum*.

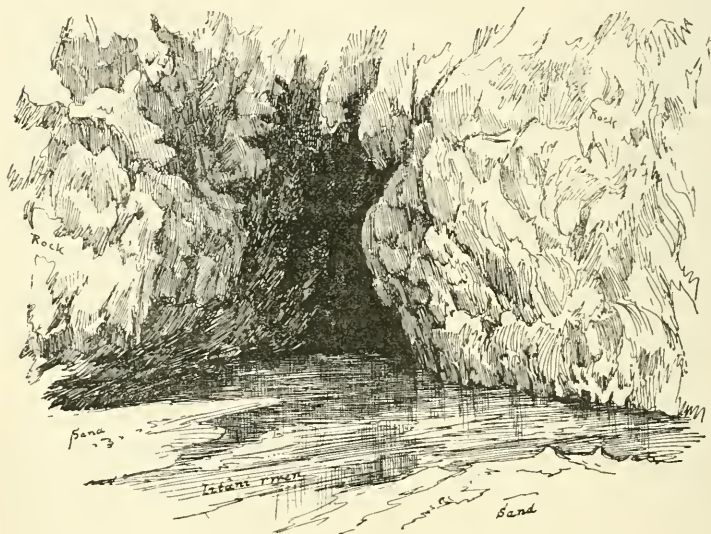
After eight hours' riding along this ridge, and exploring every part of its summit, we made our way obliquely down the eastern flank of the mountain to 'Aitanîth, where we had directed our muleteers to pitch for the night. 'Aitanîth is one of a range of flourishing villages, situated a few hundred feet above the Cœlesyria plain, where the air is free from the malarial taint of the lands along the Leontes.

*Thursday, July 10.*—After a refreshing night's sleep we made an

early start for Haşbeyah, by way of the Natural Bridge called *Jisr-el-Kurwah*, and thence over the *Jebel-ez-Zohr*. The road out of the village of 'Aitanîth is as bad as it well could be. It consists of a dyke of loose stones thrown out from the gardens. The horses' hoofs sink in them to the fetlock joints at every step, and the motion is equally painful to the rider and to his animal.

On the plain we met with *Falcaria Rivini*, *Host.*, and *Centaurea onopordifolia*, *Boiss.* We passed some rock-hewn tombs near a small village.

The *Jisr-el-Kurwah* is a couple of hours south of *Jisr-el-Qur'aun*. It is a dyke of limestone rock a few feet broad across the canyon of



The tunnel through which the *Litâni* flows under the dyke.

*Litâni*, under which the river has forced its way, and flows out of a cave-like opening. It is not by any means as impressive as the natural bridge near *Nahr-el-Lebben*. The dyke is not more than 80 feet high, and the opening under it not more than 6 or 8 feet broad and high. The canyon resembles that of the *Visp* above *Stalden*, being a deep, narrow channel with perpendicular or overhanging walls, at the bottom of a much broader valley with usually sloping walls several hundred feet in height, scooped out of the tableland of *Cœlesyria*. Barometer at 10 $\frac{3}{4}$  a.m., 27.33; height, 2,400 feet.

Hanging to the face of the rocks were fine specimens of *Alyssum argenteum*, *Wittm.*, and by the water large quantities of *Maiden's Hair*.

We had heard much at 'Aitanîth of a *Mutawâli* highway robber

named *Dīb*, who had committed unheard of atrocities. According to some he had made away with a flock of sheep, ruthlessly murdering the shepherds. According to others he had waylaid and robbed many persons, and was by no means particular about sparing the lives of his victims. We could not obtain accurate information of the whereabouts of the redoubtable Robin Hood, as he naturally would not issue bulletins that might assist in his capture. But it was generally thought that he lay in wait somewhere between this bridge and *Haşbeyah*. As we approached the bridge we kept asking those we met whether they had any news of him. The accounts gradually grew less and less formidable. The flock of sheep became a few lambs; the murdered men had only suffered from flesh wounds. The property stolen was hardly worth carrying away. The shepherd who acted as our guide at the Natural Bridge brought the outrages down to the theft of a single lamb, and he could not tell us when or where that one had been stolen. Although we kept a bright look-out all the way up from the bridge to the tableland above, we saw no robber and experienced no alarm.

After a bath in the *Litâni*, and taking a photograph of the bridge and the cavern, we wound up the steep ascent to the neighbourhood of the *Mutawâli* village of *Yaḥmûr*, and lunched under a wild pear-tree just outside the threshing floors.

We then rode through the fields, up a valley, into the heart of the *Jebel-ez-Zohr*, a long, chalky ridge which separates *Coelesyria* from the *Haşbâni* valley. In my botanical journeys through *Syria* I ignore as much as possible the regular roads, and ride through forests, over mountains, and into ravines, by any path which goats can traverse. Nature loves to conceal her beauties and reward her votaries by treasures not to be found along the beaten tracks of travel. Pursuant to this plan we rode through the wheat fields, and when half way up the retired valley came suddenly on horses picketed in the bushes, and a party of men lying in the shade. Remembering the story of *Dīb*, we were at once on the *qui vive*, but we soon found that they were a party of harvesters, whom we saluted, and then passed on to the top of the *Jebel-ez-Zohr*, the height of which we unfortunately neglected to take. From this commanding eminence is obtained the grandest of all the views of *Mount Hermon*. It rises to a height of 7,400 feet above the *Haşbâni* valley, and every detail of its conformation can be studied at a distance which seems, in certain states of the atmosphere, not more than a mile or two. We sat down under a bush on the edge of a rock, and sipped our afternoon tea while overlooking this magnificent view. It was with considerable reluctance that we commenced our *dégringolade* from this eyrie into the *Haşbâni* valley.

We arrived in *Haşbeyah* at 5 o'clock in the afternoon. To our chagrin we found that our muleteers had pitched by the Christian cemetery, instead of on the *Midân*, as we had intended. On our arrival we called on the chief of the *Druzes*, *Salīm Bek*, to inquire into the state of *Haŭrân*, which we had intended to include in our journey. He strongly

dissuaded us from going there while the difficulties between the Government troops and the Druzes were still unsettled. His advice was afterwards confirmed by the Mohammedan Amîrs of the Shehâb family.

After a surgical operation on the grandson of Salîm Bek for harelip we went down to our camp. In the evening we went down to the seraglio, and had a pleasant visit with the Shehâb family. This family claims a pedigree going far back of the Mohammedan conquest, some of them claiming for it 4,000 years of unbroken tradition. It has certainly borne rule around the roots of Hermon for not less than 600 years. The largest branch of it is now in Lebanon, where they profess the Christian religion according to the Maronite rite. The family in Hâşbeyah now numbers somewhat less than 100 souls.

There is another family of some forty persons in Rasheya. These two branches of Mohammedans intermarry, and for many generations have intermarried only with each other. Here is a fine specimen of close breeding in and in. Of this small community in Hâşbeyah four are insane, several have scrofula, and hardly any are of fine physique.

*Friday, July 11.*—The next morning we spent in sundry repairs of horse-trappings, shoeing, an inevitable clinique, a call on Sit Naïfi, the chief lady of the Druzes (sister of Sa'îd Jimblat's wife), and a dinner with Dr. Debaghi. At 2½ p.m. we started for Shib'ah.

At a distance of half an hour from Hâşbeyah we reached the Druze place of worship, called the *Bayyâdah*. It consists of a group of flat-roofed houses on a conical hill, commanding an extensive prospect in the direction of Hermon. The principal building contains their assembly hall, a large unfurnished apartment, in no way resembling a church or mosque, and is surrounded by dwelling-rooms and porches. The family of the guardian occupies one or more of these rooms, and the remainder are reserved for guests. The guardian was seated on a mat in one of the porches, reading, when we came in. He politely offered us a seat, and allowed me to glance at the book, but, seeing that I could read Arabic, he almost snatched the book from my hand, and put it away in a closet. I did not, from the brief glance that I had of the book, make out its scope.

Around the house are numerous trees, and around several of them are stone divans and paved areas. The remaining houses are of much ruder construction than the central one, and are used for the accommodation of guests.

From el-Bayyâdah we dropped down to *'Ain-el-Jerfah*, on the slope of the hillside, and crossed the rocky and wooded wadi to *el-Hibbarîyeh*, where there is the ruin of a small temple. Thence we rode up the rugged Wadi Shib'ah to the village from which it takes its name. For the first half of the way the path passes over the rocks high above the torrent, along the course of which are planted many fine walnut trees. It then crosses the right bank, and soon after the valley makes a sharp turn to the left, and at once changes its rugged aspect, and broadens out into a series of fertile and beautiful gardens and orchards. Just below the

village is a cool, limped fountain, by the side of which a number of natives were enjoying their *keif*. Above the fountain is a fine grove of old walnut trees, among which, by the side of a swift-flowing brook, we encamped. This grove is a couple of hundred feet or so lower than the village.

Just before the sharp turn of the valley we met with *Phlomis chrysophylla*, Boiss., and at the turn *Acer Monspensulanum*, L., and *Rubia Olivieri*, Boiss.

Saturday, July 12.—At 7 a.m. the barometer stood at 25.23, height 4700 feet. Our train took the direct road up to *Qaṣr 'Antar*, while we turned to the south, and gradually ascended the left flank of the wadi until we reached a shoulder over which the road passes, at a distance of about half an hour from Shib'ah. Here we turned to the left, and pressed up the face of the mountain. At this point we found *Phlomis chrysophylla*, Boiss. (Arabice *Musseis*), *Styrax officinale*, L. (Arabice *Libnah*), *Echinops* (Arabice *Shauk-el-Libbâd*), *Centaurea Iberica* Trev. (Arabice *Dardâr*), *Eryngium Creticum*, L. (Arabice *Qurs-'Annî*), *Rosa dumetorum* Thuill. (Arabice *Sureim*). As we mounted higher we encountered *Cousinia Hermonis*, Boiss., *Euphorbia erinacea*, Boiss., *Allium* sp., *Astragalus gummifer*, L.

After reaching the top of the ridge above Shib'ah we rode for half an hour over a rugged plateau, then down a steep descent, and then by a stony path up a shallow valley to the top of the main ridge of southern Hermon. Just over the crest of this ridge we saw our first snowdrift.

We then rode along the ridge until we came to a broad cleft which separates it from the mass of Hermon proper, and through which passes a well-travelled road, leading into the *Wadi-el-Mughannîyeh*. We made our way down to the pass, and took our afternoon tea under the shadow of some cliffs to the right of the road. There we found *Ferulago frigida*, Boiss. (Arabice *Sallû*), *Silene odontopetala*, Fenzl., *Scutellaria utriculata*, Labill., *Scrophularia variegata* M.B., var. *Libanotica*, Boiss., *Erysimum scabrum*, D.C.

We followed this road westward for about a mile, and then turned sharply to the right, and ascended to the crest of the ridge, and made our way along it to the top. On our way we collected *Sideritis Libanotica*, Boiss., *Ranunculus demissus*, D.C., *Linum toxicum* Boiss., *Astragalus cruentiflorus*, Boiss., *A. echinus*, D.C., *A. hirsutissimus*, D.C., *A. lanatus* Labill., *Eryngium Heldreichii*, Boiss., *Potentilla geranioides*, Willd., *Asperula glomerata*, M.B., *Pyrethrum densum*, Labill., *Centaurea arillaris*, Willd., *Podanthum lanceolatum*, Labill., *Crepis Robertioides*, Boiss., *Phacopappus Libanoticus*, Boiss., *Nepeta glomerata*, Montb., *Acantholimon Libanoticum*, Boiss.

When we reached the last hollow below the summit, at 6½ p.m., we found to our dismay that the muleteers had pitched our camp in it by a snowdrift, instead of on the level place between *Qaṣr 'Antar* and the western peak, as we had directed. Late as it was, however, we made

them remove our tents to the top, and by 9 p.m., we were installed in our camp at a height of 9,700 feet above the sea. While we were awaiting our tent we observed the sunset, and the immense conical shadow of Hermon on the eastern table-land. We also collected *Fritillaria Hermonis*, Boiss.? *Teucrium Orientale*, L., var. *alpinum*, Boiss., *Paracaryum myosotoides*, Boiss., *Melica ciliata*, L., var. *Nebrodensis*, Boiss., *Verbascum Damascenum* Boiss., *Eryngium Heldreichii*, Boiss., *Papaver Libanoticum*, Boiss.

The barometer read 21.1 at the top of Qaşr-'Antar as well as at the top of the eastern peak. The night was quite cold, and we were glad of all our wraps.

*Sunday, July 13.*—All around our camp was a blooming garden of *Alsine juniperina*, Fenzl., a lovely alpine flower, growing in tufts a foot in diameter. Several acres of the mountain top were covered with low bushes of *Astragalus cruentiflorus*, Boiss., *A. Hermonius*, Boiss., *A. angustifolius*, Lam., *A. echinus*, D.C., and *Onobrychis cornutus*, L. In the evening the muleteers set fire to an acre of these bushes, making a grand effect of flame and smoke, which must have seemed quite volcanic from Damascus.

We enjoyed a well-earned day of rest on this lonely mountain top. During the morning a couple of goatherds brought their flocks to our tent, and we obtained from them a supply of milk for the day and the next morning.

Toward evening three well-appointed horsemen rode up to our tent, and the leader introduced himself as a sheikh from El Khîyam, in Merj 'Ayûn. He had come from his village, at a distance of fourteen hours away, to get the doctor to go down to see his brother, who had had a stroke of paralysis. As this visit would have involved a delay of three days, we concluded not to go. We had the good excuse that competent physicians could be had from Haşbeyah, Judaideh, and other towns within easy call, while our journey was in part undertaken with a view to escape this class of responsibilities. Nevertheless, the sheikh was quite resolute in his urgency, and after he had actually gone several hundred yards on his return journey he turned back to beg once more that we would change our decision. It was with great reluctance that we finally decided not to accompany him. Seven months later the same sheikh called us to see another brother in the same village, and during the visit we saw our former would-be patient, quite restored to health, and received from his own lips a pleasant response to our apology for not having visited him in his hour of need. He seemed quite to understand the points of the case, and the fact that we visited and relieved his brother showed that we had no indisposition to serve him.

At sunset we had another opportunity of observing the conical shadow of Hermon over the eastern plain, and the wonderful play of light and shade over the mountains.

*Monday, July 14.*—We were up betimes in the morning, and saw the sun rise out of the great plain, and cast the shadow of the mountain, first

on the morning mists over Cœlesyria, then on Lebanon. Early as we had risen however, we were not too early for a clinic above the clouds. Three men had come up from Shil'ah, bringing with them on donkeys two sick men, who had ridden most of the night to see the doctor. Unfortunately, there was little to be done for them, except to recommend them to come to the hospital in Beirût. One was so far gone with dropsy that it was doubtful whether he could receive any benefit whatever from treatment.

After taking one more look from each of the peaks we dismissed our train to follow the course of a valley down to Rasheya, and so to Deir-el-'Ashair. The watershed of the ridge of northern Hermon trends to the north-east. We followed it for a short distance, and then bore off more to the northward, crossing the road from Rasheya over Hermon, and then turning north-westward toward 'Aïhah. Just as we crossed the Rasheya road, a hen partridge, with a brood of chicks, hopped up the rocks hardly a stone's throw from us. A little farther on we overhauled a man going the same way as ourselves, who accompanied us all the way to 'Aïhah. While on the higher peaks we collected *Onosma Aleppicum*, Boiss., *Erodium trichomanefolium*, Lher., *Eryngium Heldreichii*, Boiss., *Acantholimon Libanoticum*, Boiss. As we descended to the level of the foot hills the air became oppressively hot. In the valleys of the foot hills we collected *Galium uurcum*, Vis., *Pimpinella corymbosa*, Boiss., *Glycyrrhiza glabra*, L., var. *glundalifera*, Boiss., *Cephalaria stellipilis*, Boiss., *Lotus Gebelia*, Vent., var. *villosa*, Boiss., *Scrophularia xanthoglossa*, Boiss.

We arrived at 'Aïhah at noon, parched with our long ride, and glad to find a cool spring where we could drink and water our jaded horses. We sat down to lunch under the shade of a large walnut tree. The Druze inhabitants brought us some poor lebben. The barometer at noon read 25.13, height, 4,860 feet.

After an hour's rest we started up the valley to the northward on our way to Rukhleh. Before clearing the vineyards we collected *Hippomarathrum Boissieri*, Reut. et Haussk., and a little way up the valley *Phlomis Nissotii*, L., *Alcea lavateriflora*, D.C., *Verbascum ptychophyllum*, Boiss. Three hours over spurs of the foot-hills brought us to Rukhleh.

The site of Rukhleh is fine, and the view from the temple on the hill is very imposing. Yet one wonders at the erection of such costly buildings in so lonely a spot. Such, however, is very commonly the case in the East, where men seemed to seek for retired sites for their shrines, far from the centres of population and worldly business.

NOTE ON THE RUINS OF RUKHLEH BY PROF. HARVEY PORTER, B.A., OF  
THE SYRIAN PROTESTANT COLLEGE.

There are several ruined temples at Rukhli, but the best preserved are two, one at the top of the village at the west, built into the hill-side, and facing Mount Hermon. The walls are very heavy, some of the stones measuring about 10×4×5 ft., some of them having fragments of

Greek inscriptions. The other temple is situated on lower ground a little to the north-east of the village and faces westward, an unusual circumstance for temples on this side of Hermon. Fragments of Ionic columns are here found and at the south-east corner there is a large medallion face sculptured upon the corner stone of the temple, about 5 feet in diameter. It has been photographed by the American Palestine Exploration Society. On a stone lying along the south wall is the figure of a large animal with outspread wings, resembling those of an eagle, but the head is quite different from an eagle's head, and it is doubtful whether it is that of a bird at all. Near the south-west corner of the temple is an inscription as follows:—

*Inscription on the wall of a Temple at Rukhleh, near Mount Hermon.*

[ΚΟCΥ] ΠΑCCTΙΧΩΝ ———  
 ΤΡΙΩΝCΥΝΔΥCΙ ———  
 ΚΟΙΝΧΑΙCΕΚ—————  
 ΤΩΝΤΗCΘΕ[ΟΥ]  
 ΔΙΑΘΕΥΔΑΙΕ  
 ΡΕΟC

The letters in brackets are doubtful. The beginnings of the lines are pretty regular, but at the left the lines are irregular in length, indicating that letters may be wanting, especially in the three upper lines.

The barometer at Rukhleh at 4 p.m. read 24.5, giving a height of 5,550 feet. As the instrument had had a fall just before we entered the village, this reading is probably incorrect.

We collected *Hypericum nanum* Poir. on the vertical rocks just north of the village, and *Lonicera nummularifolia*, Jaub. et Sp. in a field near by.

After crossing the divide to the north of Rukhleh we entered a charming glen, down which we rode for two hours to Deir-el-'Ashaïr. In this glen grew a great variety of shrubs and trees, prominent among them *Styrax officinale*, L., *Pyrus Syriaca*, Boiss., *Prunus ursina*, Ky.

We arrived at Deir-el-'Ashaïr at 6½ p.m. The situation of the temple, overlooking a fertile plain with a background of lofty mountains, is singularly picturesque. Our camp at the fountain, overlooking both village and temple, commanded a prospect still more imposing. The barometer at 9 p.m. read 25, height 4,260 feet. This reading may also be a mistake.

At Deir-el-'Ashaïr we experienced a difficulty which illustrates the evil of the system of collecting the tithes. The threshing-floors were covered with heaps of winnowed grain, and yet because the harvest was not fully garnered the government inspector would not allow any grain to



be sold, as it is unlawful to do so until the whole has been threshed and winnowed, and the tithe collected. We were obliged to send a couple of hours away to another village, in order to buy barley for our animals. Thus the villagers were prevented from deriving a benefit or conferring one on needy travellers.

*Tuesday, July 15.*—Our way during the early morning hours lay down the Meisellûn Valley to the Damascus road. On our way we collected *Cousinia Pestalozzæ*, Boiss., *Onopordon heteranthum*, C.A.M., *Ankyropetalum Cœlesyriacum*, Boiss., *Carlina corymbosa*, L. var. *Libanotica*, Boiss. At the station of Khan Meisellûn we posted letters home, and then pressed on up the hill north of the Khan. On its bleak sides we found *Centaurea Damascena*, Boiss., *Argyrobolium crotalarioides*, J. et Sp., *Sideritis Libanotica*, Labill., var. *linearis*, Boiss. Over the hill, approaching the Barada Valley, we collected *Euphorbia lanata*, Sieb., and *Verbascum Sinaiticum*, Bth.

After crossing the Barada we began to climb the ridge of Jebel Ruzmah, which overlooks the valleys of Zebedâni and Suq-Wadi-Barada. A few hundred yards above the valley we came upon *Verbascum simplex*, Labill., then *Jurinea Stahelinae*, D.C., both in dry, chalky fields. We chose for our lunching place a shelf of rock overshadowed by a similar shelf a yard above the first, and overlooking the Zebedân valley, 1,500 feet below. Opposite us, 5 miles away, was the western ridge of Anti-Lebanon, and far away over Cœlesyria the lofty chain of Lebanon, with the commanding peaks of Kenîseh, Sumûn, and Makmel towering above them all. Below us lay the fertile plain of Zebedâni, with its numerous gardens and orchards, and the silver stream of the Barada, the main fountain of which was almost opposite our resting-place. From the clefts of the rock we collected *Pimpinella Tragium*, Vill., and *Parietaria Judaica*, L.

Soon after leaving this most charming eagle's nest, we began to meet the alpine flora again. *Acantholimon Armenum*, Boiss et Huet., *Asphodeline Damascena*, Boiss., *Gypsophila Antilibanotica*, Post (a new species), *G. ruscifolia*, Boiss., *Onosma cœrulescens*, Boiss., *Zizyphora clinopodoides*, M.B., var. *canescens*, Boiss. At the top of the ridge are great quantities of *Cerasus prostrata*, Labill., then in fruit. It was a curious sensation to sit down over a tree, or rather a grove of them, and pluck the tart cherries by handfuls from above the grove. The fruit is about as large as an ordinary pea.

There is considerable discrepancy as to the names of the peaks of this ridge of Anti-Lebanon. The following is proposed as a reconciliation of these conflicting views. The high crest, surmounted by a few stunted junipers, which is seen for many miles while ascending the ridge of Jebel Ruzmah, and which crosses it at right angles, and cuts off the view of the peaks beyond is *Thellâjât-Ibn-Halâwi*. This crest, which is ascended from the ridge of Jebel Ruzmah by a valley trending to the north-west, is considerably to the north of Bludân, and a little south of 'Ayûn-en-Nusûr, at the head of the Bludân Valley. The

barometer read at 5 p. m., 22. This must be corrected to 22.65, owing to the fall which the instrument experienced near Rukhleh. This gives the height of the peak, 7,865 feet. Half an hour to the north of this is the jagged summit of *Jebel-esh-Shuqîf*, which we ascended the following day, and from which we will resume the list.

The view from Thehellâjât-Ibn-Ḥalawi is extensive, and gave us a fine study of the physical geography of Anti-Lebanon. To the west the rich valley of Bludân opening out into the plain of Zebedâni, and beyond it the Zebedâni range backed by distant Lebanon. To the east and north the numerous ridges and peaks of the Anti-Lebanon series. To the south the long ridge of Jebel Ruzmah, with its numerous peaks, and far beyond them the towering mass of Hermon.

After enjoying this superb view for half an hour we descended by a breakneck path into the Bludân valley, and reached Bludân at 6½ p. m. We encamped in a plum orchard, near the upper part of the village. Professor West, who was spending the summer in Bludân, re-set my barometer to correspond with the mercurial. It read '62 too low. We spent a very pleasant evening at the hospitable house of Dr. Mackinnon, of the Irish Church Mission at Damascus.

*Wednesday, July 16.*—After some difficulty in obtaining a guide for our train to 'Asâl-el-Ward, where we proposed to encamp for the night, we started at 7 a. m. up the Bludân valley. On the way we met with *Heleocharis palustris*, L., *Ferula Hermonis*, Boiss., *Dactylis glomerata*, L., var. *juncinella*, Hackel = *D. juncinella*, Boiss. (a variety heretofore found only in Spain), *Daphne oleoides*, *Verbascum Cedreti*, Boiss. (new for Anti-Lebanon). A series of springs in swampy ground near the head of the valley is 'Ayûn-en-Nusûr, and to the north-east of them is *Jebel-esh-Shuqîf*. The barometer at its summit at 9 a. m. stood at 22.48, making the height 7,900 feet. The top is rough and splintered. We tied our horses a little below the top, and went up on foot over the rugged rocks.

From esh-Shuqîf we followed a line a little below the ridge to a watershed over which we crossed in a north-westerly direction to *Jebel-el-Akhyâr*. We forgot to take the height of this peak. From its top we obtained a view of a savage gorge, seemingly closed by a conical mountain *vis-à-vis*. A shepherd called the mountain *Jebel-Merj-el-Khanzîr*. He did not know the name *Jebel-el-Akhyâr*. Near the top of *Jebel-el-Akhyâr* we started a covey of scores of partridges, which did not attempt to fly, but hopped and ran up the rocks, and were soon out of sight.

Turning somewhat to the north-east we crossed another watershed, and climbed the *Zohr-Abul-Hîn*, a crest trending north and south, and fringed with trees of *Juniperus excelsa*, M. B. We took our lunch under one of these trees, on a shelf of rock, from which we had a fine view of the Buqa' and Lebanon, as well as of the Anti-Lebanon chains. Near by we collected *Cotoneaster nummularia*, F. et M., and *Euphorbia Chesneyi*, Kl. et Geke. The barometer at 1 p. m. read 22.30, height 8,150 feet. Half an hour beyond *Zohr-Abul-Hîn* we reached *Ḥarf-el-Barak*.

Descending from this peak we came to a ridge four or five miles long,

which connects it with *Harf-Râm-el-Kebsh*. Under the western edge of this ridge is a valley, in which are several springs of good water. The ridge is quite covered with bog-like hemispherical clumps of *Orobrychis cornuta*, and several thorny astragali. Just before we reached the end of the ridge we started a herd of eleven gazelles, which continued in sight for more than half an hour. They were more than once within easy rifle range.

On a sandy hillside, just at the base of the peak of *Harf-Râm-el-Kebsh*, we found *Helichrysum pygmaeum*, *Post* (a new species, with a pretty red involucre), and *Plantago carinata*, *Schrad.*

*Harf-Râm-el-Kebsh* is the last of the series of shelf-like summits of the comparatively level ridge of Anti-Lebanon. Further to the north the range becomes more rugged, culminating in *Ta'ât-Mûsa*, and trending thence northward in a series of conical peaks with steep sides and deep valleys. The *Wadi-es-Şohrîjî* separates this system from the one over which we had ridden. On the top of *Harf-Râm-el-Kebsh* we met with *Asphodeline Taurica*, *Pall.* and *Astragalus trichopterus*, *Boiss.* Our barometer at 4 p.m. stood at 22.62; height, 7,725.

From *Harf-Râm-el-Kebsh* we descended to the *Wadi-es-Şohrîjî*, down which we passed by a gentle grade on a good, well-travelled road for three hours, until we debouched into the broad plain in which is '*Asâl-el-Ward*. In the *Wadi* we found *Ballota Antilibanotica*, *Post* (a new species near *B. savatilis*). It was with great satisfaction that we saw our tent pitched by the village, and reached it after twelve hours of most laborious work for ourselves and our animals. Just before entering the fields about the village we started three gazelles, which continued in sight for several minutes, and then turned a corner into a side gully, and disappeared.

'*Asâl-el-Ward* is a wretched village of a few hundred people. It has, however, a spring of cool, refreshing water, for which we were very thankful.

*Thursday, July 17.*—Barometer at 7 a.m. 24.67, height 5,200 feet. Just by our camp we collected *Cousinia Dayi*, *Post*, and *Placopappus longispinus*, *Post* (both new species), and *Isatis glauca*, *Auch.*, in fruit.

Our train took the direct road northward to *Yebrûd* and *Deir-'Atiyeh*, while we turned eastward to *Ma'lûlah*. Our road lay through a rolling tableland of good grain fields, filled with harvesters. We collected on the way *Verbascum Porteri*, *Post* (a new species of section *Blattaroidæ*). After four and a half hours' ride we reached the convent of *Mar Sarkis*, above *Ma'lûlah*. The barometer at 12 m. was 25, height, 4,800 feet. Our former observation had given us 5,500 feet.

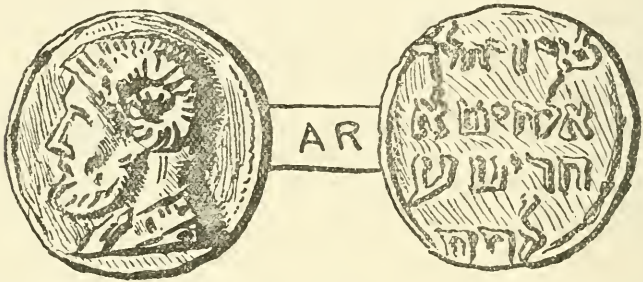
The hillside above the convent is planted with *Sumach* trees (*Rhus Coriaria*, *L.*), used in tanning. Among them we found *Centaurea Balsamita*, *Lam.* (new for this region), *Hippometathrum Boissieri*, *R. et.*, *Isatis glauca Auch.*, *Bupleurum Libanoticum*, *Boiss. et Bl.*, var. *oligactis*, *Post.*

(To be continued in July "Quarterly Statement.")

## A CURIOUS COIN.

SOUTHAMPTON, 6th February, 1892.

THE coin here given full size was sent to me for inspection by V. Barton Hill, Esq., from Bath, and is stated to have been bought from a peasant of Gaza, by Benaiah Gibb in 1848, and to have been ever since in the collector's family's possession. It appears from its weight and colour to be silver. The workmanship is excellent from an artistic point of view, especially the bold relief of the head; and the appearance of age suggests that the medal is genuine. On submitting the drawing to inspection of the Committee of the Palestine Exploration Fund it was found that a similar coin had for some time been in possession of Dr. T. Chaplin,



which proved, however, to be of copper covered with silver. Dr. Chaplin's coin has a better preserved inscription, and from his specimen it is clear (as he points out to me) that the Hebrew reads:—

לא יהיה לך  
אלוהים  
חרים  
לפני

“Thou shalt have no other gods before me.” (Exod. xx, 3.) The publication of the drawing may, perhaps, lead to further information being obtained from numismatists throwing light on the subject. It appears not very probable that such a medal should be a forgery, because of its unique and extraordinary character. Forgers would be well aware that Jewish coins do not give any representation of living forms, such being contrary to the Law. The letters being square Hebrew, cannot be older than the Middle Ages at most, while the head has a somewhat Byzantine appearance. It would seem that the horn belongs to some kind of cap or head-dress, which is still clearer in Dr. Chaplin's specimen. It might

even represent the coil of a turban worn on one side, though the convolutions suggest a horn. The question is whether it represents a monarch or a deity with ram's horns. In the first case it might be suggested that the medal is one of those trade tokens used by people of different race and religion in the East for communication, the Hebrew inscription being a protest against the Christian obverse. We have instances of this in the case of the gold coins of the thirteenth century, having the cross on one side, but covered on both with Arab texts, including the legend: "Struck at Acre in the year 1251 of the era of the Messiah," and the words "God is One: Father, Son, and Holy Ghost." These appear to have been imitations of Fatemite coins worth about seven shillings, which probably few could read. They would readily, therefore, have been accepted by natives.

Ram-horned figures are well known on the coins of Alexander the Great, of Lysimachus of Thrace (281 B.C.) and of the island of Tenos in the Ægean, but the Byzantine coins of kings do not present such a type. The ram-horned deity (Ammon) is also represented in the pottery statuettes of Phœnicia.

It appeared to me possible that the medal might belong to the Manichean Gnosticism, which survived in the East to so late a date. The Gnostics, as we know from Irenæus, made use of Hebrew formulæ, and King has given a drawing of a beautiful gem supposed to be Gnostic, which represents a deity with rays round the head, and ram's horns and beard, having the *modius* above and the staff of Æsculapius before the face.

The above suggestions do not, perhaps, suffice to account for this medal, but there can be no doubt that whoever the sculptor was, he possessed much greater artistic ability than the ordinary forgers of coins bearing inscriptions in square Hebrew appear usually to possess, and the question appears worthy of further consideration.

C. R. C.



THE PRAYER OF BEN ABDAS ON THE DEDICATION  
OF THE TEMPLE OF JOPPA.

SOUTHAMPTON, 3rd March, 1892.

THE squeeze of a Phœnician inscription, said to come from Jaffa, sent home by Mr. F. J. Bliss, seems to me to indicate that the original text is genuine, and of much interest. The characters are those used in writing by Phœnicians about the fourth and third centuries B.C., but no Phœnician text is, I believe, known in Palestine south of the vicinity of Acre. If we take as proven the later date of the Eshmunazar coffin, which M. Clermont-Ganneau advocates, and which seems to me well established, we know that, at the period in question, when Palestine was in the power of the Ptolemies ruling in Egypt, the plains of Sharon were given to the King of Sidon, to be Phœnician territory "for ever"; although this was soon brought to nothing by the rise of the Hasmonean family. It is thus very natural that a text of the third century, in Phœnician, should be found at Jaffa; and it seems from the text that a Phœnician temple was raised in honour of Eshmun—the chief Phœnician deity—by the writer of this text, which consists of three very long lines of writing in well defined characters.

The transliteration and transcription, which I have given from the squeeze, will serve to show the values of the letters, which resemble those of the Cyprus texts, and of the text of M'asub near Acre, published by M. Clermont-Ganneau, and dating 274 B.C. The letters which do not seem to occur are *Zain* and *Koph*: the rest of the 22 composing the Semitic alphabet are present, if I am right as to a single occurrence of a much worn *Tsadi* in the second line. They do not require particular notice, except that the *Cheth* has only one bar, which is not usual, and seems to betoken late date. This form is found on the Carpentras stone, but in Assyria it is as old as the seventh century B.C. in Aramaic texts.

The translation may be subject to revision, when the text itself can be studied by specialists; but as it makes good sense and grammar throughout, may, perhaps, be accepted as generally correct, and is to the following effect:—

Line 1.—A worshipper, the son of a worshipper, has very firmly founded the temple of Joppa, being prospered by Eshmun; (being) there Lord—Ben Abdas. Thou wilt hear with acceptance, and thou wilt save Ben Abdas—a servant for ever, a servant of Eshmun. . . . .

Line 2.—A sinner towards Baal, he returns drawing back. Thou shalt protect the worshipper as a son, O my Baal. Have mercy on me, O Baal, of good fortune<sup>1</sup> (who am) the son of a worshipper of

<sup>1</sup> "Baal Gad" is here a title of Eshmun.

Eshmun, a faithful servant, the son of a worshipper of Abset. The wanderer having rested—the son of the worshipper of Eshmun—cut a stone.

Line 3.—He carved an inscription. Have mercy, O Lord, on a servant, and save the son of a worshipper of Eshmun. . . . And he erected a high place (as) an obedient worshipper.<sup>1</sup>

Perhaps the names “servant of Eshmun” (*Abd Eshmun*) and “servant of Abset”<sup>2</sup> (*Abd Abset*) are to be regarded as those of the father and grandfather of the writer of the inscription. When the text says that “the son of wandering had rested,” we might suppose that either a journey for colonisation is intended, or that the worshipper was a merchant whose travels were over, as he had become rich, and now desired to propitiate the gods.

The following points require to be explained:—

ערכת, for a “temple enclosure,” is well known in the ancient text of Yehumelek of Gebal, and has been fully discussed by Renan. (“Corp. Inscript. Sem.” i, 1, page 6.)

עבדא for the Hebrew עבד is found in Aramaic (Buxtorff, p. 1564).

מן is fairly clear on the east. Compare the Arabic root من whence

مَنان “propitious.” Perhaps, however, we may take the particle מן in the sense of *propter* (Buxt., p. 1219), and the words may mean “priest of Eshmun,” like the Talmudic ממונה and מני as given by Buxtorff (p. 1222).

אדני for “Lord,” occurs in the Hebrew in compound names, and in Phœnician texts, where it is rendered “his lord.”

עבדאס “The Servant of As” (*Abdas*) appears to be a personal name, and *As* is, I believe, a known deity, though I cannot find

<sup>1</sup> The writer appears to rely on the piety of his father, *Abd Eshmun*, rather than on his own, as he had been a sinner, or, perhaps, a worshipper of other gods.

<sup>2</sup> It should be noted that a person called *Abd Abset*, at Larnaca, describes himself as a Carthaginian. The present writer, *Abdas*, the son of *Abd Eshmun* and grandson of *Abd Abset*, may have come from Cyprus or from Carthage to settle in Joppa. Another case in which a Phœnician of Cyprus bore a name connecting him (like that of *Abd Abset*) with Egypt, is the Citium tombstone of *Horus*, son of *Abd Osiris*. The worship of the Egyptian gods during the time of the Ptolemies, who were in possession of Palestine, was not unnatural in Phœnicia, and, it seems, extended to Cyprus and Carthage. It might possibly have been introduced by Carthaginian emigrants to the eastern shores and islands of the Mediterranean.



the authority. Several Egyptian gods were adored in Phœnicia about this time, such as אֶסֶר Osiris, and הַר Horns; and Absset, mentioned later, appears to be the Egyptian Bast. In the same way *As* might perhaps be Isis (*Uasi*).

חָטָא in Hebrew, means "to err," "to sin," and is here found with the contrary, תּוֹב "to return," and יִסֵּר for יִסוֹר "drawing back."

תִּצֵּן I suppose to be the 2nd sing. mase. of the future of נָצַן "to protect," or from a cognate root.

בַּעַל גַּדְתָּ would seem to be the Hebrew Baal Gad, "Lord of good luck," in the feminine for the abstract.

אֲבַסְתָּ is known from a text in Larnaca (*Corpus I, i, p. 98*). Perhaps in both cases we should read עֲבַדָּא בַסְתָּ (*Abda Bast*), which agrees with the name Αβδου *Bartius* found by Waddington (*No. 1866 c*) at Sidon, in a Greco-Phœnician text. Bast was the Egyptian goddess connected with Bes.

בַּר is from בָּדַד "to divide," cognate to בָּרָא "to fashion."

גְּרִיתָּ I suppose to come from גָּרַר "to scrape," and to mean letters "scratched:" the verb preceding (חָרַשׁ) means "to inscribe."

בַּעַל When Baal is intended the article in Hebrew precedes, except where there is a particle prefixed (as in the second line); but if my rendering be correct the word may here only mean "Lord."

שָׁלַם The 2nd singular imperative mase. As in the Aramaic שָׁלַם "absolvere" (*Buxt., p. 2422*).

גְּרָא perhaps a longer form of גָּר, which often occurs in the inscriptions of Carthage. It is there used in its well-known ancient signification of one "allied" or "taking refuge with" another, as in the term Ger-Ashtoreth, "the adherent of Ashtoreth."

On the other hand, it might be from the same root with גְּרִיתָּ above mentioned, and mean "the writer." The word being doubtful is omitted in the translation.

נָבַן I suppose to come from נָוַב, which has the meaning "to raise up" (*Gesenius*). The final ן in this and in the words שִׁיתָּן and יִתּוּבֵן seems to be an affixed pronoun of 3rd person singular like the Syrian *ni*, and the older Assyrian demonstrative *annu*.

גָּפַן is not very clear in the squeeze. I have supposed it to come from the root גָּפַן "to be bent," and to be the present participle meaning "bowing" before the Deity.

This interesting text shows us the worship in Joppa by Phœnicians of Eshmun, Baalgad, Bast, and As, and the name Baal for "Lord." It would be interesting to know where the stone was found, as it might be near the **במא** (Aramaic for **במה**), or "high place," which—enclosed in an *Areal* or "temple court"—was erected, it would seem (if the text be genuine), at some time in the 3rd century, B.C., by Abdas, in Joppa.

C. R. CONDER.

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THE  
PALESTINE EXPLORATION FUND

NOTES AND NEWS.

GREAT interest was manifested in the series of lectures in connection with the Fund which was announced in the *Quarterly Statement* for April. The lectures, which were delivered in the months of May and June, were well attended, and in some instances room could not be found for all who desired admission. The following is a list of the subjects and lecturers:—

- May 3rd.*—Chairman: His Grace the ARCHBISHOP OF CANTERBURY.  
Lecturer: Col. Sir CHARLES W. WILSON, K.C.B., K.C.M.G., F.R.S.,  
D.C.L., LL.D., R.E. Subject: "Jerusalem."
- May 10th.*—Chairman: F. D. MOCATTA, Esq. Lecturer: Major CONDER  
D.C.L., LL.D., R.E. Subject: "The Future of Palestine."
- May 17th.*—Chairman: Sir EDMUND A. H. LECHMERE, Bart., M.P.  
Lecturer: Rev. Canon TRISTRAM, LL.D., F.R.S. Subject: "Natural  
History of Palestine."
- May 31st.*—Chairman: JAMES GLAISHER, Esq., F.R.S. Lecturer:  
WALTER BESANT, Esq., M.A. Subject: "The General Work of  
the Society."
- June 7th.*—Chairman: Major-General Sir F. J. GOLDSMID, C.B., K.C.S.I.  
Lecturer: Rev. W. WRIGHT, D.D. Subject: "The Hittites up to  
Date."
- June 21st.*—Chairman: WALTER MORRISON, Esq., M.P. Lecturer: W.  
M. FLINDERS PETRIE, Esq. Subject: "The Story of a 'Tell.'"
- June 28th.*—Chairman: JAMES GLAISHER, Esq., F.R.S. Lecturer: Rev.  
Canon DALTON, C.M.G. Subject: "The Modern Traveller in  
Palestine."

The Committee have resolved to publish these very interesting and important lectures both separately, and the whole series together in a small volume. They will probably be ready in October. The price of a single lecture will be, to subscribers to the Fund, 6d., and that of the volume, 2s. 6d. To the public the prices will be 1s. and 3s. 6d.

From Mr. F. J. Bliss the important intelligence has been received that at Tell el Hesi there has been found "a small fine stone about two inches square

closely covered on both sides with a fine cuneiform inscription." Casts, impressions in wax, and squeezes of this inscription have reached the office, and been placed in the hands of Professor Sayce, who, it will be remembered, predicted that in all probability cuneiform writings would be discovered on this site.

The following letter on this subject appeared in *The Times* of July 1st :—

"Sir,—I ask permission to place on record, in the columns of *The Times*, a note on a discovery recently made in the course of excavations conducted at a mound in Palestine named Tell el Hesy. The excavations were commenced two years ago by Dr. Flinders Petrie, and have been continued during the last six months by Mr. F. J. Bliss, of Beirût. The Tell has been identified by Major Conder and Dr. Flinders Petrie with the ancient city of Lachish, an identification which is now amply confirmed.

"Mr. Bliss has found among the *débris* a cuneiform tablet, together with certain Babylonian cylinders and imitations or forgeries of those manufactured in Egypt. A translation of the tablet has been made by the Rev. Professor Sayce; it is as follows :—

"‘[To] the Governor. [I] O, my father, prostrate myself at thy feet. Verily thou knowest that Baya (?) and Zimrida have received thy orders (?) and Dan-Hadad says to Zimrida, ‘O, my father, the city of Yarami sends to me, it has given me 3 *masar* and 3 . . . and 3 falchions.’ Let the country of the King know that I stay; and it has acted against me, but till my death I remain. As for thy commands (?) which I have received, I cease hostilities, and have despatched Bel (?)-banilu, and Rabi-ilu-yi has sent his brother to this country to [strengthen me (?)].’"

"The letter was written about the year 1400 B.C. It is in the same handwriting as those in the Tell el Amarna collection, which were sent to Egypt from the south of Palestine about the same time. It will be remembered that of this remarkable collection about 80 tablets were acquired by the British Museum, and double that number by the Berlin Museum. The forms of the characters are the same and the peculiarities of the grammar.

Now, here is a very remarkable coincidence. In the Tell el Amarna collection we learn that one Zimrida was governor of Lachish, where he was murdered by some of his own people, and the very first cuneiform tablet discovered at Tell el Hesy is a letter written to this very Zimrida.

"The city Yarami may be the Jarmuth of the Old Testament.

"‘Even more interesting,’ writes Professor Sayce, ‘are the Babylonian cylinders and their imitations. They testify to the long and deep influence and authority of Babylon in Western Asia, and throw light on the prehistoric art of Phœnicia and Cyprus. The cylinders of native Babylonian manufacture belong to the period B.C. 2000-1500; the rest are copies made in the west. One of these is of Egyptian porcelain, and must have been manufactured in Egypt, in spite of its close imitation of a Babylonian original. Others are identical with the cylinders found in the prehistoric tombs of Cyprus and Syria, and so fix the date of the latter. On one of them are two centaurs arranged heraldically, the human faces being shaped like those of birds. European archæologists will be interested in learning that among the minor objects are two amber beads.’"

"It must be remembered that the Babylonian language and the Babylonian characters were the common medium of communication between the natives of the East at this time. A cuneiform scribe was kept at Tell el Amarna, and

probably there was one at every important place in Palestine. The find is one which throws light upon many points of interest, as, for instance, the influence of Babylon, the authority of Egypt, and, as Professor Sayce points out, the prehistoric art of Phœnicia. I should like to add that it is now 15 years and more since Professor Sayce called our attention to the probability of finding the libraries and archives of the ancient cities in the Tells which he has unceasingly urged us to excavate.

"I remain, Sir, your obedient servant,

"JAMES GLAISHER,

"Chairman of the Executive Committee."

The work at Tell el Hesÿ has been closed for the season, and will, it is hoped, be resumed in October. A letter from Mr. Bliss will be found in the present number. His detailed report will follow. *Funds for the continuance of the work are greatly needed.*

Herr Schick reports that extraordinary interest is being shown by English tourists in the tomb at the foot of the "Skull Hill," which is supposed by some to be the tomb of our Lord. An English lady is said to have washed out the tomb, and spent the night in it, and Mr. Moody, the American revivalist, held a service on the top of the hill.

At page 205 will be found a note from Major Conder respecting the above tomb. He points out that it is no new discovery, but was described in the "Memoirs of the Survey of Western Palestine," which were published in 1884.

Our readers will be interested to learn that considerable progress is being made with the Akka-Damascus Railway, the route of which, after various expensive surveys, has now been definitely decided upon. The line chosen is practically that first suggested by Major Conder, R.E., several years ago. Beginning at the great fortress of Acre, the railway will run down the plain of Acre parallel with the sea, throwing out a branch to Haifa, at the northern foot of Mount Carmel, and thence to and across the plain of Esdraclon, passing near Nazareth to Shunem and Jezreel, and through the valley of Jezreel, skirting the slope of the hills, to the River Jordan, which will be crossed within sight of Bethshean. The Jordan here offers exceptional facilities for the erection of the railway bridge, consisting of two spans. Not only are the two opposite banks of the river formed of solid rock, but the centre of the river contains a large block of similar rock, from which each span of the bridge will be thrown to the east and west bank respectively. From the Jordan the railway will ascend the slope of the Jaulan Plateau, along the crests that close the eastern shores of the Sea of Galilee, this ascent constituting the only difficult portion of the line, but which the surveys made now show to be much easier of accomplishment than was originally anticipated. Reaching the plateau near El 'Al, an easy gradient will carry the line by Seil Nawa and Kesweh to Damascus. Passing through the finest plains of Western and Eastern Palestine the importance of the railway cannot be over-estimated. Its construction can

hardly fail to lead to important archæological discoveries, and the Committee hope to make arrangements for obtaining full information respecting these.

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The Rev. Theodore E. Dowling, Honorary Secretary of the Fund at Jerusalem, reports the names of the Lecturers and their subjects in connection with "The Jerusalem Association of the Palestine Exploration Fund."

On March 8th the first of a course of five Lectures, in the Christ Church Lecture Room, was read by the Rev. A. H. Kelk, on behalf of Herr Baurath C. Schick, who was temporarily unwell. This Lecture proved to be an instalment of a series, entitled "The Story of the Buildings of Jerusalem." On March 15th, Mr. Frederick Jones Bliss spoke for an hour on "Present Explorations at Tell el Hesi." Mr. G. Robinson Lees, on March 22nd, selected as his subject, "The Temple Area" (with his own magic lantern illustrations). On March 29th, the Rev. James Edward Hanauer read a paper on "The 'Site of Calvary' Controversy," the closing Lecture being given by the American Consul, Dr. Selah Merrill, April 5th, on "Bashan, and its Giant Cities."

The collections at the close of the Lectures, on behalf of local expenses, realised in full £8 3s. 3d.

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Mr. Dowling also writes:—

"In order to complete a set of *Quarterly Statements* from 1869-91 for the benefit of "The Jerusalem Association of the Palestine Exploration Fund," nine numbers are required. It is the intention of the Local Committee to bind the volumes and keep them in the Association Room for reference only. Will any member of the Palestine Exploration Fund, who can spare them, kindly present either one or all of the following numbers: Volume 1869, Nos. 2 and 3; Volume 1870, Nos. 6, 7, and 8; Volume 1871, April and July; Volume 1872, January and April. Rev. T. E. Dowling, Jerusalem, Syria, Hon. Sec."

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Mr. Charles F. Kent, of Berlin University, thus writes of a visit to the excavations at Tell el Hesi:—

"During our spring vacation here at Berlin University it was the privilege of six of us (all American students at Berlin) to make an extended trip through the Holy Land. Unlike most Palestinian travellers we were free to go where we pleased, and among other interesting places our itinerary brought us to Tell el Hesi, the scene of the Fund's excavations.

"The reports of the work there are so full and clear that I cannot hope to add anything to your knowledge, but being deeply interested in Palestinian discovery, I take occasion to convey to you my impression of the valuable character of the work which the Fund is doing at Tell el Hesi.

"Our night's stay at the Tell gave us a taste of the utter loneliness of the life of an explorer on the dividing line between fertility and desert. There is, however, a fascination about the work which is indescribable, the possibility of a valuable find every moment, and the continual variety of little finds which are turning up. Then, too, if the excavations had added nothing more to our knowledge of ancient Hebrew and Amorite archæology than a clear conception

of the arrangement and appearance of a city of the plain, the outlay, in my opinion, would be amply repaid. At the same time I am convinced that there are treasures in Tell el Hesi still to be turned up. The undertaking to cut down such a large section of the Tell naturally calls for a large expenditure of time and money, perhaps, more than all, of patience on the part of the officers of the Fund, but I trust that none of the essentials will fail.

"I cannot but feel that more interest in the work of the Fund ought to be stirred up in America. I see some work is being done at Cambridge, Mass., but not so much in the West. I expect this coming year to begin work at Chicago University, under my old Yale Professor, Dr. W. R. Harper, and, as opportunity offers, I shall take great pleasure in interesting my friends there."

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We regret to announce the death of a valued friend and supporter of the Society, the Rev. Greville J. Chester. In the "Guardian" of June 8th. Mr. Walter Besant thus writes of him:—"It is now nearly twenty-five years since I first made Greville Chester's acquaintance. He introduced himself to me as a friend and supporter of the Palestine Exploration Fund, and offered his assistance in the examination and classification of the lamps and pottery just then sent home by Warren from his excavations at Jerusalem. Since that time he has constituted himself, in an informal way, a kind of curator of our collections, always spending some time over their arrangement every summer. He wrote a paper on the subject, which appeared in the "Recovery of Jerusalem" (1870), and has since contributed many notes to the journal of the Society on the coins, gems, glass, pottery, marbles, &c., found in Palestine by our expeditions. In fact, the very last service he rendered the Society was the arrangement of the museum in our new rooms at 24, Hanover-square, on our removal about a year ago. He was also an explorer of no mean order. On two different occasions he conducted expeditions for the Committee. One of these was a visit to the little-known Isle Ruad, the Phœnician Aradus. This was in 1875. I think that he was then the only living European who had landed on its shores. The examination which he made of this very ancient and interesting place was necessarily hurried and incomplete, but (*more suo*) he came away with a pocket full of coins. Perhaps a more valuable contribution to geographical and archæological science was his journey of 1880, when he visited and described the Biblical sites of Lower Egypt, and travelled from Sâh to El Arish, and cleared up the difficulties about Lake Sirbonis. These journeys were also noteworthy in the fact that they cost the Society next to nothing. We gave Chester beforehand what he roughly estimated—it was very little, and he always returned some of the money. The Palestine Exploration Fund can ill afford to lose a friend so tried and true. Of his great personal qualities, his deep religion, his simplicity of life, his perfect honour it is needless to speak after the words of Dr. Gatty in the 'Guardian' of June 1st. I would, however, indicate one additional point. Chester, of gentle extraction, and one of a long line of gentlemen, readily accepted responsibility in the spirit of one born to leadership. He was in some ways what is called a gentleman of the old school. Not only leadership was his right by birth, but courage, truth, and honour were elementary necessities for such as possessed that right. There are not too many men like Greville Chester in this respect, either in the Church or out of it."

Mr. John Shelley, Hon. Sec. of the Fund, Plymouth, sends us a notice of a bronze bracelet, with a Greek inscription, which was found near Jerusalem, and is described in the "Revue Critique," of 6th June, 1892.

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We are happy to state that M. Clermont-Ganneau is actively engaged on the letterpress which is to accompany the drawings of M. Lecomte, illustrating M. Ganneau's Archæological Mission, and that it is confidently hoped the volume will be published by the end of the present year.

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The museum of the Fund, at 24, Hanover Square, is now open to subscribers between the hours of 10 a.m. and 5 p.m., except on Saturdays, when it closes at 2 p.m.

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The Committee have to acknowledge with thanks the following donations to the library of the Fund:—

- "Abraham, Joseph, and Moses in Egypt." By Rev. A. H. Kellogg, D.D.  
From the Author.
- "Heerelycke ende gelueckige Reyse na det Heyligh Lant en de Stadt van Jerusalem." By Jan Van der Linden. Antwerp, 1716. From Rev. G. H. Culshan.
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The Committee will be glad to receive donations of Books to the Library of the Fund, which already contains many works of great value relating to Palestine and the Holy Land.

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It may be well to mention that plans and photographs alluded to in the reports from Jerusalem and elsewhere cannot all be published, but all are preserved in the offices of the Fund, where they may be seen by subscribers.

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The following gentlemen have kindly consented to act as Honorary Local Secretaries:—

- The Rev. R. M. Willcox, Burley in Wharfedale, near Leeds.  
The Rev. Robert E. Daubeny, Sneyd Clergy House, Burslem.  
The Rev. C. Harris, M.A., Milton-next-Sittingbourne, Kent.  
The Rev. W. Spear, M.A., M.D., 22, Ashford Road, Maidstone.
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The price of the remaining copies of "Palestine under the Moslems" has been raised to 10s. each to subscribers to the fund, and 16s. to non-subscribers.

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The first volume of the "Survey of Eastern Palestine," by Major Conder, has been issued to subscribers. It is accompanied by a map of the portion of country surveyed, special plans, and upwards of 350 drawings of ruins, tombs, dolmens, stone circles, inscriptions, &c. The edition is limited to 500. The first 250 subscribers pay seven guineas for the three volumes; subscribers to the "Survey of Western Palestine" are privileged to have the volumes for this sum. The price will be raised, after 250 names are



received, to twelve guineas. The Committee are pledged never to let any copies be subscribed for under the sum of seven guineas. Mr. A. P. Watt, 2, Paternoster Square, is the Sole Agent. The attention of intending subscribers is directed to the announcement after Maps and before Contents of this number.

Mr. H. Chichester Hart's "Fauna and Flora of Sinai, Petra, and the Wady 'Arabah" has been completed and sent out to subscribers.

The books now contained in the Society's publications comprise an amount of information on Palestine, and on the researches conducted in the country, which can be found in no other publications. It must never be forgotten that no single traveller, however well equipped by previous knowledge, can compete with a scientific body of explorers, instructed in the periods required, and provided with all the instruments necessary for carrying out their work. The books are the following (*the whole set (1 to 15) can be obtained by subscribers to the Fund by application to the Head Office only (24, Hanover Square, W.), for £3 1s. 6d., carriage paid to any part in the United Kingdom only*):—

By Major Conder, R.E.—

- (1) "Tent Work in Palestine."—A popular account of the Survey of Western Palestine, freely illustrated by drawings made by the author himself. This is not a dry record of the sepulchres, or a descriptive catalogue of ruins, springs, and valleys, but a continuous narrative full of observations upon the manners and customs of the people, the Biblical associations of the sites, the Holy City and its memories, and is based upon a six years' experience in the country itself. No other modern traveller has enjoyed the same advantages as Major Conder, or has used his opportunities to better purpose.
- (2) "Heth and Moab."—Under this title Major Conder provides a narrative, as bright and as full of interest as "Tent Work," of the expedition for the *Survey of Eastern Palestine*. How the party began by a flying visit to North Syria, in order to discover the Holy City—Kadesh—of the children of Heth; how they fared across the Jordan, and what discoveries they made there, will be found in this volume.
- (3) Major Conder's "Syrian Stone Lore."—This volume, the least known of Major Conder's works, is, perhaps, the most valuable. It attempts a task never before approached—the reconstruction of Palestine from its monuments. It shows what we should know of Syria if there were no Bible, and it illustrates the Bible from the monuments.
- (4) Major Conder's "Altaic Inscriptions."—This book is an attempt to read the Hittite Inscriptions. The author has seen no reason to change his views since the publication of the work.
- (5) Professor Hull's "Mount Seir."—This is a popular account of the Geological Expedition conducted by Professor Hull for the Committee of the Palestine Fund. The part which deals with the Valley of Arabah will be found entirely new and interesting.
- (6) Herr Schumacher's "Across the Jordan."
- (7) Herr Schumacher's "Jaulán."—These two books must be taken in continuation of Major Conder's works issued as instalments of the

"Survey of Eastern Palestine." They are full of drawings, sketches, and plans, and contain many valuable remarks upon manners and customs.

By Walter Besant, M.A.—

- (8) "The Memoirs of Twenty-one Years' Work."—This work is a popular account of the researches conducted by the Society during the past twenty-one years of its existence. It will be found not only valuable in itself as an interesting work, but also as a book of reference, and especially useful in order to show what has been doing, and is still doing, by this Society.
- (9) Herr Schumacher's "Kh. Fahlil." The ancient Pella, the first retreat of the Christians; with map and illustrations.

By George Armstrong—

- (10) Names and Places in the Old and New Testament and Apocrypha. This is an index to all the names and places mentioned in the Bible and New Testament, with full references and their modern identifications, as shown on the new map of Palestine.
- (11) Besant and Palmer's "History of Jerusalem."—The "History of Jerusalem," which was originally published in 1871, and has long been completely out of print, covers a period and is compiled from materials not included in any other work, though some of the contents have been plundered by later works on the same subject. It begins with the siege by Titus and continues to the fourteenth century, including the Early Christian period, the Moslem invasion, the mediæval pilgrims, the Mohammedan pilgrims, the Crusades, the Latin Kingdom, the victorious career of Saladin, the Crusade of Children, and many other little-known episodes in the history of the city and the country.
- (12) Northern 'Ajlûn "Within the Decapolis," by Herr Schumacher.

By Henry A. Harper—

- (13) "The Bible and Modern Discoveries."—This work, written by a Member of the Executive Committee of the Palestine Exploration Fund, is an endeavour to present in a simple and popular, but yet a connected form, the Biblical results of twenty-two years' work of the Palestine Exploration Fund. The writer has also availed himself of the discoveries made by the American Expeditions and the Egyptian Exploration Fund, as well as discoveries of interest made by independent travellers.

The Bible story, from the call of Abraham to the Captivity, is taken, and details given of the light thrown by modern research on the sacred annals. Eastern customs and modes of thought are explained whenever the writer thought that they illustrated the text. This plain and simple method has never before been adopted in dealing with modern discovery.

To the Clergy and Sunday School Teachers, as well as to all those who love the Bible, the writer hopes this work will prove useful. He is personally acquainted with the land; nearly all the places spoken of he has visited, and most of them he has moreover sketched or

painted. It should be noted that the book is admirably adapted for the School or Village Library.

By Guy le Strange—

- (14) "Palestine under the Moslems."—For a long time it had been desired by the Committee to present to the world some of the great hoards of information about Palestine which lie buried in the Arabic texts of the Moslem geographers and travellers of the Middle Ages. Some few of the works, or parts of the works, have been already translated into Latin, French, and German. Hardly anything has been done with them in English, and no attempt has ever been made to systematise, compare, and annotate them.

This has now been done for the Society by Mr. Guy le Strange. The work is divided into chapters on Syria, Palestine, Jerusalem, and Damascus, the provincial capitals and chief towns, and the legends related by the writers consulted. These writers begin with the ninth century and continue until the fifteenth. The volume contains maps and illustrations required for the elucidation of the text.

The Committee have great confidence that this work—so novel, so useful to students of mediæval history, and to all those interested in the continuous story of the Holy Land—will meet with the success which its learned author deserves.

By W. M. Flinders Petrie—

- (15) "Lachish" (one of the five strongholds of the Amorites).—An account of the excavations conducted by Mr. Petrie in the spring of 1890, with view of Tell, plans and sections, and upwards of 270 drawings of the objects found.

By Trelawney Saunders—

- (16) "An Introduction to the Survey of Western Palestine, describing its Waterways, Plains, and Highlands, with special reference to the Water Basin—(Map. No. 10)."

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The new Map of Palestine embraces both sides of the Jordan, and extends from Baalbek in the north to Kadesh Barnea in the south. All the modern names are in black; over these are printed in red the Old Testament and Apocrypha names. The New Testament, Josephus, and Talmudic names are in blue, and the tribal possessions are tinted in colours, giving clearly all the identifications up to date. It is the most comprehensive map that has been published, and will be invaluable to universities, colleges, schools, &c.

It is published in 21 sheets, with paper cover; price to subscribers to the Fund, 24s.; to the public, £2. It can be had mounted on cloth, rollers, and varnished for hanging. The size is 8 feet by 6 feet. The cost of mounting is extra (*see Maps*).

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In addition to the 21-sheet map, the Committee have issued as a separate Map the 12 sheets (*viz.*, Nos. 5-7, 9-11, 13-15, 20-22), which include the whole

of Palestine as far north as Mount Hermon, and the districts beyond Jordan as far as they are surveyed. See key-map to the sheets.

The price of this map, in 12 sheets, in paper cover, to subscribers to the Fund, 12s. 6d.; to the public, £1 1s.

The size of the map, mounted on cloth and roller for hanging, is 4½ feet by 6¾ feet.

Any single sheet of the map can be had separately, price, to subscribers of the Fund, 1s. 6d. Mounted on cloth to fold in the pocket suitable for travelling, 2s. To the public 2s. and 2s. 6d.

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*A copy of names and places in the Old and New Testament, with their modern identifications and full references, can be had by subscribers with either of these maps at the reduced price of 2s. 6d.*

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Branch Associations of the Bible Society, all Sunday School Unions within the Sunday School Institute, the Sunday School Union, and the Wesleyan Sunday School Institute, will please observe that by a special Resolution of the Committee they will henceforth be treated as subscribers and be allowed to purchase the books and maps (by application only to the Secretary) at reduced price.

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The income of the Society, from March 19th to June 18th, was—from annual subscriptions and donations, including Local Societies, £333 5s. 3d.; from all sources, £488 4s. 5d. The expenditure during the same period was £755 17s. 3d. On June 18th the balance in the Bank was £413 13s. 10d.

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Subscribers are begged to note that the following can be had by application to the office, at 1s. each:—

1. Index to the *Quarterly Statement*, 1869–1880.
  2. Cases for binding Herr Schumacher's "Jaulân."
  3. Cases for binding the *Quarterly Statement*, in green or chocolate.
  4. Cases for binding "Abila," "Pella," and "'Ajlûn" in one volume.
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Early numbers of the *Quarterly Statement* are very rare. In order to make up complete sets, the Committee will be very glad to receive any of the following numbers:—

No. II, 1869; No. VII, 1870; No. III, 1871; January and April, 1872; January, 1883, and January, 1886.

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It having been reported to the Committee that certain book hawkers are representing themselves as agents of the Society, the Committee have to caution subscribers and the public that they have no book hawkers in their employ, and that none of their works are sold by itinerant agents.

## LETTERS FROM HERR SCHICK.

## 1.

## THE DISCOVERIES AT THE NICOPHORIEH.

*February 23rd, 1892.*

IN one of my last reports I promised to send you the result of measurements, &c., of the newly discovered tombs at "Awairiyeh." Mr. Lees (and others) wished to go with me, and, if possible, to make photographs of the sarcophagi, and as there was such rainy and cold weather, we did not go before last week. Mr. Lees now sends two copies of his photograph, representing the front side of the large sarcophagus, and two pieces of its broken lid, which were put on it by us for the purpose, and also the lid of the other, put upon it in order to show the mouldings, which are its only ornament.

At the same time I made a drawing of the ornaments, and wished to send a copy of it to you, but my paper failed. However, I send it on as it is. I also give plan, section, and end view of this larger sarcophagus and its lid, on scale  $\frac{1}{10}$  of the real size.

I sent my men once more there, with paper, &c., to make squeezes of the lid. They made two, and I send two copies of each.

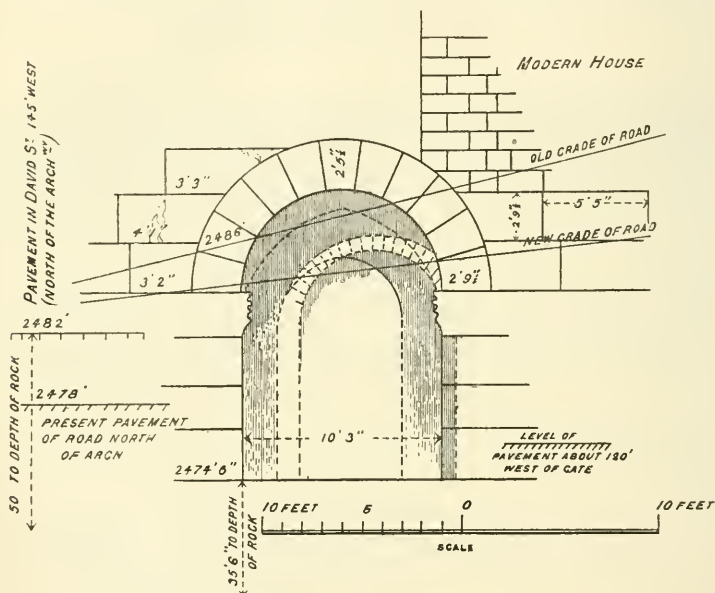
Also I send exact plans of the chambers and environs, one on scale  $\frac{1}{120}$ , and one smaller,  $\frac{1}{200}$ , to which a section is added. I consider the fine sarcophagus as that of Mariamne, the beloved wife of Herod the Great. The Russian professors and the Archimandrite Antonius here think this place was the mausoleum of the high priest Ananus, and refer to Josephus, Bell v, 12, 2, and just on this passage I ground my idea that it was the "Monument of Herod." The tomb of Ananus follows, soon after the Siloah Valley, and after it is mentioned "Pompey's Camp," which was on Abu Tor (the hill opposite Bishop Gobat's School), where the line bent northwards, and came to "Erebinthi," then to "Herod's Monuments," and then to the beginning of Titus' Camp, on the north-western corner of the town. These two sarcophagi are made with great skill, from native stone, or Jerusalem marble, such as is quarried near the Convent of the Cross. Herod himself is buried at Herodion—Frank Mountain—so I think this mausoleum here was for his wives.

## II.

## THE GATE GENNATH, &amp;c.

April 16th, 1892.

1. *Gate Gennath* (so-called).—In the year 1867, Sir Charles Warren made some excavations on this interesting spot, inside the town, and on the northern brow of the so-called Zion Hill, on the supposition that this ancient gateway may have been in ancient times the Gate Gennath of Josephus (Wars, v, 4, 2). Of the said excavations there is a report in "The Recovery of Jerusalem," page 274, and also a front view, as far as it



THE GATE GENNATH (so called).

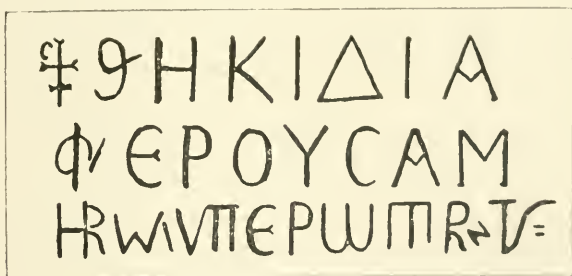
could be ascertained. Now, some months ago, the street became altered there, and the ground lowered, so that a large piece of the gate came into full view. As there seemed to me a few things notable, not mentioned in Sir Charles Warren's report, I examined the matter, and from what I found, together with what I know from other occasions, have furnished the enclosed drawing to which I give the following explanatory notes:—The pointed arch or the casing inside of the old doorposts, and shown in the drawing in pointed lines, has fallen out at its upper part. There is no more casing there, but an opening, and another arch of unhewn stones is seen further in (about 2 feet from the face inside) and not in the centre, but a good deal towards the south (as the drawing shows), going a little

behind the southern old doorpost—forming now a kind of sink, people casting there all sorts of fluid refuse.

Further, the voussoir stones have not all the same breadth, but the two resting on the posts are wider, the others, in accordance with their rising, becoming narrower. The key-stone has no projection, but what was more interesting to me is, that south of the arch there appeared large stones, and also on the northern side there were originally large ones, now broken in pieces by weathering. It is quite clear there was once here a strong wall, either of the town, or, more probably, of a special building.

Near the sill of this gate (2,474½ feet above the sea), Sir Charles Warren discovered “no pavement,” but 120 feet west of it I found a pavement at a level of about 2,476 feet, the same level as the bottom of the two towers 80 feet more west or 200 from the arch (see Lewis’s “Siege of Jerusalem,” London, 1863, page 216).

2. *Inscription in the Muristan.*—A Greek inscription has been discovered in the Muristan, at the situation marked with a cross on the enclosed



INSCRIPTION FROM THE MURISTAN.

plan. It is on the wall of a pier, in one of the old rooms, on a smooth stone, only a few inches above the flooring. The pier is 6 feet 4 inches broad, of which the inscription stone (being 3 feet 4 inches long, and 1 foot 7 inches high) takes the greater half. It is not in the middle, but forms the corner, so that one receives the impression that the stone was used the second time, and is very likely a tombstone. But on account of its thickness, I think it was originally in an upright or standing position. The inscription is apparently Greek, greatly abbreviated, and with some of the letters joined together. The inscription is distinct, and the copy as good as I could make. If it be wished, I can make a squeeze. The stone is not marble, but ordinary Jerusalem stone.

3. *Christian Burial-grounds at Jerusalem.*—The Christian burial-grounds are on Mount Zion (so-called) outside the wall, and hitherto nearly all of them open places, without enclosing walls, the boundary of each being marked simply by a few stones, which sometimes caused unpleasant scenes, and as everyone, and even cattle, could walk over

them, the monuments were without any protection. The ground of the Latins being too small, and the Armenians having more space than they needed, an agreement was made by the parties, and boundary walls erected round about the portion belonging to each. As each wanted also a road for access, and the people of Neby Dauid wanted roads to their houses and to the Sheikh's tomb, it was agreed to make them, and under the oversight of the local authorities the boundary walls were quickly built. I send a plan of the new arrangement.

As these new walls were simply built on earth, nothing of importance was found in digging foundations.

4. The so-called "Skull Hill" being supposed by many to be the real Calvary, not only is a controversy going on respecting the matter, but English travellers go to the place, visiting and venerating it as the real Calvary. An English lady visited it and stayed one night in it, who could not understand that I had so little interest for it. Sunday, April 18th, Mr. Moody, the American revival preacher, had an assembly there on the top of the hill, and addressed a great number of people. I fear the Muhammadan authorities will forbid such things, their burial-ground being there. Major Conder's Holy Sepulchre becomes quite forgotten, and General Gordon's is now the favourite.

### III.

#### DISCOVERY IN SOLOMON'S STABLES, &c.

*March 28th, 1892.*

1. The Dominican Brethren have made some discoveries at their ground, west of the "Skull Hill," of which I enclose a drawing, with the necessary notes and explanation. The drawing is simply a plan; I have not made a section, fearing it would, for one who has not seen the place, only confuse.

2. The clearings and levellings in the so-called "Solomon's Stables" are now ended. All the joints of the masonry have been pointed, so the whole now looks like new. From the place in the south-eastern corner, generally called the "Cradle of Christ," a flight of broad steps now leads down to the general level, which is in this part somewhat higher than before. The holes in the piers were formerly about three feet from the ground; now they are only a few inches, and some have disappeared under the ground.

At the south wall, between the "Cradle of Christ" and the "Single gate," a heap of rubbish lying there was removed, and by this some interesting stones came to light, about sixty-five feet west of the south-east corner, measured outside. One is about 7 feet long, and fully 3 feet high, having its surface covered with a rich decoration of leaves, scrolls, &c., carved in relief. It looks as if it was the side of a sarcophagus. I thought first it might be the lintel of a door, but, observing that there



is a similar but shorter stone just over it, with ornaments of another kind, it was clear to me that these stones are not *in situ*, but have been brought from another place, and used here simply as building stones. I had not time to make a copy of the ornaments, and, if I had, it might have come out imperfect. It would be much better to take a photograph.

3. The work at the "Golden Gate" is nearly finished; the building, with its two new supports, now stands quite free on three sides, with a space of twelve feet between it and the new enclosing walls, built to keep up the rubbish. On the western side a flight of wide steps leads from the upper level down to the foot of the building. It is less agreeable to the eye than formerly, looking confined and enclosed, and standing in a pit. The space behind the enclosing walls has been filled up with earth, and raised to the general level of the ground.

4. The heavy rains have destroyed a good deal of the new railway, and also one of the bridges. In the neighbourhood of Jerusalem nothing is done yet. The ground for the station at Jerusalem has been bought. It is to be near the German colony, west of the "hill of evil counsel," and close to the Bethlehem road.

As the cholera several months ago ceased at Damascus and elsewhere, the quarantine has been removed, and business is going on again, and pilgrims and travellers coming. We have had a good deal of rain, so that a prosperous harvest is hoped for. But in the Jordan Valley are locusts, and the Government has required a good many people (from every village twenty or more men) to go down and destroy them before they are able to fly. Petroleum was sent down, to pour on them when swept into heaps, to burn them.

Count Ziethen-Schwerin, of Germany, has been here, in reference to the German institutions, and especially the "Muristan" and the rebuilding of the old church there. The Count is a member of the Council in Berlin, appointed by the Emperor for these affairs—so very likely the work of building will begin in a few months.

A large hotel has been built by the Armenian Convent, and is already open. It is situated on the Jaffa road. Just opposite the sharp turning of the town wall, and on the southern side of the Jaffa road, where the ascent is greatest, a *new road* has been made, which is a continuation in a straight line of the Jaffa road starting from Jaffa gate. This prolongation will meet the Jaffa road again, a little west of the large gate in the Russian wall. It will be level, not going up and down again as the present road in this place does.

Jewish houses are now being built along the Jaffa road as far west as the third watch-tower. Others are designed still further out, at the place where the road to Deir Yesin and Ain Karim branches off. A large building is to be erected as an institution or boarding house for fifty old Jews, single men, having no one to provide for them. I am just now about to make the plan for the building. So you see, that if in future things go on as in the few last years, the City of Jerusalem will be extended to the brow of the large valley of Lifta and Kolonia, and

towards the south half way to Mar Elias, where a settlement for one hundred families will be made, for which I have already made the plan, and permission has come from Constantinople.

#### IV.

#### DISCOVERY OF MOSAIC PAVEMENT NEAR THE (SO-CALLED) CHURCH OF ST. STEPHEN.

March 29th, 1892.

The Dominican Brethren have built a new school on their ground, situated at the western foot of the Jeremiah grotto hill, south and west of the traces of the ancient Church of St. Stephen (see *Quarterly Statement*, 1891, page 211), just in the north-eastern corner of the piece of ground with many trees. In digging the foundation for this new building, they had to clear the place to some degree, by which they found a *mosaic pavement*, very well preserved, and some other things of interest. The things are preserved and a shed built over them. It is east of the new building, south of the word "Cistern," on the map which is found at the page quoted in the said *Quarterly Statement*.

If one goes southward from the traces of St. Stephen's Church he comes to a few steps, situated in a former wall, and leading about 2 feet 6 inches downwards to a level pavement or kind of court. This pavement consists for the greater part of rock, the rest of flag stones. In this pavement, or flooring of the court, are three openings or holes made into the rock. In the first are steps cut in the rock, leading about eleven feet downwards to a chamber, also cut in the rock, which has two large graves, of Christian origin, 6 feet long, 1 foot 9 inches wide, and more than 2 feet deep.

The northern one is regular in every direction, the southern not so, and situated a little higher. Towards the passage *between* them, the sides are formed of large stone slabs, put upright into grooves cut in the rock. The opening, which exists in the roof of the chamber, over the southern tomb, did not exist originally, but has been broken in later by some accident. The third hole is near the south end of the court, of an irregular shape, narrowing downwards and leading to a rock cave, its flooring twelve feet under the level of the court; it was apparently to some extent natural, and afterwards enlarged and more rounded out. The opening was originally simply a cleft in the rock, and was then rounded to a hole, through which one can go down, first to a projecting part of the rock, or kind of shoulder, and from it down into the cave. Under the so-called "shoulder," and a little south, is a projection resembling a small *altar*, opposite which, on the wall near the ground, a *cross* is found chiselled into the rock. At the first look one thinks this cave, with its hole, to have been a cistern. But no cementing is found, and other indications give the idea that it was once the lodge of an

Eremité. East of it, and higher than the bottom of the cave, is a chamber  $5\frac{1}{2}$  feet long by nearly 4 feet wide and about 6 feet high, cut in the rock. The top of its roof is 3 feet higher than the level of the court. Five steps lead down into it, of which the lowest has a semi-circular form. The monks think it was a "bone house," as there were many human bones found in it. The wall forming the court runs in a slanting direction over it, as the plan shows.

There is in the north-eastern corner of the court another short flight of steps leading to a similar but somewhat larger chamber, of which the walls are rock, but the roofing is arched, and at the highest point 7 feet



MO-SAIC PAVEMENT.

high. But the most interesting part is the mosaic pavement mentioned above. A kind of passage leads from the court between the holes in the flooring westward to another small court, surrounded by a low wall of a regular shape, 18 feet long and 11 feet wide. The flooring round about is of flag stones, and in the centre is a piece of fine *mosaic* formed of small cubical stones of various colours. The mosaic is 14 feet 6 inches long and 7 feet 3 inches wide. It has a framework formed of two rows of *black*, then two rows of *white*, one row of *red*, and one row of *black*

cubes. Inside this frame, and in a diagonal direction, are straight lines, of one black, one white, and one red stone forming quadrangular spaces, whose sides are about 8 inches long, not with regular angles but so that they are longer than wide. In the middle of each space is a kind of rosette or star. And in the middle of the whole is a circular band of black, red, and white stones, with four rosettes at equal distances. Inside this round band is an animal, some thinking it to represent a gazelle, on account of its long feet, others call it a lamb on account of its full body and the full long tail. I myself think it represents a lamb. It certainly had an allegorical meaning, as well as the two branches of some plant joined to it, as the drawing shows. I have the impression that this place was once a Christian chapel.

The monks have reported on these things to Paris, and their report was published in the *Revue Biblique*, No. 9, 1892.

The Superior was kind enough to give me a photograph of this pavement, which I enclose. It is certainly more exact than my drawing, but I made the latter in order to give the colours, and the situation, as it is connected with the other things described.

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## NOTES FROM TELL EL HESY.

By F. J. BLISS, B.A.

May, 1892.

THE month of siroccos is on us, and Friday is our unlucky day. May is a windy month, but the west and south winds do us but little harm, for the high walls formed by the part of the Tell at south and west still left standing protect the place of the excavations. However, when the north and east winds blow the interruption to work is sometimes serious. Imagine great slopes of lately-thrown earth to north and east, add to this the dust and earth thrown by fifty or sixty girls in the teeth of a fierce gale, and then gather some idea of the blinding dust which envelops the whole field of excavation when the sirocco is at its worst. Twice we have had to suspend work for some hours, following the double dictates of prudence and humanity. Noon is a crucial hour when the east wind usually shifts to the south. On these hot days the jar is on its way constantly to and from the stream, and we have to follow a military discipline of turns in watching the multitude, or the girls would fall upon the jar with much fighting.

Readers of Mr. Petrie's "Tell el Hesy" will remember his reference to the bed of ashes over five feet thick occurring in the stratification of the Tell. The lack of results this season is due to the fact that we have had to remove this awful, unprofitable layer in order to get at the Amorite town below. I cannot picture the tediousness of the job we have had in removing almost 100,000 cubic feet of this wretched stuff. Our finds are few, but include a small statue of a man in bronze, a few inches high, and a tiny bronze goat with two kids sucking. A full list of all finds

will appear in the report, but in the meantime I make a few notes on my general experiences and observations in this camp life.

Last year we had hardly any rain here after March 15th, but this year a violent storm occurred in April. Early in the morning of the 23rd I was awakened by the sharp pattering of rain on the tent. We hardly expected the workmen, but they appeared and went off to the excavations. More rain fell, however, and heavier, the wind rose, and as I was taking my coffee I saw the men and women flying from the Tell. I directed the men to take shelter in the guards' tent and the women in another tent that stood empty. But far from empty was this small, ten-rope tent, when sixty women and girls had packed themselves into it, sardine-fashion, overflowing at the door.

Yusif came to my tent to make the wages accounts, for it became plain that no more work could be done that Saturday. Hardly had I opened note-book when down crashed the tent over our heads, I escaping by the door, and Yusif still left within. The sudden gale which had threatened the destruction of all my breakfast dishes, had also overturned the Effendi's tent (he was away at the time), and the tent in which the girls had taken refuge. With an absurd mingling of amusement and apprehension I saw the poor creatures squalling, creeping, crawling out of the *debris* of the tent, falling over each other, laughing, crying, and finally running about like chickens terrified by the appearance of a hawk. Fortunately, no one was injured, and the only thing broken was my balance, while one gramme weight was lost.

I have been more successful in managing my small "labour question" than last year. Then, when the barley harvest began about April 25th, we lost almost all our good workmen, as we increased the wages only from nine piastres (a Gaza piastre is about 1*d.*) to 11 $\frac{3}{4}$ *d.* for a man and from 5*d.* to 6 $\frac{1}{2}$ *d.* for a girl. From that time to May 15th, when we gave up work, we had a varying set of wretched people, many being either too old or too young for work. This year, on about April 25th, I raised the men's pay to 15 piastres, and the women's to 8, with the result that I have secured as many as I care to have of the good old hands. We have thus successfully competed with the Arabs, who draw off the fellahin to the barley harvest. I hope we may go on with a few good workmen till about June 1st, when the wheat harvest will drive us from the field, as it would not pay to go on increasing the wages, though I must say that 15 piastres is better economy in the early summer than 9 in the deadly malarious autumn, when we must return to finish the task.

I have hereto presented a rather rose-coloured view of the character of our workpeople. There is, however, another side. The fellahin here are terribly profane, and indulge in cursing freely. "May God not have mercy on your father!" is constantly heard. Men, women, children, all swear. "Wullah!" is used in assertion, interrogation, admiration. Some oaths have peculiar sanctity. The Faluji, a local saint, will not permit his name to be taken in vain. "Are you fasting?" I asked a lad in Ramadan. "Wullah, I'm fasting." "By the life of the Faluji, are you

fasting?" The lad's face fell. "No," he said, "I'm not." The Faluji's name practically more terrifying than the Almighty's.

The freedom and foulness of the language is extreme. Forbidden subjects are discussed most freely before the girls, who seem to see no impropriety. This licence seems to be entirely confined to speech, however, but it is certainly shocking. Major Conder's observations on the peasantry are capital, but I must disagree with him on one point. He found in them little sense of the ludicrous, but I have seen a good deal of fun in them. One fellow we employ has a dry humour about him that is very popular with his fellow-workmen. They are very quick to appreciate any little caricature I may give of their characteristics. They also give nicknames, striking sometimes for their aptness, at others for their satire.

We have had a very pretty instance of family affection in the case of Khalil and his two elder sisters who work with him. He is a pleasant, amiable, easily-led boy, but a spoiled darling. His sisters try to ease his work in every way. Once he had a very slight chill and fever. They were inconsolable, would not eat or sleep, and went about their work distracted, begging to know if I thought he would live!

The custom of paying a man a large sum for his daughter on her marriage is well known, but I note some odd effects of it. For instance a boy's sister is a most valuable bit of property. When he wishes a bride he can trade off his sister, and so gets the bride for nothing. I asked if a certain girl were married, and the answer was: "No, her brother is with her alway." Which meant that she must remain single till her brother should return to use her as an exchange for a bride of his own. I have referred once or twice to the nice lad Monsûr and his bold bride-elect Henda. My fears were justified: she proved too much for him, and after a brief but stormy union she went back to her people. Now comes in a singular complication. Monsûr traded for Henda by marrying his sister Fatung to Henda's uncle Rizq. Fatung and Rizq proved a happy couple, but when Henda ran home, poor Rizq had to lose his bride, who was ordered to her old home to bake and draw water. Her hostage having failed, she had to be returned. Admirable business, but indifferent romance. So Henda, who had been basketing earth for Monsûr before the brawl, worked after her uncle Rizq, within a few paces of her estranged husband; while Fatung, with easily imaginable rebellion in her heart, filled her basket with the earth dug by her brother Monsûr. But she said never a word nor cast a look at Rizq. "She has been well brought up," said her brother proudly; "The trouble with Henda is that she had no one to beat her." A thing a girl must get used to in her youth as Monsûr found to his cost when he tried to supplement the imperfections of her early training.

Monsûr was talking of a divorcee (for the separation thus far was tentative), when the inevitable middleman stepped in—the peacemaker, the reconciler—and the original *status quo* was restored. This functionary plays a most important part in the East. The protagonist of one quarrel may be

the peacemaker of the next. Indeed, I sometimes suspect that the fighting parties do not care to come actually to blows until they see the peacemaker advancing around the corner!

One difficulty in the work here arises from the crops with which the Tell and its approaches are planted. This spring we found a crop of lentils on the Tell, and barley all about it. I made a liberal estimate of the value of the crops in the actual place of excavation and made allowance for the damage to crops in the paths we would have to make for the labourers. I told Yusif to offer the Bedawy Hussein three Napoleons, and, if necessary, to advance to four. I knew the preliminaries would take some time, and retired to my tent to watch the battle from afar. In a shorter time than I had expected, Yusif appeared with Hussein saying that they had inspected the Tell and that he had agreed to accept three napoleons. I said to Hussein; "Does your father agree?" "He does," he replied. So the money was handed over, and I was congratulating myself that the last interruption to the work had been removed, when the farcical drama really began. For, lifting up my eyes to the door of the tent I beheld the Patriarch striding over the fields firmly grasping his stout staff. Was this the feeble old man we had never taken into account, and who usually seemed too weak to crawl along? He entered, and I knew mischief was brewing. Hussein handed him the money. He looked at it, laid it on the table, and then delivered himself of a masterly speech, which I wish I could reproduce. He repudiated the money—he wished to know our rights to work in his land—he grew stormier and stormier. Meanwhile Hussein, with as masterly an appearance of disgust, reproached his father for stultifying him in this manner before the Khowaja. Washing his hands of the whole matter he made a dramatic exit, and the old gentleman rushed off in the other direction. The money remained on the table. I saw in the affair, merely a trick to get another Napoleon out of us, and told Yusif to manage it as well as he could, for delay to the work could not be allowed. Then followed various colloquies: Yusif and Hussein—Hussein and his wicked old father—Hussein, Yusif, and the old man; and finally they all reappeared with a paper having the old man's seal, and declaring that he would be entirely satisfied with four Napoleons. So ended the negotiations; but to this hour I cannot tell whether Hussein was in the game or not. If so, then he is a most accomplished actor. About the old gentleman there can be no doubt. After his temporary robustness he subsided into his usual decrepitude for a couple of months, but he has had another revival of strength, and has just started off with the pilgrimage to Mecca, taking with him wheat, semen, cheese, lentils, and twenty napoleons as provision for the journey.

The tricky methods of the Syrian peasantry are a constant source of surprise to me; not so much because of their cleverness as because they themselves are so easily taken in by them. If Ahmed wishes to get something out of Mohammed, he cajoles him by the very same wiles that Mohammed would successfully use against Ahmed. Mohammed grossly

flatters Ahmed and makes his point, while next day Ahmed will grossly flatter Mohammed and make his. I suppose the philosophy of it is this: a man plays upon the weakness of his neighbour, and, sharing the same weakness, may be played upon in return. It is cunning, not cleverness, in many cases, while of course it may rise into real diplomacy. But after all diplomacy is very much the same thing the world over, and the only sure diplomatist is the man who has conquered his own weakness.

The present season has been a disappointing one. Of course I knew that the bed of ashes existed and had to be removed, but the event in this case was more vivid than the anticipation. The autumn should be our most interesting season as the entire work will be in very early periods. We shall certainly need some exciting discovery to cheer us in the gloom of the malaria that hangs over this district before the winter rains. Negative results are often valuable in the field of discovery, but the discoverer himself may be pardoned for longing after the stimulus of something positive.

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NOTES BY G. ROBINSON LEES, F.R.G.S.

JERUSALEM, *February 11th*, 1892.

1. *Pottery from the Saris Cave.*—The Rev. J. E. Hanauer, on page 72 of the *Quarterly Statement* for April, 1890, mentions in his account of



POTTERY FROM THE SARIS CAVE.

our visit to the Saris Cave, that I found an old lamp, and on the same page speaks of the Freemasons as having been to the same



spot. The other day Mr W. H. Kayat kindly allowed me to photograph the pottery found by him and his brother Freemasons, along with my lamp. The latter is on the extreme left of the picture. It is of warm red-brown pottery, very coarse in texture. The bowl is in the shape of the earliest Phœnician, being open and pinched up into a spout, but the latter is more open than usual, and the bottom of the lamp is thick and rounded. It is evidently of that transition period when many of the Phœnician Ayles were merged into the Greek (*see* page 44 and No. 227 of Plate IX in Mr. Flinders Petrie's "Tell el Hesi"). In the large broken jar in the centre of the picture is the lower part of a similar lamp. The large jar which contains the few broken pieces is light greyish drab pottery, much finer in texture than any of the other pieces. The handle at the top is not a part of it, as it is more yellowy in colour, otherwise there is not much difference in the two pieces as regards kind and quality. According to the author of the book already mentioned, page 45, this is also Phœnician.

The small jug on the left has a broken counterpart near to it, on the lamp, which shows the circular rib of the inside. This and the remaining pieces are of light-red pottery, made of coarse clay, on which the earth has in process of time adhered so strongly that it seems a part of the surface, and so gives it a grey appearance. These jugs seem of a later period than the first-mentioned articles, and I am inclined to think, on again referring to Mr. Petrie's book, page 47, that this is Jewish pottery.

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2. *Potters' Marks on Christian Lamps.*—After careful examination, I have found potters' marks on three of the lamps from the tomb at Isawyeh, mentioned in the last *Quarterly Statement*, which no doubt show that the lamps were made towards the close of the Roman occupation of this country, as a palm branch, as a potter's mark, was only used in the latter days of the Roman Empire.

On referring to the potters' marks, on page 39 of the last *Quarterly Statement*, I would suggest that they are the initials of the names of the potters, Nos. 1 and 3 most probably being of slaves, and Nos. 2 and 4 either of the proprietor or master of the pottery.

I gather this suggestion from Dr. Birch's "Ancient Pottery," as he draws a marked distinction between the position of the owners of one initial, and two or more.

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3. *Lamps from Tomb near Silwan.*—I send you a photograph of three lamps found in a tomb south of the village of Silwân, which I hear Mr. Schick has planned. One is broken, and is consequently kept in the background, the most prominent place in the picture being given to the most complete and interesting. All three are made of fine red unglazed ware, and, according to Dr. Birch, in the work above mentioned, lamps of this kind were made during the decline

of the Roman Empire. These two further answer to his description, but more especially the one with the fish, as he says, "They are long and shoe-shaped, having subjects stamped on a flat bas-relief. These consist of the monogram of Christ—the great whale which swallowed Jonah—a fish, alluding to the monogram  $\text{IX}\Theta\text{YC}$ , in which was contained, 'Jesus Christ, Son of God, the Saviour,' necklaces of crosses, and other objects, and symbols."

The lamp with the fish has two on each side, each pair being separated by a rose. The one with heads has six in number, between which are palm branches, and the third, which is almost invisible, has triangles and roses.

Three other lamps were taken away by a priest, which I have not seen, but I was able to get a few links of a chain, and two beads that were found in the same place at the same time, which I hope to place in our museum here which we are forming in connection with the Fund.

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## LETTERS FROM REV. J. E. HANAUER.

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### I.

#### A CURIOUS COIN.

JERUSALEM, *May 2nd*, 1892.

THIS morning's mail brought me the *Quarterly Statement* for April. As I am on the point of leaving Jerusalem for Safed, I would, before starting, only write a hasty note to suggest that "the curious coin" figured on page 168 should be carefully examined again, if necessary, with a magnifying glass. I am confident that on the collar of the dress will be found the letters of the name  $\text{משה}$  = Mosheh = Moses; showing that the head is intended to represent that of Moses. In the celebrated statue by Michael Angelo, the great Jewish lawgiver is represented with horns. The idea of "*The Horned Moses*" is derived from the Latin rendering of the Hebrew word  $\text{קָרַן}$  in Exodus xxxiv, 29. It is translated "shone" in the English Authorised Version, but the original really means, as may be seen by reference to the marginal reading of the Revised Version, "horns," and accordingly in the Vulgate the passage reads:—

"Cumque descenderet Moyses de monte Sinai, tenebat duas tabulas testimonii, et ignorabat quod cornuta esset facies sua ex consortio Domini.

"Videntes autem Aaron et filii Israel cornutam Moysi faciem timuerunt propè accedere."

These modern "antiques of Moses" used to be rather common in Jerusalem in my boyhood. I have seen several on which the name

ניטה was very clear. There is such a one now in the collection of the Rev. A. Hastings Kelk, Incumbent of Christ Church, Jerusalem.

## II.

### ON THE IDENTIFICATION OF CALVARY.

Having just had an opportunity of reading Major Conder's interesting article in the current number (April, 1892) of "Good Words," on "The Place of a Skull," I beg leave to offer the following brief remarks on the same subject, in the hope that what I have to say will prove new to the readers of the *Quarterly Statement*, and not displeasing to Major Conder himself.

I have, in the first place, to announce the important and (to me, at any rate) significant fact, that the Herodian tomb to the west of the Damascus road, and known as "Conder's" Tomb, has, with the field and olive trees close by, been purchased by the Franciscans, or Cordeliers, the traditional guardians of the "holy sites," who have enclosed the whole place with a carefully-built dry stone wall and gate, with lock, and had the fine old olive trees trimmed.

In the second place, I would point out (what seems to me not to be generally known—at any rate, I have found no allusion to the fact in any of the publications of the Palestine Exploration Fund) that there exist ancient Christian traditions, *dating back to the early part of the second century*, and *possibly even to Apostolic times*, and indicating that "Gordon's Calvary" was a "place of stoning." "Gordon's Calvary" is the remarkable hillock above the cave called "Jeremiah's Grotto," because Jeremiah is said to have written his Lamentations there, and, what has been apparently forgotten or overlooked, *because he was stoned there*. Annually, on the 4th of November, the Orthodox (*i.e.*, Greek) Church commemorates the fall of Jerusalem, and during the special Service for the day a portion of an ancient Christian Apocalypse, of the year 136 A.D., and giving an account of the stoning of Jeremiah, is read. The Apocalypse in question is entitled "The Rest of the Words of Baruch," and has recently been edited by Professor J. Rendel Harris (Cambridge University Press). In his Introduction to the work, Professor Harris says, that an "important tradition concerning Jeremiah is that he was stoned. This is not an original idea of the Christian Baruch. We find it in the Epistle to the Hebrews. The famous passage, 'they were stoned, they were sawn asunder,' &c., is a summary of the sufferings of the worthies of Faith, and each statement is based on the history of some real person: it has always been known that 'they were sawn asunder' referred to Isaiah, just as 'stopped the mouths of lions' referred to Daniel, and 'quenched the violence of fire' to the three Hebrew children; but it is not so generally felt that 'they were stoned' belongs to Jeremiah. Yet such is the case, as the Baruch-Jeremiah legends show; and the Epistle to the Hebrews is therefore one of the early witnesses to the tradition.

. . . . The place of burial of Jeremiah is still shown in Jerusalem, in a cave which passes by the name of Jeremiah's Grotto. This grotto lies in the southern part of the conspicuous hill to the north of the city, which is supposed by many persons to be the place called Calvary. . . . And it is said that this hill is the Tarpeian Rock of ancient Jerusalem, the Beth-hassagelah, or 'Place of Stoning,' of the Talmud. It seems, then, that there is some connection between the death which Jeremiah met, according to tradition, and the place where he is said to be buried. And the tradition concerning this stoning in Jerusalem must be early; for the uniform church tradition of *later* days, as we find it in the life of Jeremiah, attributed falsely to Epiphanius, or the life that is given on his commemoration day in the Greek Church (*see* Menaem, for May 1), is that he was stoned, indeed, but at Tahpanhes in Egypt, and not, as the Jerusalem tradition and the Christian Baruch say, in Jerusalem. Can we be wrong in affirming the antiquity of the tradition which we find in our authority. The opinion of the first and second centuries seems to be that Jeremiah was stoned in Jerusalem," pp. 23, 24. In a foot-note to the above, the same recognised authority on Patristic literature remarks, "I do not forget that an attempt might have been made to bring the legends into harmony with Our Lord's words, 'O, Jerusalem, which killest the prophets, and stonest them that are sent unto thee,' but such a tendency would not have produced an earlier tradition, but a later one. It is more reasonable, though the hypothesis is not necessary, and might even be fanciful, to understand our Lord as saying this in allusion to the legends. When He said it He was in view of the place of supposed martyrdom of Isaiah on the south of the city, and of Jeremiah on the north."

I have quoted the above, because it strikes me that it contains a valuable addition to the already considerable mass of cumulative evidence we possess in favour of "Gordon's Calvary." Whilst, in my opinion, it is much to be regretted that, going to extremes, a good many Protestant tourists show an inclination to make a fetish of the mediæval tomb called "Gordon's," it is most satisfactory to find that we have so many different and independent lines of evidence in favour of Major Conder's identification of the "Place of a Skull."

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## NOTES BY MAJOR CONDER, R.E.

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### I.

#### DUSRATTA'S HITTITE LETTER.

I HAVE already, in a short paper in the *Quarterly Statement*, called attention to the Hittite letter of Dusratta (*see* "Altaic letter from Tell Amarna," *Quarterly Statement*, 1891, p. 245) and have communicated to

the Royal Asiatic Society a detailed account of this important text, of 512 lines of the Hittite language, including about 400 different words. As the *Quarterly Statement* could not contain all that should be said on the subject, I have sent a brief summary of results.

Dusratta, who lived about 1,500 to 1,450 B.C., was King of Mitani in Southern Armenia, son of Suttarna and grandson of Sitatana. His sister Thi was the queen of Amenophis III of Egypt, and his daughter Tadukhepa of Amenophis IV, her first cousin. The latter was thus half Hittite by birth, with a Hittite wife, and these unions, preceded by more than a century the marriage of Ramesses II to the daughter of Kheta Sar the Hittite prince, who is called after her marriage (Brugsch, *Egt. II*, p. 75) *Ur-ma uofiru-ra*. The letter of Dusratta, in his native language, refers to the embassy sent from Egypt, to ask for his daughter's hand, and to the offer of recognition of his conquests in Phœnicia. He sends a gift or tribute to the King of Egypt, and requests a written decree on papyrus to confirm the verbal message of Menes. He sends his own relative Gilius to conduct negotiations, and interpreters and scribes to translate and read his letter, which was written on both sides of a clay tablet in the cuneiform characters.

The most important parts of the letter are those which refer to his religion and to his kingdom. He worshipped the Akkadian god Ea, and a god Tessub, who was the local representative of Rimmon. His father's name Sut-tarna ("Set judges"), shows that the Hittite deity, Sut or Set, was also adored in Armenia; and we thus find that the religion of Hittites, Armenians, and Akkadians was probably the same, as well as their language, and their very pronounced Mongol type of face and of dress. The language, it may be remarked was more nearly akin to pure Turkish than to any other branch of the Mongol speech. It has nothing in common with the Aryan dialect, which was spoken 700 years later in the region near Lake Van, and which superseded the old Mongol dialect after the time of the advance of the Medes from the Caucasus against Assyria. The present inscription at last renders these points indisputable.

Dusratta was a Minyan (*see* Jeremiah li, 27), and his capital was at Ikhîbin, which may be the modern Kaban Maden; but it appears that he had extended his conquests westwards, to the country which was then ruled by Egypt—the Hittite region of Northern Syria. The Minyans, or *Men*, had ruled for centuries over the Delta in the Hyksos period, but had been driven back to their home some 200 years before Dusratta's time, by the first kings of the 18th Dynasty. They seem to have been the chief power in Armenia at this time, bordering on the Assyrians on the south, and on the dominions of the Semitic prince of Elishah to the west. The following passage in the letter is of special interest.

"Brother, thy border in the land over against Egypt is . . . and to proceed, I being empowered to extend myself thereto, command thou the people to take me as prince and master: their duty . . . being made known by interpretation made, is not the owning of the land thus made

clear? Proclaim thou for me that, whatever I have conquered of the land of Chalcis, the land of Chalcis in Phœnicia west of the Minyan Kingdom, is made subject. Brother, thy word is enough; none henceforth will dispute my right to be the people's master. As to the going forth thereof, is it not thus that it shall be?

"To proceed, let my brother send his order to me alone, as to that which I desire to have extended. The order received, I go forth. Brother an order, if thou favourest me, is to be all clearly written. Thereby this region being ruled united by me, I being Suzerain of the people of the Hittite country, taking to me all the conquered people. Let it reach to the city of Harran."

Turning to the map we find Harran (*Harrân*) not far from the Taurus on the edge of the southern desert, and Chalcis (*Kinnesrin*) south of Aleppo—being the Khalka conquered by Thothmes III a century earlier (No. 140 of the Karnak list). Thus Dusratta was to receive a large slice of Phœnicia and Northern Syria, including the important towns of Merash, Aleppo, and Carchemish, and was to rule these apparently, together with Militene or Mitani, and the Minyan country to Lake Van, as a tributary of Amenophis III. The Egyptian boundary proper would then extend not far north of Hamath. All this Hittite region revolted from Amenophis IV a generation later, and in a later letter we hear of the Hittite King flying for protection to Mitani itself, while Egyptian vassals were striving to maintain the decaying power of the husband of Tadukhepa—perhaps during the lifetime of Dusratta, who survived Amenophis III.

The latter part of this very important political document refers to the marriage of Tadukhepa, who was to be conducted by Menes to the land of Zoan and to Egypt, and married in Thebes (No) "before the image" to the Egyptian heir. This arrangement was duly carried out. The last paragraph of the letter appears to read somewhat as follows:—

"Assuring you that all that prince and people can do will be done speedily, it is hoped that the Minyan will be commanded to the fullest extent. Brother my subject acting for me as thought best, the subject having received fully written what is to be graciously conveyed to me in the Minyan land, the princes (Khakhans) ruling the whole race of the Minyans having agreed: this people which my brother makes subject to me seeing that what I do is beneficial to their land, ready as subjects to trust what I do: a decree being made: my brother and the princes ruling Minyan land being agreed, and the people being submissive; and all I had to speak about being written, an increased renewal of friendship (is produced) the Minyan Kingdom being increased, and I too if the subject race are not obedient levying war if obliged . . . therefore again make thou the people to be (ruled?) by a prince."

The importance of this text, in connection with the decipherment of the Hittite inscriptions, is evident. Together with the letter of Tarkondara, Hittite prince of Rezeph, near Palmyra, it is written in the Hittite language; and we thus obtain with certitude the forms of that language

and its grammar, and a vocabulary of 400 words. By grammar and vocabulary alike it is clearly shown to be a Mongol language closely connected with the yet older Akkadian, and with the pure Turkic speech of Central Asia, which is completely known to us, in the case of the Yakut dialect, through the labours of Bøhtlingk (published at St. Petersburg in 1851), although very little studied in England. It will henceforth, I think, be agreed to abandon the erroneous comparisons with Hebrew, Armenian, Georgian, Vannic, Aryan speech, and Chinese, which various scholars have proposed, in favour of the comparison with languages of the same age in which the Hittite texts were written, and of the countries more immediately adjacent.

## II.

## THE TELL EL HESI TEXT.

The newly proposed reading  $\text{לְהַכֵּךְ}$  for this text, seems much more probable than those before suggested, inasmuch as it recognises that the second letter is  $\eta$ , and because it avoids the improbability of the word being a personal name, to which I have referred in a previous note. The opinion of M. Renan on such a question is also of considerable authority. Still, there remain difficulties in such a reading, which should not be overlooked.

It is the case that on the Carpentras stone the *Samech* has a shape somewhat like that of what I have supposed to be *Vau*; but this monument (which is said to be of the first century B.C.) does not give the proper forms for the other letters; and I cannot find any earlier example

Lachish.	Aramean 7th cent. B.C.	Carpentras stone.
ל	Ⲙ Ⲙ	Ⲙ Ⲙ
א	Ⲑ ⲑ	Ⲑ ⲑ
י	ⲓ Ⲕ	ⲓ Ⲕ
ו	ⲕ Ⲍ	ⲕ Ⲍ
ז	Ⲏ ⲏ	Ⲏ ⲏ
ח	Ⲑ ⲑ	Ⲑ ⲑ
ט	Ⲓ ⲓ	Ⲓ ⲓ

of an Aramean *Samech* of suitable shape. The comparative table will show what I mean. The proposed reading might perhaps mean "for anointing oneself"; but the forms of the other letters seem to me to

show that the text is about the seventh century B.C., when the *Samech* had not assumed the supposed form. For these reasons I regard להנוד as still a probable reading.

## III.

## RECENT HITTITE DISCOVERIES.

12th May, 1892.

Among other valuable texts published by Professor Ramsay and Mr. D. G. Hogarth, are those discovered by Sir Charles Wilson, at Gurun, which are specially interesting because they are the first on which it seems clear that numerals are represented, and they serve to confirm my conjecture as to the sign for *ten*. The numerals which occur include nine vertical strokes for "nine," and eight for "eight," and the following groups also occur (Figs. 1, 2, 3):—

FIG. 1.



FIG. 2.



FIG. 3.



FIG. 4.



The first of these appears to stand for "twenty-seven," and the second for "eighteen," while the third is "twenty." The Hittite numeral for "ten" has thus the same form which is used both in Egyptian and also in Cuneiform, and its probable sound would be *un*, as in Akkadian and in Turkic speech for "ten."

There is a seal in the Ashmolean (Fig. 4) which Dr. Sayce regards as a new Hittite bilingual, having a text of three lines in ancient Cuneiform of about 1800 B.C. Dr. Sayce reads it, "Indisilim, son of Serdamu, worshipper of the deity *Iskhara*." The four Hittite emblems are as shown in the sketch, and according to my system of reading may stand for *Isgar Raba*, "Slave of *Isgar*." The first sign is not a deer's head, but clearly that of the ass.

## IV.

## NOTES ON THE "QUARTERLY STATEMENT."

P. 115. The tombs found on the hill west of the Montefiore cottages belong to the class of Roman and Byzantine tombs which are particularly numerous east of Jordan, dating from about the second to the fourth centuries, A.D. But it is not impossible that the new tombs may belong to the first century A.D.



When Josephus speaks of "Herod's monuments," which Herod does he mean? Herod the Great was not buried at Jerusalem, but at Herodium. Herod Archelaus died in Gaul; Herod Antipas died in Spain; Herod Philip II was buried at Bethsaida in Galilee; Herod Agrippa I (A. D. 37-44) died at Caesarea, but may have been buried at Jerusalem, and seems to be most probably the Herod intended ("Wars," v. 12-2.) The monument lay west of Jerusalem, but the indication of site is very vague. The masonry of the new tombs is not unlike that of Herodium, and the mouldings might in Palestine be as early as 44 A. D. The supposition that "Herod's Monuments" have been discovered is, therefore, not unreasonable.

P. 120. The tomb at the Rock of the Skull was not a new discovery, even when General Gordon was in Jerusalem. It is described in the memoirs, but there is no reason for regarding it as a Jewish tomb. When I first entered it it was full of human bones. It belongs to the middle ages, and was used by Latin Christians of the twelfth century. On this point I have written more fully in "Good Words" for April, 1892. I do not think, therefore, that "everyone may choose as he likes" in such a question, when the tombs which are proposed for the Holy Sepulchre belong to much later times.

The tracings received of the crosses and letters found in this tomb, and mentioned in the memoirs, show that the cross is that of a Latin patriarch, and, consequently, not older than the 12th century. The accompanying letters are often found in similar cases, as, for instance, in the 12th century monastery of Kasr Hajlah in the Jordan Valley.

Mr. Bliss's report on his excavations shows how much is to be found by digging in Palestine. Unfortunately, the indications of date at Tell Hesi are at present very meagre, but it cannot be doubted that the town existed in the times preceding the captivity. The most distinctive indications as yet are a wall showing the usual features of the Byzantine masonry of the fifth century A. D., a Greek inscription, not very early, but found low down, and a Hebrew or Aramaic jar text, which at earliest is of the seventh or eighth century B. C. The fragments (p. 109) described as "Amorite pottery," bear marks which resemble Hebrew or Aramaic letters in some cases of late date (about the second or third centuries B. C.), though a few may be older; but as the Phœnician alphabet is not supposed to have been invented till after 1400 B. C., it seems clear that these remains cannot be dated very early, even in the earliest examples, nor unfortunately do the Egyptian scarabs give very clear indications of date.

P. 115. I am unable to find in any of the published Tell Amarna letters, or elsewhere, any indication of the use of cuneiform in Egypt. The supposed "waste scraps of the cuneiform scribe who wrote answers to the celebrated tablets from Babylonia," are not stated to be of unbaked clay, and if unbaked would hardly have lasted 2300 years. If they are baked they would not be "waste scraps," but rather fragments of the letters already known. King Dusratta in writing to Amenophis III

speaks of the reply as being on "papyrns," and no doubt in Egyptian characters as are the docketts on the letters received. These letters also show that interpreters were sent to Egypt to decipher and explain them, since neither character nor language were familiar to Egyptians. None are written, as far as known, by Egyptians, and it seems that Egyptians were also sent to the Asiatic princes to explain the letters sent in return.

P. 164. The fragment of inscription from Rukhleh seems to be new. Waddington gives two (2557 C and D), and I copied a third one in 1873. One of those first known has the date 1st October 82 A.D. (404 of the Seleneidæ), being one of the best indications of the dates of these Hermon Temples.

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## V.

### MURRAY'S GUIDE.—PROPOSED IDENTIFICATIONS.

In the new "Murray's Guide" there is a list of "Identifications suggested for the first time," which should be regarded with caution. There are 15 in all, as follows:—

1. *Mahanaim* at *es Salt*. In Heth and Moab I pointed out, nine years ago, that this was the vicinity in which to seek; but the identification with *Mukmah*, N.E. of Es Salt, has escaped the author's notice.

2. *Mizpah Gilead* at *Sâf*. This I suggested some time ago, and it appears with a query (which I think perhaps not necessary) in "Names and Places," p. 131. See "Heth and Moab," New Edition, p. 181.

3. *Ramoth Gilead* at *'Ajlan* seems to me less probable than the proposed site at *Reimân*.

4. *Kattath* at *Khashûsh* is objectionable because the two names do not present a letter in common.

5. *Misheal* at *Rushniâ* is not possible topographically, and the names have nothing in common. I regard my proposed identification at *M'aisleh* as more probable.

6. *Dabbasheth* is probably the present *Dabsheh*. The name *Zebdah* has nothing in common with the Hebrew, and the site appears not to fit.

7. *Ittah Kazin* at *Kefr Kenna* is not a new suggestion at all; and the word *Ittah* only means "as far as." Kazin should in Arabic appear as *Kaḏin* not as *Kenna*, which is written with *Kuf* and not with *Koph*. On account of these objections the old proposal has been dropped, and now reappears as a new one.

8. *Remmon Methoar Neah* means "Rimmon extending to Neah." It is difficult to understand how this can be regarded as a new identification. Neah is unknown, and Rimmon has always been placed at Rummaneh.

9. *Hannathon* at *el Khalladijeh* is quite impossible topographically, and only the first letter is common to the two words. No difficulty arises in the usual identification of Hannathon at *Kefr 'Anân*.

10. *Valley of Jiphthah-el* at *W. el Melek* is much too far south. The names have no connection.

11. *Bethsaida* at *el Mes'aidieh* I proposed with hesitation some time ago. The idea is, therefore, not new ; but further consideration induced me to look for the true site further north.

12. *Beten* at *Tibuin* is inappropriate topographically, and the argument which places *Beten* at *el Bunch* is overlooked by the author.

13. *Helkath* at *Yerka* is also not new. Vandevelde proposed it a long time ago, and it appears in "Names and Places," p. 84, with a query.

14. *Achshaph* at *Kala't esh Shukif* is not satisfactory as regards philology, since the *Caph* and the *Qaf* are confused. The site also is a Crusading Castle ("Castle of the Cliff," as the name implies) : the position is not that in which *Achshaph* can be supposed to have lain, and the identification which I proposed at *Kefr Yasif* seems to me more probable.

15. *Janoah* at *Hunin* is not in any way to be preferred to the old identification at *Yanuh* which presents exactly the Hebrew word, whereas *Hunin* has no connection at all with the Hebrew root.

It would seem, therefore, that out of these 15 new identifications there is not one of any real value. Several of the proposals introduce great confusion into the topography, and in a third of the cases the proposals are not new, while several others suggest that the author is not familiar with the words in the original languages and characters.

## ESSAYS ON THE SECTS AND NATIONALITIES OF SYRIA AND PALESTINE.

(Continued from April "Quarterly Statement," p. 153.)

### THE MARONITES.

By FREDERICK JONES BLISS, B.A.

#### IV.

##### THE RITUAL.

The Maronite service books contain two languages, the Syriac and the Arabic. In general, it may be said that the portions relating to the direct worship of God are in Syriac, and those looking towards the edification of the people are in Arabic. For example, the mass, the seven daily hours of prayer, and the funeral services are in Syriac, while the rites of baptism and marriage are largely in Arabic, including some of the prayers. The scriptures are always in the people's language. The Arabic, however, is written in the Syriac character, and spoken of as *Karshuni*. Some parts of the ritual are chanted to tunes containing minor intervals, melancholy yet pleasing in effect. In churches which do not have regular singers, the men and boys often join in the chanting.

A well-to-do church should contain from 12 to 15 different books. The poorer churches may dispense with some of these. The following is a list of books :—

I. The *Shîm*, containing the prayers for seven times in the day, for the seven different days in the week, all in Syriac: 1. Evening prayer. 2. *Sittar*, an hour or two after sunset. 3. Midnight. 4. Dawn. 5. Third hour. 6. Noon. 7. Ninth hour. These prayers are said regularly in the convent churches, five times a day, the fourth being combined with the fifth, and the sixth with the seventh. The parish priests should also say them in their own houses. At the hour of prayer a priest may often be seen walking upon his flat roof, service-book in hand. Not all priests understand the literal meaning of the Syriac. In the parish churches the *Shîm* is used only in the evening service, which is held at the option of the priest. The gospels for the day are read on Sundays and feast-days, or if a large congregation is present. The large *Shîm* used in the churches is usually in manuscript. There is an old printed edition, and a new edition is now in press. The priests carry an abridged form, which is printed.

II. Book for feast-days, in two volumes, for summer and winter. They contain Syriac prayers for various hours in the day, which are substituted for those in the *Shîm*. In a church too poor to own these books the *Shîm* is read instead. Usually found in manuscript, though an edition was printed in Rome, omitting the two *Marûns*.

IV. Book of the Mass, in Syriac, with Arabic gospels.

V. *Sinksar*; brief notices in Arabic of the apostles, prophets, martyrs, saints and councils, for every day in the year. Two or three commemorations often occur on the same day. Manuscript; read at the evening service.

VI. *Rish Quryan*, Arabic selections from the prophetic passages in the Scriptures (as from the Psalms and the Epistles, as well as from the Prophets), to be read on feast-days.

VII. Epistles of St. Paul.

VIII. Gospels, printed at Rome in parallel columns, Syriac and Karshuni.

IX. Funeral services, for a Patriarch, priest, monk, man, woman, &c.

X. The Ritual for Ash Monday, Palm Sunday, the Washing of the Feet, Good Friday, Easter, Pentecost, the Feast of Mar *Marûn*, &c. Largely in Arabic. Printed at Rome, 1839; title: *Rituale aliæque piæ preces ad usum ecclesiæ Maronitiæ*.

XI. Rites of baptism, churching, betrothal, marriage, extreme unction, &c. Printed at Rome in 1840; title: *Ritus administrandi nonnulla sacram. ad usum eccl. Antiochenæ Maronitarum*.

XII. Book for Lent, to be substituted for *Shîm*; but not found in poorer churches. Syriac manuscript.

XIII. Book for Passion week. Syriac manuscript. In churches that can afford a copy, it is substituted for the *Shîm*.

XIV. Service of Deacon.

XV. Ephraimate. Chants by St. Ephraim, to be introduced into different parts of the service.

Among the church books it is very uncommon to find an ancient manuscript on vellum. The late Patriarch declared to me that there were no old books to be found in the Lebanon, owing to the frequent wars engaged in by Moslems, Metawileh, Turks, and Crusaders, when churches and convents were devastated. It is understood that he had a good private collection. I am told that it included a MS. professing to be in the handwriting of Mar Yuhanna Marûn found in the store-room of the convent of Deir Hûb, but I do not put much faith in the story. I have seen three or four illuminated gospels, the oldest of which may have been 500 years, but the chances to find such manuscripts are growing rarer every year. The Priors of monasteries have no right to sell their books. The late Monsignor Joseph David, Syriac Catholic Archbishop of Damascus, told me that during the first half of the century a rich collection of Syriac manuscripts was burned in the Greek convent of Sedanaya for fear of their falling into the hands of the Maronites.

Mass is said every day in the year except on Good Friday. Every Maronite is obliged to confess and commune at least once every year, at Easter. In some places at this time the priest goes about with a ledger, in which he writes the names of the villagers present, who must come to confession. I was told by the son of a priest that in the case of very old and holy men, communion may be taken without an antecedent confession. As to frequency of taking the Eucharist, it is impossible to make any general statement, as the people vary in this matter as do members of English churches where the sacrament is constantly celebrated. It is usually taken on the great feasts. The cup is not given to the laity. Mass is never commenced after noon, but in the case of a great feast, as of Easter, where the communicants are many, it may be prolonged till after mid-day. In the villages, even upon Sunday, the mass is usually said soon after sun rise. As an illustration of the high sacramentarian views taught, I may mention a story told by a well-known Maronite preacher of a Jew who, having received the wafer from the priest at mass, took it from his mouth, and going home threw it in the fire, whence there emerged a little child weeping. The Eucharist may be taken as early as a child understands the meaning of confession and before his confirmation.

It may be well to speak briefly of certain ceremonies occurring during the church year. On December 15th, the priest consecrates two wafers; he partakes of one, and the other he puts in the "house of the body" on the altar, to be taken out and elevated every evening from the 16th to the 24th inclusive, in celebration of the nine months of the Virgin's pregnancy. On the evening before Christmas he eats the second wafer. In some churches the nine months of pregnancy are not celebrated in this way, but by carrying the picture of the child about the church for nine days previous to Christmas. Representations of the manger, with toy images of the mother and child, the cattle, sheep, &c., are found, but

not commonly in the mountain churches, a fact probably indicating that the custom is a recent innovation.

The rites of blessing the water on the feast of the Baptism of Christ, January 6th, occurs at the beginning of the midnight mass. The Sacristan places a bowl of water on the lectern or on a table in front of the altar, and lights two candles. The priest says prayers in Syriac and Arabic, and selections are read from the Epistle to Titus and the Gospel of John, the latter selection being the account of the Woman of Samaria. The priest then takes a coal from the censer and immerses it in the bowl of water; this he does three times, in the name of each person of the Trinity respectively. He then sprinkles the people with the consecrated water. After mass the people take some of the water home in bottles. The priest also visits the houses and sprinkles them with the holy water.

The rite of blessing the candles on the Feast of the Presentation of Christ to the Temple, February 2nd, is an important one. A tray of candles is placed on the lectern. In the prayers, both Arabic and Syriac, constant reference is made to the Light of the World. The account of the creation of the sun and moon is read, also the account of the golden candlesticks made by Moses, also the description of the New Jerusalem which needs no light, but that which the Lord gives, and finally the passage in Ephesians v, 8-14, where they are exhorted to walk as children of Light. After blessing the candles and sprinkling them with holy water, the priest distributes these among the people, who must make an offering of money in return. The value of the candles for believers is held to be great; they ward off sickness and evil spirits, especially at the time of death. Sometimes they are burned in the booth where silk-worms are being raised.

On the Feast of Mar Marûn, February 9th, the picture of the Saint is placed on the altar, and during the rite it is borne around the church three times, in a procession. After mass the people come forward to kiss the picture. Mar Marûn is commemorated also on the second Sunday of every month. On the third Sunday of every month there is an especial service in connection with the Society of the Scapular of Our Lady of Mount Carmel.

In the Maronite church, Lent begins with Ash Monday. On Saturday evening the Sacristan takes from the Sacristy the dried olive branches preserved from the Palm Sunday of the previous year, and reduces them to ashes by burning them in a brazier. On Monday the ashes are placed in a tray on the lectern, and before the mass a special service is read, with prayers in Syriac and Arabic. It is directed that the Psalms should be sung to a "sad tune." The priest sprinkles the ashes with holy water, and incenses them from the censer, praying for a blessing upon them. Then the people advance one by one, and the priest makes the sign of the cross on their foreheads with the ashes saying: "Remember, O man, that dust thou art and that to dust thou shalt return." At the end of the rite the priest reminds the people that the Roman church has ordained that believers, receiving this rite with real

repentance, shall obtain forgiveness for 40 years; referring undoubtedly to remittance of purgatorial punishments.

On every Friday in Lent a special service commemorative of the death of Christ is read.

We may mention here a general custom in which the Maronites share. On the Saturday before Palm Sunday the school boys go from house to house carrying a long roll of paper, on which has been written by the teacher a poetical account of the raising of Lazarus. Two boys unroll the paper, another lies on the ground under it and the rest chant the story. When they reach the point where Lazarus comes forth, the boy gets up and the paper is rolled up again. A collection is made of money and eggs, &c., part of which goes to the teacher.

On Palm Sunday a tray of olive twigs is placed on the lectern, and a special service takes place. After the blessing of the twigs or branches, there is a procession, in which boys sometimes bear the branches; the singers introduce in the chants the words "Hosanna to the Son of David." The service is long and contains much scripture. After mass the people take home the twigs for a blessing. I am told that it was an ancient practice to erect an olive tree in the church, but that it was given up as there arose some unseemly disturbance when the people pulled it to pieces. The Greeks celebrate Palm Sunday in a somewhat similar manner, but do not go through with the ceremony of the ashes on Ash Monday.

During Passion week the pictures are draped in the Maronite churches, and a black curtain is hung over the altar with models sewn upon it in white cotton—representations of the Cross, the crown of thorns, the nails, hammer, pincers, the scourge of ropes, the striking hand, the ewer and basin used by Pilate, the cock, the torch, a sword, the sun, moon, and stars, the sponge, and the spear.

On Thursday of Passion week occurs the rite of washing the Disciples' feet. In the Greek church in Syria the Patriarch performs this at Jerusalem, but the priests do not observe it while in the Maronite church the ceremony is observed in every village. I witnessed it recently in the cathedral church of Beirût, which was so densely thronged with spectators that Turkish soldiers were on guard. The high altar was draped, but over the right side altar was erected a lofty canopy, or framework hung with white muslin, trimmed with pink ribbons, and decorated with candles and flowers, both real and artificial. In this booth was kept the wafer which had been consecrated that morning, that on Good Friday, when no mass is said, the priest might communicate. In the village of Hammama I was told that this was not the custom.

A platform was built out into the nave below the pulpit. It was carpeted, and on it were placed twelve chairs, six facing six, on which sat twelve surpliced boys. The Bishop in his ordinary dress mounted the platform, and there was robed in canonicals, with mitre and staff and took his seat at the end. In the pulpit a priest and deacon chanted the account in the Gospel of John. When they came to the words,

“He arose from supper,” the Bishop arose, was disrobed, and was girt about with a towel; attendants carried a ewer, basin, and an embroidered towel, the Bishop then washed the heel of the right foot of three boys, kissing the foot, while they kissed his hand. He then was robed again and took his seat, while some chanting went on. The readers began again, and the Bishop proceeded to wash the feet of three other boys, as before. This was repeated a third and a fourth time; except that after washing the feet of two of the last three boys, when the reader reached the words, “Then cometh he to Simon Peter, and Peter said unto him:” the remaining boy rose and read from a paper, “Lord, dost thou wash my feet?” The Bishop read the reply, and when the conversation between Jesus and Peter was completed, the Bishop finished the washing. There was no attempt at dramatic representation. In the villages the ceremony is conducted in a simple manner, though the rite is the same. The service book, however, gives an alternative rite for small churches. After the ceremony is over the boy who is supposed to have represented Judas is sometimes mocked and beaten by his comrades, in a spirit of mischief.

On the same Thursday the Patriarch, with two or three Bishops, at his Seat, consecrates the oil of baptism, oil for extreme unction, and the Meirûn (oil containing balsam) for ordination and confirmation, to be used also in the rite of baptism. These three kinds of oil are distributed by the Bishops among all the Maronite churches for use during the year. Oil remaining from the year before is burned.

The rite of the adoration of the cross, commonly called the burial, is celebrated on Good Fridays. In the Book of Ritual it is appointed before noon, but when I saw it it took place about 4 p.m. In the centre of the church there was erected a small platform, upon which was placed a short, deep bier, hung with white lace and pink cambric. As the people came in they threw bunches of flowers into the bier. In front of the altar there was a wooden stand, with steps, on which was erected a cross, with a coloured plaster figure of the Saviour fastened to it. This figure, which was hardly a yard long, was covered with crape. On either side there was a candle, one of them veiled in crape. A round table covered with service books stood just outside the altar rails at one side; the priest and laymen both read from the books on the table, the former standing within and the latter without the rails. The priest wore no robes but put on the stole at times. The service was long and impressive, including many melancholy chants and selections from the scriptures. After it had continued for some time the candles around the bier were lighted, also the one candle near the cross and the candles under an altar at the side of the church, where a place decorated with flowers had been prepared to receive the figure. The priest unfastened the figure from the cross, and bearing it into the body of the church placed it in the bier, covering it up with flowers. Four men in surplices took up the bier and carried it around the church three times, preceded by the priest walking backward and swinging the censer, and followed by a procession



of men and boys chanting and bearing candles. When they put down the bier the priest walked around it, prostrating himself on each side. He then took a large silver crucifix and held it up for the people to kiss, repeating as they pressed forward the Arabic salutation for feast days, equivalent to "Many happy returns of the day," literally, "Every year may you be at peace." As the people left the church they stopped before a small table at which was seated the wakeel of the church with a plate before him containing a mixture of oil and dough, into which he dipped a candle, making the sign of the cross on the forehead of those who dropped a piece of money on the table. Later, the crucifix was placed in the "tomb" I have mentioned at the side of the church. In the village services the ceremony is less elaborate; a simple crucifix is placed on a black cloth resting on a chair, the cloth taking the place of the bier. In the Greek church, which allows no image, a cloth on which is imprinted the figure of the Saviour is carried by four men. I have seen people bend and pass under the cloth as the procession went around the church.

No bells should be rung on Thursday, Friday, or Saturday till noon.

The services on Easter begin immediately after midnight. The altars are decorated and the pictures undraped. The priest wears his robes and, after some prayers, approaches the tomb accompanied by deacons and people bearing candles. He incenses the tomb three times, and calls out in Syriac three times: "Christ who rose from the house of the dead has had mercy on us." He then takes out the figure or crucifix, covers it with a white veil, and carries it in front of his face, while the people follow in grand procession singing and chanting. After all have kissed the cross the flowers are distributed to the people "for a blessing." Easter Sunday and Monday are celebrated universally. The ecclesiastics receive visitors, who bring with them gifts. The people also visit each other, and come out in new clothes. The children amuse themselves by colouring eggs, which they strike together in a sort of game. Tuesday is also a feast, but the people are not required to abstain from labour as on Monday.

Between Easter and Pentecost the people do not kneel in the churches, nor prostrate themselves, as a sign that they are "risen in Christ." Accordingly, on the latter feast, on which they return to their kneeling, there is a special rite, divided into three parts, in honour of the Three Persons in the Godhead respectively. In each part there are prayers and readings from the Psalms, the Acts or Epistles, and the Gospel of St. John. At the end of the first part the priest says in a loud voice, turning to the people, "Kneel before the Lord upon the left knee." The people obey, and after a prayer the priest says: "Rise in the strength of God and worship Him who rides upon the sunsettings,"<sup>1</sup> &c. In the second part they kneel upon the right knee, and lastly upon both knees together. The language of the rite is certainly very impressive.

The Feast of Corpus Christi is observed under the Arabic name of

<sup>1</sup> Probably a rendering of ערבנות in Ps. lxxviii

The Thursday of the Body. Occasionally there is a procession bearing the Host from church to church.

On the Feast of St. Peter and St. Paul there is a procession, and a basin of water is blessed and placed on the lectern, from which after the service the people fill small bottles of water to take to their homes.

The rite of baptism is largely in Arabic. Pure water, warm or cold, is to be used. It is to be poured on the head in three handfuls, and not sprinkled except in cases of extreme necessity; in such exceptional cases the water must trickle down the face. The child should be either entirely undressed and placed in the font, or else have its head bared, in which case it is held over the font. When there is fear of death a midwife may baptise, but she is to use the formula: "I baptise thee," &c., and not the words "I seal thee," &c. (The Arabic word رشم is obsolete; it

originally means to seal or stamp, as wheat when measured.) Nothing but holy water should be used except in extreme cases. The god-parents should be seven years of age at least. It is required that the names of the god-parents, the child, and the priest officiating, should be registered in the church book. One god-parent is sufficient, but there may be two.

The priest meets the child with its god-parents at the door of the church, and after a prayer he asks the child's name; when this is given, he asks what is the reward of faithfulness; the answer is: "Life everlasting." The priest then says: "If thou wouldest lay hold on life everlasting keep the Commandments, that thou shouldest love the Lord thy God with all," &c., &c. The priest then says to the child: "May the evil spirit go out of thee, that the righteous spirit of holiness may dwell in thee." Here follows a direct adjuration to the evil spirit. He then blows in four corners of the child's face, as a sign of the cross. Then placing his hand on the child's head he prays for spiritual blessing. Here follows the blessing of the salt; the priest then puts a little in the mouth of the child, saying: "Receive, O child, this salt of wisdom, that it may benefit thee in the everlasting life." Then follows another adjuration to the evil spirit: "I adjure thee, thou evil, accursed spirit, in the name of the Father, and of the Son, and of the Holy Ghost, that thou depart far from this thy servant, in the strength of the Lord Christ, by which He walked on the waves of the sea as if He were on dry land, and in the strength by which He put forth His hand and saved Peter when he was about to sink."

They then enter the church, the priest bearing the child. After some prayers, the repetition of the Lord's Prayer and of the Nicene Creed by the god-parents, and another adjuration to the evil spirit to depart and give place to the Holy Ghost, the priest places his hand upon the nose of the child, saying: "Open, O nostrils, and breathe in the sweet odours of God, and flee thou accursed one, baffled because the judgment of God is nigh." Here the priest approaches the font, pouring water in it, and lights a candle. He adjures the evil spirit to depart from the water "that it may be a fountain causing eternal life." After several responsive

ences, he drops three drops of tallow into the water, saying: "In this water man is regenerated by a new birth, and becomes the first born of Heaven . . . for all are born from the womb of the church, the spiritual mother, by a new birth. Drive out, O Lord, every evil spirit and every Satanic wile from this water that nothing opposed to the mystery of baptism may have influence in it, now and for ever." During the blessing of the water the priest blows upon it, and then plunges a lighted candle into it, saying when he takes it out: "May the power of the Holy Ghost enter the water to blot out all sins . . . that whoever is bathed in it may be born a new child, pure, purified by the grace of the Holy Trinity." He then puts in the water some of the oil of baptism, praying that it may be united to the water; and also some of the Meirûn. After asking whether the child renounces Satan and all his works, he anoints his breast and shoulders with the oil. The child is then questioned as to his belief, the god-parents answering for him. The baptism is then performed, the priest pouring a handful on the head of the child in the name of each Person of the Trinity. The child is then returned to the god-parent, and the priest, putting his thumb in the Meirûn, anoints him on the forehead, praying that he may be anointed by the Meirûn of Salvation. The priest then washes the child, puts a white veil upon him, and gives him a light, all with appropriate prayers, referring to the symbolic meaning. The ceremony closes with a procession, and with prayers in Syriac and Arabic.

Once, in speaking with a Maronite peasant about the frequent ablutions of the Moslems, I remarked on the fact that the Christians have no such ceremonies. "No," he replied, "the Moslems were never cleansed in baptism as we are, and are always trying to get rid of their natural evil odour by washing themselves all over, but without success. Thank God, I have had no need of a bath since I was baptised." I heard this physical theory of baptism advanced some time later, in another place, by a Greek Catholic, from which it might be inferred that it is common among the peasantry.

As marriage customs and festivities are the same with all Christian sects in Syria, it will be sufficient to give a brief outline of the Maronite service.

The priest is commanded to inquire if there be any impediment to the marriage. In computing the degree of relationship, the Eastern Church counts all the persons up to the common ancestor. For example, first cousins are said to be related in the fourth degree; an uncle and his niece, in the third degree; children of cousins, in the sixth degree. The Eastern Church forbids marriage within the seventh degree. According to the Council of Lebanon, the Maronites are forbidden to marry within the eighth degree, Eastern computation; in the fourth degree, Latin computation. Licence may be obtained from the Patriarch, through the Bishops, for a fee which varies according to the nearness of relationship; in this way first cousins may marry.

The marriage service begins with the blessing of the rings by the priest;

gives the bridegroom his ring, saying, "May the right hand of the Lord be given to thee with grace," and does the same to the bride. Then follows the blessing of the crowns or rosaries which may be substituted. A passage is read from Ephesians (v. 22-33) and from Matthew (xix., 3-6), followed by prayers, in which the Lord is asked to bless the crowns to the groom with the blessing with which He blessed Abram and Sara, Isaac and Rebecca, Jacob and Rachel. The pair are then crowned with the prayer that they may receive the crown of righteousness. After this the priest puts a crown upon the head of the groomsmen, or, if he be married in his hand. The bridesmaid is also crowned. Here follows an exhortation to bride and groom; the latter is urged to love his wife, not to insult her, not to strike her or curse her relatives; the bride is urged not to disobey her husband, unless he commands her to sin; not to tell his secrets, not to come between him and his relations, or to answer him with bitter words. The priest then joins their right hands and pronounces the marriage formula in the name of the Trinity. The Lord is prayed to send His blessing on the marriage, as He sent it to Tobias and Sara by the presence of Raphael. After various prayers and responses, in which the marriage at Cana is mentioned, the priest looses the hands of the pair and takes off the crowns, saying, "Thou Who didst wear the crown of thorns, and didst take from us the thorns of sin, remove from this pair these perishable crowns, and put upon them the crown that never perishes. Amen." The ceremony closes with another exhortation and a prayer.

The rite of extreme unction is in Arabic, and is administered when the sick is supposed to be at the point of death. Should he linger on, remaining in bed, and then die, the rite is not repeated. If he recovers, so that he is able to rise, and then later has a relapse and dies, the rite is repeated before his death. The priest anoints the eyes with the sacred oil, praying that the sins of sight may be forgiven, and proceeds to anoint the ears, nostrils, mouth, hands, and feet. Reference is made in the final prayer to the commands of the Apostle James, to pray over the sick, anointing them with oil, and the priest prays the Lord to restore the sick man to health.

The funeral services are in Syriac. If the deceased be a member of the Brotherhood of the Immaculate Conception, the Litany of the Virgin follows, while all hold candles. At a Maronite funeral recently attended, there were several Greek Catholic priests standing in the chancel, but at one side. The corpse was placed on a bier, and was not transferred to the coffin till the service closed. Every priest who attends a funeral receives money, sometimes as much as 4s., to say mass for the dead. On the evening after a death, if a night pass before the funeral, the priest visits the house with the censer, and incenses it, with prayers; this ceremony is repeated after the funeral.

Funeral customs are very much the same among all sects, but, at the risk of repetition, I may mention a few. A prominent Maronite recently died; his mare was richly caparisoned, her eyes were stained with kohl, salt was rubbed in to produce tears, and two swords were crossed above

the saddle. She was lead out with great lamentation. A bier was filled with iron, to make it heavy, and then had placed upon it the clothes of the deceased, and his watch. As each delegation of mourners came in from the villages it was met by four strong men bearing the bier aloft; the strongest young fellows of the visiting party would then transfer the bier to their own hands and carry it about, as a sort of trial of strength, reminding one of ancient funeral games. I am told that there are gypsies who attend funerals of the great Sheikhs, and mourn for a wage. The sword dance at a funeral is becoming rare, but I came across it once in front of a peasant's house. There was a procession, led by a man carrying a crucifix, elevated on a pole; behind him came two young men, each carrying a sword in one hand and a small shield in the other, dancing in a slow and stately measure, circling and lifting the leg, while he waved the sword, occasionally striking it upon the shield. Behind them came two men bearing swords upright in front of the breast, and walking in front of the coffin, which was borne high in the air by four men.

The first Sunday after the death of a person, the family boil wheat and take it to the church to be blessed by the priest; it is then placed at the door for the people to take a handful as they go out. This wheat is commonly spoken of as the "mercy" of the dead person. The fruit of pomegranate is also used. Sometimes the funeral service is repeated on the anniversary of a death. The cemeteries are, as a rule, neglected, for they are hardly ever visited except at an interment, especially in the mountains, where headstones with epitaphs are not common; the coffins are often laid in vaults.

Before her closer union with Rome, the Maronite Church followed the Eastern custom of making confirmation synchronous with baptism, but she now follows the mother church. Episcopal visits to the villages are rare, and at such times all the children between the ages of six and twelve who have not received the rite before are confirmed. After a short service the Bishop anoints the boys' foreheads with the Meirûn, making the sign of the cross in the name of the Trinity, and giving him a slap on the cheek. Confession must be made and the Sacrament taken immediately before Confirmation. As a matter of fact, not all Maronites are confirmed.

In studying the Maronite ritual the reader is impressed with its frequent beauty. The language is often rich and solemn. I have not examined the *Shîm* and the Book of the Mass, but in the services which I have here noticed the Adoration of the Virgin and her Intercession are rarely mentioned, although Mariolatry is very strong among the people. The Litany of Mary, in which she is invoked under forty-six names, has been borrowed from the Roman Church and translated into Arabic. The various services abound in Scripture; a Maronite attending the majority of services during the year must hear the most profitable passages from the Psalms, Prophets, historical books, Gospels, and Epistles in his own Arabic tongue. In view of this, one is puzzled at first to explain the

ignorance of the Scriptures prevailing among the common people. It is owing, however, to various causes: first, the reading is not with expression, but performed in a sing-song, perfunctory manner; second, it is without commentary or exposition, as a rule; and, third, the Scriptures are in the literary language, which contains many words which the women and the simpler peasants do not understand. This objection obtains in the case of the Arabic version used by the Protestants, among whom, however, preaching with explanation and illustration is constant. As we have seen, the ritual abounds in forms and ceremonies, but in almost every case the symbolic meaning is explained in connection with the act. During the 18th century the ritual was revised and altered by various Maronite Prelates, notably by the Bishop Germanus Farhat. I hope some time to compare carefully the Maronite ritual with the Jacobite, to which it bears a resemblance.

(To be continued.)

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## BAROMETRICAL DETERMINATIONS OF HEIGHTS IN LEBANON, ANTI-LEBANON, AND ON HERMON.

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### I.

#### FROM OBSERVATIONS WITH MERCURIAL BAROMETER.

THE following altitudes are partly a redetermination of, and partly a supplement to the list published by me in the *Quarterly Statement* for April, 1891. The two sets of results are directly comparable, as all observations at the upper stations were made by myself, and all those at Beirut were made under my direction, the instruments were the same, and the reductions were made according to the same set of tables. This year, however, hourly observations were taken at Beirut.

The instruments used were as follows: at the observatory in Beirut, which is 111 feet above sea level, barometer, Browning, No. 244, and thermometer, Browning, No. 66,810; at upper station, barometer, Casella, No. 738, and sling thermometer by Casella, broken July 28th. All readings are corrected for instrumental errors. The reductions have been made according to the tables prepared by Guyot (*Smithsonian Tables*, 1884, pp. 371-386).

Hourly observations taken for a few days in Damascus indicate that the calculated altitudes vary from a minimum in the early morning to a maximum at two or three o'clock in the afternoon. Hence the hour at which the determination was made becomes an important factor.

I have reason to believe that the same is true at all stations not on the seaward face of Lebanon.

	Date.	Hour.	BERÜT.			UPPER STATION.			Altitude in feet.	Previous determination.
			Barom.	Att.	Ext.	Barom.	Att.	Ext.		
1. Raifūn...	July 14, 15, 1891	2 obs.	29.862	82.5	81.0	26.488	72.9	73.0	3,541	
2. 'Aika	" 15, "	5½ p.m.	29.840	83.0	84.0	26.242	68.8	80.0	3,853	3,615
3. 'Ain el-Bāridēh, Arq. Luiklūk	" 16, "	4½ p.m.	29.832	84.0	84.6	26.900	79.1	67.0	6,427	
4. Cedar, top of Grove	" 17-20, "	5 obs.	29.768	82.9	81.2	23.819	62.0	60.3	6,409	6,420
5. Jebel Makmal	" 18, "	2 p.m.	29.806	83.4	83.5	20.913	71.6	61.5	10,207	10,227
6. Kurnat es-Sauda	" 18, "	5 p.m.	29.790	83.0	83.5	20.836	68.3	55.0	10,199	
7. Sūr, above village	" 20, 21, "	2 obs.	29.740	84.2	83.3	26.739	73.5	71.5	3,151	
8. Rās el-'Ain, Merj ilin	" 21, 22, "	2 obs.	29.828	86.0	85.0	24.455	61.6	62.5	5,746	
9. Itjūl el-'Astarah	" 22, "	12 m.	29.876	85.4	87.6	21.406	63.3	55.0	9,542	
10. Funaidīk	" 25, "	2 obs.	29.830	85.7	86.0	26.203	77.3	73.5	3,843	
11. El-Hurrah, above village	" 25, "	7½ a.m.	29.750	82.0	84.3	27.282	82.6	81.0	2,639	
12. Rās Ba'abek	" 25-27, "	2 obs.	29.703	81.6	83.3	26.919	76.6	76.5	5,269	
13. Halimat Kabut	" 27, "	4½ p.m.	29.670	86.1	87.8	22.374	72.5	70.0	8,247	8,045
14. 'Ain Kabut	" 27, "	7½ p.m.	29.666	85.0	83.0	23.874	69.8	67.5	6,309	
15. Halimat Karah	" 28, "	10½ a.m.	29.708	84.1	87.0	22.472	65.7	65.0	8,102	
16. Juraññir	" 28, "	6 p.m.	29.712	85.5	84.0	24.960	75.3	75.0	5,138	
17. Yabrud, fountain	" 30, "	2½ p.m.	29.810	85.0	86.5	22.072	69.5	69.5	8,785	
18. Tal 'at Mūsa	" 30, "	7 p.m.	29.804	85.0	83.0	25.481	70.5	70.0	4,590	4,586
19. Rankūs, ruin ab. vill.	" 31, "	7½ p.m.	29.802	85.0	83.0	24.756	72.3	72.0	5,435	
20. Blūdan	August 3, "	2 obs.	29.806	84.7	85.5	25.071	80.1	79.2	5,137	5,158
21. Damascus	" 4-11, "	16 obs.	29.739	85.6	86.0	27.561	81.0	81.0	2,351	2,337
22. Damascus	March 30, April 5, 1891	18 obs.	...	...	...	...	...	...	2,283	
23. Rakhlah	August 11-13, 1891	3 obs.	29.845	84.5	82.8	25.270	69.9	69.4	1,904	
24. Nashabat en-Nusūr	" 15, 1891	3 obs.	29.797	86.0	87.0	22.861	64.8	64.0	7,678	
25. 'Ain esh-Sha'rah	" 16, 18, 1891	12½ p.m.	29.810	85.5	85.0	25.572	77.3	77.0	4,540	
26. 'Irnah	" 17, 18, 1891	2 p.m.	29.829	83.7	84.5	26.455	76.7	76.0	4,580	
27. Hermon, Kasr 'Antar	" 18, 1891	2 obs.	29.828	86.3	88.6	21.551	61.4	64.0	3,482	
28. Hermon, north peak of summit	" 18, "	2 obs.	29.828	86.7	88.1	21.552	61.3	61.0	9,306	
29. 'Ain el-Jauzah	" 20, "	4½ p.m.	29.880	83.0	83.0	25.698	69.3	69.0	4,416	
30. 'Ain Kanyah	" 20, "	8 a.m.	29.908	82.1	84.4	26.876	67.8	67.5	3,256	
31. Zahr el-Ahmar, fount	" 21, 22, 1891	8½ a.m.	29.892	84.0	83.7	26.600	73.0	72.7	3,458	
32. Juddat Merj 'Ayūn	March 27, 28, "	2 obs.	30.001	65.3	62.9	27.535	58.9	54.6	2,490	
33. Isashya	" 29, "	2 obs.	30.022	65.1	61.0	25.998	55.3	55.2	4,088	

## NOTES.

In these notes, the [numbers refer to the list above. Reference is made to the following books and maps:—

1. "P.E.F." Map published by the Palestine Exploration Fund.
2. "G.P.S." Map published in the "Zeitschrift des deutschen Palästina-Vereins," Bd. XIII.
3. Mansell, Admiralty Chart of the Coast of Syria.
4. Burton and Drake, "Unexplored Syria," London, Tinsley Brothers, 1872.
5. Carte du Liban, published by the French Government in 1862.
6. Blanckenhorn, Karte von Nord-Syrien, Berlin, 1891, R. Friedlander & Sohn.
7. Stubel, "Dschebel Hauran," "Zeitschrift des deutschen Palästina-Vereins," Bd. XII.
8. Diener, quoted in No. 7.
9. Baedeker, "Handbook for Palestine and Syria," Leipsic, 1876.
10. Van der Velde, Karte von Palästina, German Edition of Map of the Holy Land, Gotha, 1866, Justus Purthes.

4. The Cedars. French map, 1,925 metres = 6,316 feet. Mansell, 6,700. Burton, whose determination, 7,368, is confessedly untrustworthy, quotes other authorities as follows: Scott, 6,315; Russeger, 6,400; V. Schubert, 6,264; V. Wildenbruch, 5,898.

5. Jebel Makmal. Burton, 9,998; Mansell, 9,996.

6. *Ḳurnat es-Sauda*. Under the name of *Jebel Timarun*, Burton gives 10,533; French map, *Dahr el-Khotib*, 3,063 metres = 10,049 feet; Mansell, *Dhor el-Khodib*, 10,061; Van der Velde, *Dhor-el-Khodib*, 10,051. It is certain that all these names refer to the same peak.

*Zahr el-Ḳadib* is the name of the whole mass of mountains of which *Ḳurnat es-Sauda*, *Makmal*, *Fam el-Mizrâb*, *'Ish el-Ghurâb*, *Rijâl el-'Asharah*, and *Ḳurnat el-Ḳal'ah* are the principal peaks.

8. *Merj Hîn*. My observations were made at the fountain, *Râs el-'Ain*, at the southern end of the plain. The French map gives 1,700 metres = 5,577 feet; Drake, 5,625; Van der Velde, 5,600. *'Ain el-Jâmi'*, at the northern end of the plain, is 5,860, by aneroid.

9-10. *Funaidik*. Drake, 5,705; plainly an error.

11. *El-Hurmul*. Blanckenhorn, 662 metres, 2,172 feet.

13. *Ḥalimat Ḳabu*. The difference in my results is noteworthy, as I have no reason to question the accuracy of either observation. The explanation is probably to be found in the abnormal meteorological conditions at the time of my ascent of the mountain in 1890. Although in the middle of the dry season, when rain seldom falls in Syria, a heavy local storm was raging over the high peaks to the south of us, and showers were falling on all sides of us. Doubtless this caused a local lowering of temperature, and probably also a local variation of pressure, both of which



would affect the resulting altitude. Burton gives 8,257. Van der Velde gives for highest point of Northern Anti-Lebanon, 5,000!

15. Ḥalimat Kârah. The aneroid gives the height of Ḥalima Kurrâis, the peak immediately to the west of Ḥalimat Kârah, as 8,125. Ḥalimat Kârah is also called Sudr Sheikh 'Alî, and Burton heard the name Ḥalimat Karâ applied to it. Last year our guide from the town of Kârah named the three Ḥalâim, Kabu, Kârah, and Karâ respectively; this year the shepherds on the mountains themselves named them Kabu, Kârah, and Kurrâis, and declared that they did not know the name Karâ. That part of Anti-Lebanon is collectively known as Jebel Kârah.

17. Ṭal'at Mûsa. Burton, 8,721.

18. Yabrûd. Drake, 4,775.

20. Blûdân. P.E.F., 5,140. Van der Velde, 4,842.

21. Damascus. These are the means of three sets of very inconsistent results; I do not consider any of them satisfactory. Other determinations are—P.E.F., 2,362; G.P.S., 691 metres = 2,266 feet; French map, 697 metres = 2,286; Van der Velde, 2,401.

22. Rakhlah. P.E.F., 4,797; Baedeker, 4,783; G.P.S., 1,527 metres = 5,009 feet.

25. 'Irnah. P.E.F., 4,560.

26. Hermon, Kaşr 'Antar. P.E.F., 9,166; Mansell, 9,053; Diener, 2,773 metres = 9,097 feet; French map, 2,860 metres = 9,383 feet; Van der Velde, 9,376.

29. 'Ain Kanyah. P.E.F., 3,050.

32. Rasheiya. P.E.F., 4,100.

## II.

### OBSERVATIONS WITH ANEROID BAROMETERS.

The following list of altitudes has been calculated from observations made by the writer during July and August, 1891, with exceptions noted. The aneroid readings have been corrected in accordance with comparisons made with the mercurial barometer within 24 hours both before and after the observation. The temperature of the air was determined, as often as possible, by the use of a small sling thermometer, and in all cases the calculations include correction for temperature, either observed or approximate. The barometer readings for sea level were made at the observatory of the Syrian Protestant College, Beirut (111 feet above sea level), where hourly readings were taken for the purpose.

The references are the same as in I., "W" referring to my previous determination as published in the *Quarterly Statement* for April, 1891.

I.—*Lebanon.*

1. Zûk Muşbah	....	....	494	
2. Ja'îta	....	....	1,190	
3. Suhaileh	....	....	1,700	
4. 'Ajalţûn	....	....	2,905	
5. Faiţrûn	....	....	4,022	
6. 'Ain Libnaihah	....	....	4,400	
7. Beit el-Aswad	....	....	4,572	
8. Naba' el-Ĥadîd	....	....	5,227	
9. Muneitarah	....	....	4,041	
10. 'Âķûrah [fountain]	....	....	4,581	French, 1,400 metres or 4,593 feet ; Van der Velde, 4,551 ; W. [ab. vill.] 4,638.
11. Naba' Rûeis, near 'Âķûrah	....	....	4,207	
12. Ķarn 'Âķûrah	....	....	6,977	
13. Bîr 'Arrûmah	....	....	6,446	
14. Sahel Rahwah	....	....	7,119	
15. Peak to north of Sahel Rahwah	....	....	7,562	
16. Peak west of Fam edh- Dhîb	....	....	7,846	
17. Fam edh-Dhîb	....	....	8,671	Mansell, 9,209.
18. Mashra'at en-Nâĥ	....	....	8,992	
19. Pass on road to Ba'albek	....	....	8,531	Burton, 8,351 ; Baedeker, 7,703 ; Van der Velde, 7,624 ; W., 8,530.
20. Sahel Sha'b Arnûb	....	....	7,740	
21. Pass on Ras Ba'albek road	....	....	8,831	
22. Peak south of Jebel Musķiyah	....	....	9,976	Burton, 10,018 ; Baedeker, 10,050 ; W., 9,994.
23. Jebel Musķiyah	....	....	10,106	Burton, 10,131 ; Baedeker, 10,037 ; W., 10,142.
24. 'Ish el-Ghurâb	....	....	10,065	
25. Peak west of 'Ish el- Ghurâb	....	....	10,088	
26. Wâĥi Fam el-Mizrâb	....	....	9,134	
27. Jebel Fam el-Mizrâb	....	....	9,874	Van der Velde, 9,135.
28. 'Ain el-Jûrah	....	....	6,920	
29. Wâdy west of Ķurnat es-Sauda	....	....	8,931	
30. Sahel Samârah	....	....	8,357	
31. Foot of Wâdy Najâş	....	....	4,935	
32. Plateau of Baķa'safirîn	....	....	4,091	

33. Naba' Mashûr, E. of Sir ....	3,663	
34. Naba' es-Sikkar, N.E. of Sir ....	5,618	
35. Merj-Ibrîsah ....	6,494	
36. 'Ain Baidar Beit el-Ûla	6,495	
37. Merj eṭ-Ṭawîl ....	6,405	
38. Birkat Buşwaiyah ....	7,058	
39. Buşwaiyah ....	7,368	
40. Kurnat el-Ḳalâh ....	9,064	
41. Peak West of Kurnat el- Ḳalâh....	9,117	[Dr. Post.]
42. Wady 'Ain el-Baiḍa ....	7,338	
43. S.W. shoulder of Jebel el-Abiaḍ ....	5,931	
44. 'Ain Manshal, S. face of el-Abiaḍ ....	6,496	
45. Jebel el-Abiaḍ, or 'Akkâr ....	7,384	Blanckenhorn, 2,127m., or 6,979 feet; Mansell, 6,980.
46. Watershed at head of Wâdy Khâlid ....	6,774	
47. 'Ain el-Jâmî', Merj-Îlîn	5,860	Southern end of Merj is 5,746.
48. Râs el 'Âṣî ....	2,250	Van der Velde, 3,000.
49. Middle of plain between el-Hurmûl and Râs Ba'albek ....	2,580	
50. Foot of Wâdy Ibrîsah, near el-Hurmûl ...	3,060	[Dr. Post].
51. Naba' Şunnîn ....	5,400	} August, 1890.
52. Bdîmân ....	4,650	
53. Ḥammâna ....	3,575	
54. Nabaṭiyah ....	1,363	} March, 1891.
55. Watershed East of Nabaṭiyah on road to Judeidah ....	1,710	
56. Jisr el-Khardali ....	737	} P.E.F., 700.

II.—*Anti-Lebanon.*

57. Plateau East of Râs Ba'albek ....	4,100	
58. Ḥalîmat Ḳabr Isma'în	6,880	[Dr. Post].
59. Ḥalîmat Ḳurrais ....	8,125	
60. 'Ain Washl Ḳurrais ....	7,236	Burton, 7,324.
61. Foot of Wâdy Barad ....	6,161	
62. Siḥl ....	4,892	

63. Jebel Marmarûn	....	5,750	
64. Mu'arrat el-Bâsh-Kurdi	....	5,632	Burton, 5,688.
65. Râs er-Rafi'	... ..	8,330	
66. 'Ain Wâdy 'Ayûn	....	7,456	
67. Râs el-'Ain, near Yabrûd	....	4,641	
68. Jubbah	....	5,468	G. P. S., 1,738 metres, or 5,702 feet.
69. 'Asâl el-Ward	....	5,536	G. P. S., 1,723, 5,652; Burton, 5,553; W., 5,255.
70. Râs el-'Ain	....	5,536	
71. 'Ain Sa'annûr	....	5,712	
72. Bir 'Akah	....	5,712	
73. Şaidanâya	....	4,494	[Dr. Post].
74. Highest point of road, East of Blûdân	....	6,467	
75. Naba' Beisân	....	6,213	
76. 'Ain Funduk	....	3,745	
77. Jisr et-Takiyah	....	3,587	P.E.F., 3,688.
78. Neby Hâbîl	....	4,170	
79. Dimâs, above village	....	3,732	F., G.P.S., and P.E.F., 3,510; Van der Velde, 3,514.
80. Dimâs Station	....	3,196	Baedecker, 3,235.
81. El-Hâmah	....	2,612	G.P.S., 2,428.
82. El-Mazzah	....	2,492	
83. Highest point of Kala- bât-el-Mazzah on road to Rasheiya	....	3,760	
84. Sahel 'Antar	....	3,300	
85. 'Ain Sûjah	....	3,130	March, 1891.

### III.—*Mount Hermon and Neighbourhood.*

86. Khurbat Kafr Kûk	....	3,575	
87. Ravine below Naba' ul- Kal'ah	....	4,110	
88. Birkat Zûzah	....	4,535	Three observations, one in March, 1891.
89. Peak S.W. of Rakhlah	....	5,862	
90. Burkush	....	5,405	P.E.F., and G.P.S., 5,200.
91. Head of Wâdy 'Awsaj	....	5,090	
92. Kafr Kûk, top of village	....	4,053	P.E.F., 3,860.
93. Lake, water's edge	....	3,898	P.E.F., 3,680; French, 3,510.
94. Merj et-Tût	....	4,355	
95. Munţâr Khallat'Anânah	....	5,644	
96. Birkat el-Mahfûrah	....	5,040	
97. Watershed to south of same	....	5,261	

98. Sahel Sammûka	....	5,078	Two observations.
99. Birkat el-Yâbisah	....	4,053	„ „
100. Naba' Skein	... ..	3,670	
101. Head of el-Mizrâb	....	5,510	March, 1891.
102. 'Aihah...	....	4,334	March, 1891. P.E.F., 3,750 ; G.P.S., 4,367.
103. Pass south of Nasha- bat en-Nusûr	....	6,980	
104. 'Ain en-Nahâs	....	5,572	P.E.F., 5,620.
105. Buqa'san	... ..	5,047	
106. River (Nahr Buhairân)		3,973	
107. Hill above 'Ain esh- Sha'rah	....	4,883	
108. Jebel Kairû'	... ..	6,453	
109. Pass south of same	....	6,037	
110. 'Ain el-Mizrabaiyah	....	5,908	
111. 'Ain el-Manzilah	....	6,080	
112. Southern peak of sum- mit, Hermon	....	9,230	
113. Râs el-Kubaibât	....	8,331	
114. Râs south of preceding		7,964	
115. Râs el-Blâta	... ..	7,434	
116. Pass north of preceding		7,315	
117. „ south „		7,041	
118. Jûrat Mulhim	....	7,890	
119. 'Ain er-Rushshaha	....	5,775	
120. 'Ain es-Sauda....	....	5,856	
121. Shib'ah	... ..	4,100	
122. Watershed to south of same....	....	4,427	
123. Jebel Saddânah	....	5,108	
124. Kafr Shûba	... ..	3,690	P.E.F., 3,460.
125. Ridge E. of Rashaiya el-Fakkhâr	....	2,781	
126. Fardîs	... ..	1,800	
127. 'Ain Jarfa	... ..	2,510	P.E.F., 2,400.
128. Wâdy Buzkeir	....	2,033	
129. Bathaniyah	... ..	2,440	
130. Mîmis	... ..	2,580	P.E.F., 2,500.
131. El-Kufeir	... ..	2,953	
132. Watershed north of preceding	....	4,055	
133. 'Ain Harshah....	....	3,313	P. E. F., 3,050.
134. Wâdy en-Nâr....	....	2,843	
135. Beit Lahya	... ..	3,042	P.E.F., 2,850.
136. Bakkîfa	... ..	3,247	Two observations, one of which was in March, 1891.

137. 'Aḳabah	....	....	3,584	
138. Sûḳ el-Khân	....	....	1,728	} March, 1891.
139. 'Ain Fujûr	....	....	2,645	
140. Watershed west of				
Kafir Ḳûḳ lake	....	....	3,926	
141. Sahel Kumaiyisah	....	....	4,746	P.E.F., 4,500.
142. Watershed north of				
preceding	....	....	4,912	
143. 'Ain Ḳarnâyil	....	....	3,975	
144. Diligence road at foot				
of Wâdy el-Ḳarn	....	....	3,883	P.E.F., 3,807; G.P.S., 3,855.

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*September 26th, 1891.*

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ON THE DIRECTION OF THE WIND AT SARONA,  
RECORDED DAILY BY HERR DREHER, IN THE  
TEN YEARS 1880 TO 1889.

By JAMES GLAISHER, F.R.S.

UP to the present time there has not been any discussion of the direction of the wind, or results deduced as to the average duration in the year of winds from different quarters, and of their average distribution over the several months of the year: In the following investigation I have endeavoured to supply this information, so far as the data furnished have enabled me. I think the phenomenon of the winds in Palestine very important to investigate, and Dr. Chaplin says:—"In no country are the health and comfort of the inhabitants, and the fruitfulness of the soil, more immediately and obviously influenced by the character and direction of the wind, than in Palestine."

TABLE I.—Showing the number of days of wind at Sarona during the month of January in each year, 1880 to 1889, referred to eight points of the azimuthal circle, at 9 a. m. :—

Years.	Number of Days of Wind—1880 to 1889.								Total number of days.
	N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.	
1880 ... ..	0	4	4	9	9	2	0	1	29
1881 ... ..	0	1	3	11	11	1	1	0	24
1882 ... ..	0	4	2	3	13	1	0	1	24
1883 ... ..	4	2	1	4	6	9	3	0	29
1884 ... ..	0	1	1	5	14	1	1	1	24
1885 ... ..	6	7	1	0	1	3	0	4	22
1886 ... ..	1	1	2	4	12	0	0	2	22
1887 ... ..	3	1	3	5	6	2	1	1	22
1888 ... ..	0	1	3	1	13	2	0	2	22
1889 ... ..	0	2	4	4	13	1	1	2	27
Sums ... ..	14	24	24	46	93	22	7	14	249

From this table we see that in January, in the years 1880, 1881, 1882, 1888 and 1889, no air passed from the north, and but very little in the year 1886; whilst in the year 1885 more air passed from this quarter than from any other, with the exception of the north-east. In several years no air passed from the west during this month.

The most prevalent winds in January were—

In 1880 ... ..	...	...	...	...	S.E. 9 and S. 9.
1881 ... ..	...	...	...	...	S.E. 11 „ S. 11.
1882 ... ..	...	...	...	...	S. 13 „ N.E. 4.
1883 ... ..	...	...	...	...	S.W. 9 „ S. 6.
1884 ... ..	...	...	...	...	S. 14 „ S.E. 5.
1885 ... ..	...	...	...	...	N.E. 7 „ N. 6.
1886 ... ..	...	...	...	...	S. 12 „ S.E. 4.
1887 ... ..	...	...	...	...	S. 6 „ S.E. 5.
1888 ... ..	...	...	...	...	S. 13 „ E. 3.
1889 ... ..	...	...	...	...	S. 13 „ E. and S.E. 4.

Therefore, the—

S. wind was most prevalent in six years, viz., 1882, 1884, 1886, 1887, 1888 and 1889.

S.E. „ „ „ two years, viz., 1880 and 1881.

S.W. „ „ „ one year „ 1883.

N.E. „ „ „ one year „ 1885.

The numbers at the foot of the table show the number of times the wind has blown in each direction in the ten Januaries. The largest number, 98, is from the south; the next in order, 46, is from the south-east. The smallest number, 7, is from the west, and the next in order, 14, is from the north and north-west.

The numbers in the last column show the number of days in each January in the ten years the air was in motion at 9 a.m. The largest number is 29, in the years 1880 and 1883; the smallest number is 22, in the years 1885 to 1888. The average number is 24.9.

TABLE II.—Showing the number of days of wind at Sarona during the month of February in each year, 1880 to 1889, referred to eight points of the azimuthal circle, at 9 a.m. :—

Years.	Number of Days of Wind—1880 to 1889.								Total number of days.
	N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.	
1880 ... ..	0	3	1	11	1	5	1	0	22
1881 ... ..	1	3	0	5	9	5	3	0	26
1882 ... ..	2	3	4	5	9	2	1	1	27
1883 ... ..	1	2	1	6	2	7	0	0	19
1884 ... ..	2	3	0	3	13	0	1	1	3
1885 ... ..	3	1	0	1	4	2	0	1	12
1886 ... ..	1	1	2	4	9	3	3	0	23
1887 ... ..	1	0	1	1	3	4	1	2	13
1888 ... ..	1	0	1	4	7	8	1	0	22
1889 ... ..	0	0	0	6	9	3	2	0	20
Sums ... ..	12	16	10	46	66	39	13	5	207

In the years 1880 and 1889 no air passed in this month from the north, and in six out of the ten years no air passed from the north-west.

The most prevalent winds were—

In 1880	....	....	....	S.E. 11 and S.W. 5
1881	....	....	....	S. 9 ,, S.E. and S.W. 5.
1882	....	....	....	S. 9 ,, S.E. 5.
1883	....	....	....	S.W. 7 ,, S.E. 6.
1884	....	....	....	S. 13 ,, N.E. and S.E. 3.
1885	....	....	....	S. 4 ,, N. 3.
1886	....	....	....	S. 9 ,, S.E. 4.
1887	....	....	....	S.W. 4 ,, S. 3.
1888	....	....	....	S.W. 8 ,, S. 7.
1889	....	...	....	S. 9 ,, S.E. 6.



Therefore, the—

S. wind was most prevalent in six years, viz., 1881, 1882, 1881, 1885, 1886 and 1889.

S.W. „ „ „ three years, viz., 1883, 1887, and 1888.

S.E. „ „ „ one year, viz., 1880.

The numbers at the foot of the table show the number of times the wind has blown in each direction in the ten Februaries. The largest number, 66, is from the south; the next in order, 46, is from the south-east. The smallest number, 5, is from the north-west, and the next in order, 10, is from the east.

The numbers in the last column show the number of days in each February in the ten years the air was in motion at 9 a.m. The largest number is 27, in 1882; the next in order is 26, in 1881. The smallest number is 12, in 1885, and the next in order is 13, in 1887. The average number is 20·7.

TABLE III.—Showing the number of days of wind at Sarona during the month of March in each year, 1880 to 1889, referred to eight points of the azimuthal circle, at 9 a.m. :—

Years.	Number of Days of Wind—1880 to 1889.								Total number of days.
	N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.	
1880 ... ..	1	5	3	4	1	2	6	2	24
1881 ... ..	1	2	1	5	5	7	4	2	27
1882 ... ..	0	0	1	5	9	4	3	0	22
1883 ... ..	2	0	0	0	7	4	2	0	15
1884 ... ..	1	1	2	5	7	5	4	1	26
1885 ... ..	0	0	0	1	2	4	5	3	15
1886 ... ..	0	1	1	1	11	5	1	5	25
1887 ... ..	1	1	2	3	3	3	5	1	19
1888 ... ..	1	3	1	4	6	6	4	1	26
1889 ... ..	3	3	0	1	5	8	2	1	27
Sums ... ..	10	16	11	29	56	48	36	16	222

In the year 1882 no air this month passed from the north, north-east and north-west; in 1883 none passed from the north-east, east, south-east, or north-west; in 1885 there was none from the north, north-east, or east; in 1886 none from north, and in 1889 none from the east.

The most prevalent winds were—

In 1880	....	....	....	W. 6 and N.E. 5.
1881	....	....	....	S.W. 7 ,, S.E. and S. 5.
1882	....	....	....	S. 9 ,, S.E. 5.
1883	....	....	....	S. 7 ,, S.W. 4.
1884	....	....	....	S. 7 ,, S.E. and S.W. 5.
1885	....	....	....	W. 5 ,, S.W. 4.
1886	....	....	....	S. 11 ,, S.W. 5.
1887	....	....	....	W. 5 ,, S.E., S., and S.W. 3.
1888	....	....	....	S. 6 ,, S.W. 6.
1889	....	....	....	S.W. 8 ,, S. 5.

Therefore, the—

S. wind was most prevalent in five years, viz., 1882, 1883, 1884, 1886, and 1888.

W. ,, ,, ,, three years, viz., 1880, 1885, and 1887.  
S.W. ,, ,, ,, two ,, ,, 1881 and 1889.

The numbers at the foot of the table show the number of times the wind has blown in each direction in the ten months of March. The largest, 56, is from the south; the next in order, 48, is from the south-west. The smallest number, 10, is from the north, and the next in order, 11, is from the east.

The numbers in the last column show the number of days in each March in the ten years the air was in motion at 9 a.m. The largest is 27, in 1881; the next in order is 26, in both 1884 and 1888. The smallest number is 15, in both 1883 and 1885. The average number is 22.2.

TABLE IV.—Showing the number of days of wind at Sarona during the month of April in each year 1880 to 1889, referred to eight points of the azimuthal circle, at 9 a.m. :—

Years.	Number of Days of Wind—1880 to 1889.								Total number of days.
	N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.	
1880 ... ..	0	0	0	1	5	10	5	3	24
1881 ... ..	2	0	0	4	7	4	6	3	26
1882 ... ..	1	0	0	3	3	12	3	2	24
1883 ... ..	0	0	0	0	4	3	4	1	12
1884 ... ..	0	4	3	1	3	7	4	2	24
1885 ... ..	0	0	0	0	1	5	9	0	15
1886 ... ..	3	0	0	0	0	4	5	7	19
1887 ... ..	0	4	2	0	3	3	7	1	20
1888 ... ..	0	0	1	2	5	7	8	2	25
1889 ... ..	1	0	0	1	5	3	6	6	22
Sums ... ..	7	8	6	12	36	78	57	27	211

In several years no air passed in this month from the north, north-east, east or south-east.

The most prevalent winds were—

In 1880	....	....	....	S.W. 10	and	S. and W. 5.
1881	....	....	....	S. 7	„	W. 6.
1882	....	....	....	S.W. 12	„	S.E., S. and W. 3.
1883	....	....	....	S. 4	„	W. 4.
1884	....	....	....	S.W. 7	„	N.E. and W. 4.
1885	....	....	....	W. 9	„	S.W. 5.
1886	....	....	....	N.W. 7	„	W. 5.
1887	....	....	....	W. 7	„	N.E. 4.
1888	....	....	....	W. 8	„	S.W. 7.
1889	....	....	....	W. 6	„	N.W. 6.

Therefore, the—

W. wind was most prevalent in four years, viz., 1885, 1887, 1888, and 1889.

S.W.	„	„	„	three years, viz., 1880, 1882, and 1884.
S.	„	„	„	two „ „ 1881 and 1883.
N.W.	„	„	„	one „ „ 1886.

The numbers at the foot of the table show the number of times the wind has blown in each direction in the ten Aprils. The largest number, 58, is from the south-west, and the next in order, 57, is from the west; the smallest number, 6, is from the east, and the next in order, 7, is from the north.

The numbers in the last column show the number of days in each April in the ten years the air was in motion at 9 a.m. The largest is 26, in 1881; the next in order is 25, in 1888. The smallest number is 12, in 1883, and the next in order is 15, in 1885. The average number is 21.1.

TABLE V.—Showing the number of days of wind at Sarona during the month of May in each year, 1880 to 1889, referred to eight points of the azimuthal circle, at 9 a.m. :—

Years.	Number of Days of Wind—1880 to 1889.								Total number of days.
	N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.	
1880 ... ..	0	3	1	0	0	7	8	7	26
1881 ... ..	1	2	2	0	0	6	7	9	27
1882 ... ..	1	0	1	0	3	13	8	5	31
1883 ... ..	1	1	0	0	0	7	4	1	14
1884 ... ..	3	0	0	0	1	10	5	10	29
1885 ... ..	1	0	0	1	0	4	12	3	21
1886 ... ..	2	1	0	0	2	8	11	5	29
1887 ... ..	1	0	0	0	4	5	11	4	25
1888 ... ..	2	0	2	0	0	8	8	10	30
1889 ... ..	2	0	1	2	0	7	6	6	24
Sums ... ..	14	7	7	3	10	75	80	60	256

In several years no air passed in this month from the north, north-east, east, south-east, or south.

The most prevalent winds were—

In 1880	....	....	....	W. 8 and S.W. and N.W. 7.
1881	....	....	....	N.W. 9 „ W. 7.
1882	....	....	....	S.W. 13 „ W. 8.
1883	....	....	....	S.W. 7 „ W. 4.
1884	....	....	....	S.W. 10 „ N.W. 10.
1885	....	....	....	W. 12 „ S.W. 4.
1886	....	....	....	W. 11 „ S.W. 8.
1887	....	....	....	W. 11 „ S.W. 5.
1888	....	....	....	N.W. 10 „ S.W. and W. 8.
1889	....	....	....	S.W. 7 „ W. and N.W. 6.

Therefore, the—

W. wind was most prevalent in four years, viz., 1880, 1885, 1886, and 1887.

S.W. „ „ „ „ 1882, 1883, 1884, and 1889.

N.W. „ „ in two years, viz., 1881 and 1888.

The numbers at the foot of the table show the number of times the wind has blown in each direction in the ten Mays. The largest number,

80, is from the west; the next in order, 75, is from the south. The smallest number, 3, is from the south-east, and the next in order, 7, is from both the north-east and east.

The numbers in the last column show the number of days in each May in the 10 years the air was in motion at 9 a.m. The largest number is 31, in 1882; the next in order is 30, in 1888. The smallest number is 14, in 1883, and the next in order is 21, in 1885. The average number is 25.6.

TABLE VI.—Showing the number of days of wind at Sarona during the month of June in each year, 1880 to 1889, referred to eight points of the azimuthal circle, at 9 a.m. :—

Years.	Number of Days of Wind—1880 to 1889.								Total number of days.
	N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.	
1880 ... ..	0	0	0	0	0	20	4	5	29
1881 ... ..	1	1	0	0	0	9	7	9	27
1882 ... ..	2	0	2	0	1	7	14	4	30
1883 ... ..	0	1	1	1	0	8	4	1	16
1884 ... ..	1	1	0	0	0	6	14	5	27
1885 ... ..	0	0	1	1	1	9	12	3	27
1886 ... ..	1	1	0	0	2	4	14	7	29
1887 ... ..	0	0	0	0	1	13	13	1	28
1888 ... ..	0	0	0	0	0	11	13	4	28
1889 ... ..	0	0	0	1	3	14	3	2	23
Sums ... ..	5	4	4	3	8	101	98	41	264

In several years no air passed in this month from the north, north-east, east, south-east, or south.

The most prevalent winds were—

In 1880	....	....	....	S.W. 20	and	N.W. 5.
1881	....	....	....	S.W. 9	..	N.W. 9.
1882	....	....	....	W. 14	..	S.W. 7.
1883	....	....	....	S.W. 8	..	W. 4.
1884	....	....	....	W. 14	..	S.W. 6.
1885	....	....	....	W. 12	..	S.W. 9.
1886	....	....	....	W. 14	..	N.W. 7.
1887	....	....	....	S.W. 13	..	W. 13.
1888	....	....	....	W. 13	..	S.W. 11.
1889	....	....	....	S.W. 14	..	S. and W. 3.

Therefore, the—

S.W. wind was most prevalent in five years, viz., 1880, 1881, 1883,  
1887, and 1889.

W.       "       "       "       "       "       1882, 1884, 1885,  
1886, and 1888.

And the N., N.E., E., S.E. and S. were the least prevalent in the  
ten years.

The numbers at the foot of the table show the number of times the  
wind has blown in each direction in the ten Junes. The largest  
number, 101, is from the south-west; the next in order, 98, is from the  
west. The smallest number, 3, is from the south-east, and the next in  
order, 4, is from both the north-east and east.

The numbers in the last column show the number of days in each  
June in the ten years the air was in motion at 9 a.m. The largest  
number is 30, in 1882; the next in order is 29, in both 1880 and 1886. The  
smallest number is 16, in 1883, and the next in order is 23, in 1889. The  
average number is 26.4.

TABLE VII.—Showing the number of days of wind at Sarona during the  
month of July in each year, 1880 to 1889, referred to eight points of  
the azimuthal circle, at 9 a.m. :—

Years.	Number of Days of Wind—1880 to 1889.								Total number of days.
	N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.	
1880 ... ..	0	0	0	0	0	22	6	2	30
1881 ... ..	0	0	0	0	0	21	8	1	30
1882 ... ..	0	0	4	0	0	24	2	1	31
1883 ... ..	0	0	0	0	0	16	12	0	28
1884 ... ..	0	0	0	0	0	11	18	0	29
1885 ... ..	0	0	0	0	0	14	15	1	30
1886 ... ..	0	0	0	0	0	12	14	3	29
1887 ... ..	0	0	0	0	0	21	8	0	29
1888 ... ..	0	0	0	0	0	13	10	2	25
1889 ... ..	0	0	0	1	1	21	2	0	25
Sums ... ..	0	0	4	1	1	175	95	10	286

In the ten years no air passed in this month from the north or north-  
east, and there is only one instance from the south-east and south, both  
occurring in the year 1889, and only four instances from the east, in 1882

The most prevalent winds were—

In 1880	....	....	....	S.W. 22	and	W. 6.
1881	....	....	....	S.W. 21	„	W. 8.
1882	....	....	....	S.W. 24	„	E. 4.
1883	....	....	....	S.W. 16	„	W. 12.
1884	....	....	....	W. 18	„	S.W. 11.
1885	....	....	....	W. 15	„	S.W. 14.
1886	....	....	....	W. 14	„	S.W. 12.
1887	....	....	....	S.W. 21	„	W. 8.
1888	....	....	....	S.W. 13	„	W. 10.
1889	....	....	....	S.W. 21	„	W. 2.

Therefore, the—

S.W. wind was most prevalent in seven years, viz., 1880, 1881, 1882, 1883, 1887, 1888, and 1889.

W. „ „ „ in three years, viz., 1884, 1885, and 1886.

The numbers at the foot of the table show the number of times the wind has blown in each direction in the ten Julys. The largest number, 175, is from the south-west; the next in order, 95, is from the west. No wind blew from the north or north-east during this month in the ten years, and on only one instance from both the south-east and south.

The numbers in the last column show the number of days in each July in the ten years the air was in motion at 9 a.m. The largest number is 31, in 1882; the next in order is 30, in each of the years 1880, 1881, and 1885. The smallest number is 25, in both 1888 and 1889. The average number is 28.6.

TABLE VIII.—Showing the number of days of wind at Sarona during the month of August in each year, 1880 to 1889, referred to eight points of the azimuthal circle, at 9 a.m. :—

Years.	Number of Days of Wind—1880 to 1889.								Total number of days.
	N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.	
1880 ... ..	0	0	0	0	0	18	1	5	21
1881 ... ..	0	0	0	1	4	24	1	0	10
1882 ... ..	1	0	1	0	1	7	17	4	31
1883 ... ..	0	0	0	0	0	9	7	3	19
1884 ... ..	0	0	0	0	1	13	8	4	26
1885 ... ..	0	0	0	0	3	13	8	3	27
1886 ... ..	0	0	0	0	1	13	13	2	29
1887 ... ..	0	0	0	0	1	18	8	0	27
1888 ... ..	0	0	0	0	1	13	8	2	24
1889 ... ..	0	0	0	3	2	21	1	0	27
Sums ... ..	1	0	1	4	14	149	72	23	264

In the ten years no air passed in this month from the north, north-east, and east, with the exception of two days in 1882, one from the north and one from the east.

The most prevalent winds were—

In 1880	....	....	....	S.W. 18	and	N.W. 5.
1881	....	....	....	S.W. 24	„	S. 4.
1882	....	....	....	W. 17	„	S.W. 7.
1883	....	....	....	S.W. 9	„	W. 7.
1884	....	....	....	S.W. 13	„	W. 8.
1885	....	....	....	S.W. 13	„	W. 8.
1886	....	....	....	S.W. 13	„	W. 13.
1887	....	....	....	S.W. 18	„	W. 8.
1888	....	....	....	S.W. 13	„	W. 8.
1889	....	....	....	S.W. 21	„	S.E. 3.

Therefore, the—

S.W. wind was most prevalent in nine years, viz., 1880, 1881, 1883,  
1884, 1885, 1886, 1887, 1888 and 1889.  
W. „ „ in one year, viz., 1882.

The numbers at the foot of the table show the number of times the wind has blown in each direction in the ten Augusts. The largest number, 149, is from the south-west; the next in order, 72, is from the west. No air passed from the north-east during the ten years in this month, and only one instance from both the north and east.

The numbers in the last column show the number of days in each August in the ten years the air was in motion at 9 a.m. The largest number is 31, in 1882; the next in order is 30, in 1881. The smallest number is 19, in 1883, and the next in order is 24, in both 1880 and 1888. The average number is 26.4.



TABLE IX.—Showing the number of days of wind at Sarona during the month of September in each year, 1880 to 1889, referred to eight points of the azimuthal circle, at 9 a.m. :

Years.	Number of Days of Wind—1880 to 1889.								Total number of days.
	N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.	
1880 ... ..	0	3	0	1	1	15	1	4	28
1881 ... ..	0	1	0	1	0	11	2	6	21
1882 ... ..	3	0	0	0	3	14	5	2	27
1883 ... ..	6	0	0	0	0	8	0	2	16
1884 ... ..	2	1	0	0	3	13	4	2	25
1885 ... ..	1	0	0	0	0	8	7	2	18
1886 ... ..	2	1	0	0	3	12	4	5	27
1887 ... ..	2	0	0	0	0	11	3	6	22
1888 ... ..	1	0	0	0	2	7	4	6	20
1889 ... ..	0	1	0	0	4	7	7	2	21
Sums ... ..	17	7	0	2	16	106	10	37	225

In several years no air passed in this month from the east or its compounds ; in the years 1880 and 1881, the south-east was present on one day in both years, and the east wind did not blow once in the ten years.

The most prevalent winds were—

In 1880	...	...	...	S.W. 15 and W. and N.W. 4.
1881	...	...	...	" 11 " N.W. 6.
1882	...	...	...	" 14 " W. 5.
1883	...	...	...	" 8 " N. 6.
1884	...	...	...	" 13 " W. 4.
1885	...	...	...	" 8 " W. 7.
1886	...	...	...	" 12 " N.W. 5.
1887	...	...	...	" 11 " N.W. 6.
1888	...	...	...	" 7 " N.W. 6.
1889	...	...	...	" 7 " W. 7.

Therefore the south-west wind was most prevalent in every year.

The numbers at the foot of the table show the number of times the wind has blown in each direction in the ten Septembers ; the largest number, 106, is from the south-west ; the next in order, 40, is from the west. No air passed from the east during the ten years, in this month, and only two instances from the south-east. The numbers in the last

column show the number of days in each September in the ten years the air was in motion at 9 a.m.; the largest number is 28, in 1880; the next in order is 27, in both 1882 and 1886; the smallest number is 16, in 1883, and the next in order is 18, in 1885. The average number is 22.5.

TABLE X.—Showing the number of days of wind at Sarona during the month of October in each year, 1880 to 1889, referred to eight points of the azimuthal circle, at 9 a.m. :—

Years.	Number of Days of Wind—1880 to 1889.								Total number of days.
	N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.	
1880 ... ..	2	4	0	3	1	5	3	3	21
1881 ... ..	3	3	0	4	2	3	1	8	24
1882 ... ..	4	0	4	2	0	10	2	3	25
1883 ... ..	1	2	2	0	4	3	1	0	13
1884 ... ..	1	1	0	3	5	6	0	2	18
1885 ... ..	0	1	2	1	4	0	2	1	11
1886 ... ..	3	0	0	1	6	5	0	2	17
1887 ... ..	0	2	2	1	2	10	2	1	20
1888 ... ..	1	0	2	4	2	2	1	4	16
1889 ... ..	3	0	3	0	3	1	2	2	14
Sums ... ..	18	13	15	19	29	45	14	26	179

In several years no air passed from the north, north-east, or east, whilst in the other years, excepting 1880 and 1881, but little passed from these directions.

The most prevalent winds were—

In 1880	....	....	....	S.W. 5 and N.E. 4.
1881	....	....	....	N.W. 8 „ S.E. 4.
1882	....	....	....	S.W. 10 „ N. and E. 4.
1883	....	....	....	S. 4 „ S.W. 3.
1884	....	....	....	S.W. 6 „ S. 5.
1885	....	....	....	S. 4 „ E. and W. 2.
1886	....	....	....	S. 6 „ S.W. 5.
1887	....	....	....	S.W. 10 „ N.E., E., S. and W. 2.
1888	....	....	....	N.W. 4 „ S.E. 4.
1889	....	....	....	S. 3 „ E. and N. 3

Therefore the—

S.W.	wind was most prevalent in four years, viz., 1880, 1882, 1884, 1887.
S.	four years, viz., 1883, 1885, 1886, 1889.
N.W.	two years, viz., 1881 and 1888.

The numbers at the foot of the table show the number of times the wind has blown in each direction in the ten Octobers; the largest number, 45, is from the south-west; the next in order, 29, is from the south; the smallest number, 13, is from the north-east; and the next in order, 14, is from the west.

The numbers in the last column show the number of days in each October in the ten years the air was in motion at 9 a.m.; the largest number is 25, in 1882; the next in order is 24, in 1881; the smallest number is 11, in 1885; and the next in order is 13, in 1883. The average number is 17·9.

TABLE XI.—Showing the number of days of wind at Sarona during the month of November in each year, 1880 to 1889, referred to eight points of the azimuthal circle, at 9 a.m. :—

Years.	Number of Days of Wind—1880 to 1889.								Total number of days.
	N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.	
1880 ... ..	0	2	3	7	2	5	0	0	19
1881 ... ..	0	3	3	8	7	4	0	1	26
1882 ... ..	1	3	3	2	0	15	0	0	24
1883 ... ..	0	0	1	3	13	1	1	0	19
1884 ... ..	1	0	0	5	6	0	1	4	17
1885 ... ..	0	0	0	1	8	1	0	0	10
1886 ... ..	0	0	0	0	10	2	2	0	14
1887 ... ..	0	5	1	6	5	1	0	1	19
1888 ... ..	0	4	1	2	9	5	3	0	24
1889 ... ..	1	2	3	1	6	3	0	0	16
Sums ... ..	3	19	15	35	66	37	7	6	188

In the years 1880, 1881, 1883, 1885, 1886, 1887, and 1888, no air passed in this month from the north; in the years 1883 to 1886 none passed from the north-east, and for the three years 1884, 1885, 1886, there was none from the east.

The most prevalent winds were—

In 1880	....	....	....	S.E. 7 and S.W. 5.
1881	....	....	....	S.E. 8 „ S. 7.
1882	....	....	....	S.W. 15 „ N.E. and E. 3.
1883	....	....	....	S. 13 „ S.E. 3.
1884	....	....	....	S. 6 „ S.E. 5.
1885	....	....	....	S. 8 „ S.E. and S.W. 1.
1886	....	....	....	S. 10 „ S.W. and W. 2.
1887	....	....	....	S.E. 6 „ N.E. and S. 5.
1888	....	....	....	S. 9 „ S.W. 5.
1889	....	....	....	S. 6 „ S.W. and E. 3.

Therefore, the—

S. wind was most prevalent in six years, viz., 1883, 1884, 1885, 1886, 1888, and 1889.

S.E. „ „ three years, viz., 1880, 1881, and 1887.

S.W. „ „ one year, viz., 1882.

The numbers at the foot of the table show the number of times the wind has blown in each direction in the ten Novembers. The largest number, 66, is from the south ; the next in order, 37, is from the south-west. The smallest number, 3, is from the north, and the next in order, 6, is from the north-west.

The numbers in the last column show the number of days in each November in the ten years the air was in motion at 9 a.m. The largest number is 26, in 1881 ; the next in order is 24, in both 1882 and 1888. The smallest number is 10, in 1885, and the next in order is 14, in 1886. The average number is 18·8.

TABLE XII.—Showing the number of days of wind at Sarona during the month of December in each year, 1880 to 1889, referred to eight points of the azimuthal circle, at 9 a.m. :—

Years.	Number of Days of Wind—1880 to 1889.								Total number of days
	N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.	
1880 ...	0	5	2	6	11	2	2	0	28
1881 ...	0	5	2	11	10	0	1	0	29
1882 ...	1	2	1	4	0	10	4	0	22
1883 ...	0	1	1	12	9	1	0	0	24
1884 ...	0	7	2	4	1	0	0	1	15
1885 ...	0	1	3	10	11	0	1	1	27
1886 ...	3	0	0	0	9	1	1	0	14
1887 ...	0	1	1	1	8	6	1	0	18
1888 ...	0	3	1	2	9	5	1	0	21
1889 ...	1	2	6	2	11	1	0	0	23
SUMS ..	5	27	19	52	79	26	11	2	221

In the years 1880, 1881, 1883, 1884, 1885, 1887 and 1888, no air passed in this month from the north. In the year 1886 there was no instance of air in motion from north-east, east, south-east, and north-west. The amount of air from the west in the ten years was very small.

The most prevalent winds were—

In 1880	....	....	....	S. 11 and S.E. 6.
1881	....	....	....	S.E. 11 „ S. 10.
1882	....	....	....	S.W. 10 „ S.E. and W. 1.
1883	....	....	....	S.E. 12 „ S. 9.
1884	....	....	....	N.E. 7 „ S.E. 4.
1885	....	....	....	S. 11 „ S.E. 10.
1886	....	....	....	S. 9 „ N. 3.
1887	....	....	....	S. 8 „ S.W. 6.
1888	....	....	....	S. 9 „ S.W. 5.
1889	....	....	...	S. 11 „ E. 6.

Therefore the—

S. wind was most prevalent in six years, viz., 1880, 1885, 1886, 1887, 1888 and 1889.

S.E. „ „ two years, viz., 1881 and 1883.

S.W. „ „ one year, viz., 1882.

N.E. „ „ one year, viz., 1884.

The numbers at the foot of the table show the number of times the wind has blown in each direction in the ten Decembers. The largest number, 79, is from the south; the next in order, 52, is from the south-east. The smallest number, 2, is from the north-west, and the next in order, 5, is from the north.

The numbers in the last column show the number of days in each December in the ten years the air was in motion at 9 a.m. The largest number is 29, in 1881; the next in order is 28, in 1880. The smallest number is 14, in 1886, and the next in order is 15, in 1884. The average number is 22.1.

By collecting the prevailing winds under each month in the preceding twelve tables, and which are contained in Table XIII.

TABLE XIII.—Showing the prevailing direction of wind at Sarona in every month from January, 1880, to December, 1889:—

Years.	January.	February.	March.	April.	May.	June.
1880	S.E. & S.	S.E.	W. & N.E.	S.W.	W., S.W. & N.W.	S.W.
1881	S.E. & S.	S.	S.W., S.E. & S.	S. & W.	N.W. & W.	S.W. & N.W.
1882	S.	S.	S. & S.E.	S.W.	S.W. & W.	W. & S.W.
1883	S.W. & S.	S.W. & S.E.	S. & S.W.	S. & W.	S.W. & W.	S.W.
1884	S.	S.	S., S.E., & S.W.	S.W., N.E. & W.	S.W. & N.W.	W. & S.W.
1885	N.E. & N.	S. & N.	W. & S.W.	W. & S.W.	W.	W. & S.W.
1886	S.	S.	S. & S.W.	N.W. & W.	W. & S.W.	W. & N.W.
1887	S. & S.E.	S.W. & S.	Variable.	W. & N.E.	W.	S.W. & W.
1888	S.	S.W. & S.	S. & S.W.	W. & S.W.	N.W., S.W. & W.	W. & S.W.
1889	S.	S. & S.E.	S.W. & S.	W. & N.W.	S.W., W. & N.W.	S.W.

Years.	July.	August.	September.	October.	November.	December.
1880	S.W.	S.W.	S.W.	S.W. & N.E.	S.E. & S.W.	S. & S.E.
1881	S.W.	S.W.	S.W. & N.W.	N.W. & S.E.	S.E. & S.	S.E. & S.
1882	S.W.	W. & S.W.	S.W.	S.W.	S.W.	S.W.
1883	S.W. & W.	S.W. & W.	S.W. & N.	S. & S.W.	S.	S.E. & S.
1884	W. & S.W.	S.W. & W.	S.W.	S.W. & S.	S. & S.E.	N.E. & S.E.
1885	S.W. & W.	S.W. & W.	S.W. & W.	Variable.	S.	S. & S.E.
1886	W. & S.W.	S.W. & W.	S.W.	S. & S.W.	S.	S.
1887	S.W. & W.	S.W. & W.	S.W. & N.W.	S.W.	S.E., N.E. & S.	S. & S.W.
1888	S.W. & W.	S.W. & W.	S.W. & N.W.	N.W. & S.E.	S. & S.W.	S. & S.W.
1889	S.W.	S.W.	S.W. & W.	Variable.	S. & S.W.	S. & E.

By collecting these several prevailing directions together in each year we learn that the prevailing direction of the wind was:—

In the year 1880:—

S.W. for 6 months.  
S.E. „  $2\frac{1}{2}$  „  
S. „ 1 month.  
N.W. „ 1 „  
W. „  $\frac{1}{2}$  „  
Variable for 1 month.

In the year 1881:—

S. for 3 months.  
S.W. „ 3 „  
S.E. „ 2 „  
N.W. „ 2 „  
W. „ 1 month.  
Variable for 1 month.

In the year 1882:—

S.W. for  $7\frac{1}{2}$  months.  
S. „  $2\frac{1}{2}$  „  
S.E. „  $\frac{1}{2}$  month.  
W. „  $1\frac{1}{2}$  „

In the year 1883:—

S.W. for 5 months.  
S. „  $3\frac{1}{2}$  „  
W. „ 2 „  
S.E. „ 1 month.  
N. „  $\frac{1}{2}$  „

In the year 1884:—

S. for  $4\frac{1}{2}$  months.  
S.W. „  $3\frac{1}{2}$  „  
W. „  $1\frac{1}{2}$  month.  
N.W. „  $\frac{1}{2}$  „  
Variable for 2 months.

In the year 1885:—

W. for 4 months.  
S.W. „ 3 „  
S. „ 2 „  
N. „ 1 month.  
N.E. „  $\frac{1}{2}$  „  
S.E. „  $\frac{1}{2}$  „  
Variable for 1 month.

In the year 1886:—

S. for 5 months.  
S.W. „ 3 „  
W. „ 3 „  
N.W. „ 1 month.

In the year 1887:—

S.W. for 4 months.  
W. „ 3 „  
S. „  $1\frac{1}{2}$  month.  
N.E. „  $\frac{1}{2}$  „  
S.E. „  $\frac{1}{2}$  „  
N.W. „  $\frac{1}{2}$  „  
Variable for 2 months.

In the year 1888:—

S.W. for  $4\frac{1}{2}$  months.  
S. „ 3 „  
W. „ 2 „  
N.W. „ 1 month.  
S.E. „  $\frac{1}{2}$  „  
Variable for 1 month.

In the year 1889:—

S.W. for  $4\frac{1}{2}$  months.  
S. „ 3 „  
W. „ 1 month.  
E. „  $\frac{1}{2}$  „  
S.E. „  $\frac{1}{2}$  „  
N.W. „  $\frac{1}{2}$  „  
Variable for 2 months.

From these we find that the prevailing direction of the wind in these ten years was:—

S.W. for 4 months, on the average.

In 1882 it was prevalent for  $7\frac{1}{2}$  months.

1880 „ „ „ 6 „

1881, 1885 and 1886 it was prevalent for 3 months only.

The prevailing direction was :—

S. for 3 months, on the average.

In 1884 it was prevalent for  $4\frac{1}{2}$  months.

1880 „ „ „ 1 month only.

The prevailing direction was :—

W. for nearly 2 months, on the average.

S.E. for about two-thirds of a month, on the average.

N.W. for less than two-thirds of a month, on the average.

And there was no instance of the prevailing wind from the E., N. or N.E., excepting for a few days together, during these 10 years.

By adding the number of days of wind in Tables I to XII together, the next table was formed.

TABLE XIV.—Showing the number of the days of the wind during each of the years 1880 to 1889, at Sarona, referred to eight points of the Azimuthal Circle.

Years.	Number of Days the Wind was from—								Total number of days in the Year.
	N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.	
1880 ... ..	3	29	12	41	34	113	40	31	303
1881 ... ..	9	21	11	50	55	95	41	13	295
1882 ... ..	16	12	23	24	42	119	58	23	317
1883 ... ..	15	9	7	26	45	76	38	33	254
1884 ... ..	11	19	8	26	54	72	60	33	283
1885 ... ..	11	10	7	16	35	64	69	22	234
1886 ... ..	16	6	5	11	65	69	68	38	278
1887 ... ..	8	14	12	17	36	97	60	16	260
1888 ... ..	6	11	12	19	51	86	61	34	280
1889 ... ..	11	10	17	22	62	90	35	21	268
Sums ... ..	106	141	114	252	479	881	530	267	2,772

The numbers in this table under each direction differ very much from each other.



The N. wind numbered	{	3 days in 1880.
	{	16 " " 1882 and 1886.
The N.E. " "	{	6 " " 1886.
	{	29 " " 1880.
The E. " "	{	5 " " 1886.
	{	23 " " 1882.
The S.E. " "	{	11 " " 1886.
	{	50 " " 1881.
The S. " "	{	34 " " 1880.
	{	65 " " 1886.
The S.W. " "	{	64 " " 1885.
	{	119 " " 1882.
The W. " "	{	35 " " 1889.
	{	69 " " 1885.
The N.W. " "	{	13 " " 1881.
	{	38 " " 1883 and 1886.

By taking the mean of the numbers at the foot of each column in Table XIV, we find that from the ten years' observations the average number of days of each wind in the year with

N.	was 10·6 days,
N.E.	" 14·1 "
E.	" 11·6 "
S.E.	" 25·2 "
S.	" 47·9 "
S.W.	" 88·1 "
W.	" 53·0 "
N.W.	" 26·7 "

And if we take the difference between these numbers and those of each year in Table XIV, we shall determine the departure in every year from the average direction of each wind, and these values are shown in the next table.

TABLE XV.—Showing number of days of departure in each direction of the wind, from average 1880 to 1889, at Sarona :—

Years.	Number of days of departure in each direction of the wind from average.							
	N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.
1880 ...	- 7·6	+14·9	+ 0·4	+15·8	-13·9	+24·9	-13·0	+ 4·3
1881 ...	- 1·6	+ 6·9	- 0·6	+24·8	+ 7·1	+ 6·9	-12·0	-13·7
1882 ...	+ 5·4	- 2·1	+11·4	- 1·2	- 5·9	+30·9	+ 5·0	- 3·7
1883 ...	+ 4·4	- 5·1	- 4·6	+ 0·8	- 2·9	-12·1	-15·0	+11·3
1884 ...	+ 0·4	+ 4·9	- 3·6	+ 0·8	+ 6·1	-16·1	+ 7·0	+ 6·3
1885 ...	+ 0·4	- 4·1	- 4·6	- 9·2	-12·9	-24·1	+16·0	- 4·7
1886 ...	+ 5·4	- 8·1	- 6·6	-14·2	+17·1	-19·1	+15·0	+11·3
1887 ...	- 2·6	- 0·1	+ 0·4	- 8·2	-11·9	+ 8·9	+ 7·0	-10·7
1888 ...	- 4·6	- 3·1	+ 0·4	- 6·2	+ 3·1	- 2·1	+ 8·0	+ 7·3
1889 ...	+ 0·4	- 4·1	+ 5·4	- 3·2	+14·1	+ 1·9	-18·0	- 5·7

The sign + denotes more than the average, and the sign - less than the average.

In this table we see that the departures from the averages are in some years great. The following are the extreme departures in excess and defect :—

In 1882 } the N. was 5·4 days in excess.  
 1886 }  
 1880 the N. was 7·6 days in defect.  
 1880 " N.E. " 14·9 " excess.  
 1886 " " " 8·1 " defect.  
 1882 " E. " 11·4 " excess.  
 1886 " " " 6·6 " defect.  
 1881 " S.E. " 24·8 " excess.  
 1886 " " " 14·2 " defect.  
 1886 " S. " 17·1 " excess.  
 1880 " " " 13·9 " defect.  
 1882 " S.W. " 30·9 " excess.  
 1885 " " " 24·1 " defect.  
 1885 " W. " 16·0 " excess.  
 1889 " " " 18·0 " defect.  
 1883 } the N.W. was 11·3 days in excess.  
 1889 }  
 1881 the N.W. was 13·7 days in defect.

It is to be remarked that those years thus distinguished belong to groups of three or four + or - signs coming together in successive years

showing that groups of years occur together with more or less than the average. Thus, the north was in excess from 1882 to 1886; the north-east was less than the average in each year, excepting 1884, from 1882 to 1889; the east was less from 1883 to 1886; the south-east from 1885 to 1889; the south-west from 1883 to 1886; the west was in excess from 1884 to 1888. The signs under south and north-west are more evenly distributed. The numbers at the foot of the column of Table XIV show the number of times the wind has blown from the different directions; the largest number, 881, is from the south-west; the next in order, 530 from the west; the next, 479, from the south. The smallest number is 106, from north; the next in order, 116, from the east; and 141 from north-east. The numbers in the last column of Table XIV show the frequency of air in motion in each year. The largest number, 317, was in the year 1882; the next in order were 303, in 1880, and 295, in 1881. The smallest number was 234, in 1885, and the next in order were 254, in 1883, and 260, in 1887.

TABLE XVI.—Showing the number of days of each wind at Sarona in the ten years, 1880 to 1889:—

Months.	Number of days the wind was								Total number of days in ten months.
	N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.	
January ..	14	24	24	46	98	22	7	14	249
February ...	12	16	10	46	66	39	13	5	207
March ...	10	16	11	29	56	48	36	16	222
April ...	7	8	6	12	36	58	57	27	211
May ...	14	7	7	3	10	75	80	60	256
June ...	5	4	4	3	8	101	98	41	264
July ...	0	0	4	1	1	175	95	10	286
August ...	1	0	1	4	14	149	72	23	264
September ...	17	7	0	2	16	106	40	37	225
October ...	18	13	15	19	29	45	14	26	179
November ...	3	19	15	35	66	37	7	6	188
December ...	5	27	19	52	79	26	11	2	221
Sums ...	106	141	116	252	479	881	530	267	2,772

This table shows the total number of days of each wind, in every month in ten years, from which we learn that there was no instance of the north wind in July, none of the north-east either in July or August, and none from the east in September:—

The N.	wind was least prevalent in	July and August.
"	" most	" September and October.
N.E.	" least	" July and August.
"	" most	" January and December.
E.	" least	" August and September.
"	" most	" January and December.
S.E.	" least	" July and September.
"	" most	" January, February and December.
S.	" least	" June and July.
"	" most	" January and December.
S.W.	" least	" January and December.
"	" most	" July and August.
W.	" least	" January and November.
"	" most	" June and July.
N.W.	" least	" February and December.
"	" most	" May and June.

By taking the mean of the sum at the foot of each column of Table XVI, which are identical with those following Table XIV, and thus prove the correctness of the calculations up to this point, we find that the monthly average number of days of wind as follows:—

The N.	wind was prevalent	8·8 days.
N.E.	" "	11·7 "
E.	" "	9·7 "
S.E.	" "	21·0 "
S.	" "	39·9 "
S.W.	" "	73·4 "
W.	" "	44·2 "
N.W.	" "	22·3 "

If we take the difference between these numbers and those of each month on Table XVI, we shall determine the departure in each month from the average monthly direction of each wind, and these values are shown in the next table.

TABLE XVII.—Showing the departure of the number of days of each wind in ten years from the average :—

Months.	Departure from average of							
	N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.
January ...	+5·2	+12·3	+14·3	+25·0	+58·1	-51·4	-37·2	-8·3
February ...	+3·2	+4·3	+0·3	+25·0	+26·1	-34·4	-31·2	-17·3
March ...	+1·2	+4·3	+1·3	+8·0	+16·1	-25·4	-8·2	-6·3
April ...	-1·8	-3·7	-3·7	-9·0	-3·9	-15·4	+12·8	+4·7
May... ..	+5·2	-4·7	-2·7	-18·0	-29·9	+1·6	+35·8	+37·7
June ...	-3·8	-7·7	-5·7	-18·0	-31·9	+27·6	+53·8	+18·7
July ...	-8·8	-11·7	-5·7	-20·0	-38·9	+101·6	+50·8	-12·3
August ...	-7·8	-11·7	-8·7	-17·0	-25·9	+75·6	+27·8	+0·7
September	+8·2	-4·7	-9·7	-19·0	-23·9	+32·6	-4·2	+14·7
October ...	+9·2	+1·3	+5·3	-2·0	-10·9	-28·4	-30·2	+3·7
November ...	-5·8	+7·3	+5·3	+14·0	+26·1	-36·4	-37·2	-16·3
December ...	-3·8	+15·3	+9·3	+31·0	+39·1	-47·4	-33·2	-20·3

The sign + denotes more than the average, and the sign - less than the average.

By reference to this table it will be seen by the grouping of the signs that certain winds prevail most in particular months.

The N.E. has - sign from April to September.

E. " " April to September.

S.E. " " April to October.

W. " " April to October.

S.W. " " October to April.

W. " " September to March.

N.W. " " November to March.

N.E. has + sign from October to March.

E. " " October to March.

S.E. " " November to March.

S. " " November to March.

S.W. " " May to September.

W. " " April to August.

N.W. " " April to June and August to October.

The north wind has two or three months together with a + sign, as January, February and March, and three months together with a - sign, as June, July and August, and with either + or - in the other six months.

The extreme departures of each wind are as follows :—

The N.	was	9·2	days above	the average	in	October.
N.	„	8·8	„ below	„	„	July.
N.E.	„	15·3	„ above	„	„	December.
N.E.	„	11·7	„ below	„	„	July and August.
E.	„	14·3	„ above	„	„	January.
E.	„	9·7	„ below	„	„	September.
S.E.	„	31·0	„ above	„	„	December.
S.E.	„	20·0	„ below	„	„	July.
S.	„	58·1	„ above	„	„	January.
S.	„	38·9	„ below	„	„	July.
S.W.	„	101·6	„ above	„	„	July.
S.W.	„	51·4	„ below	„	„	January.
W.	„	53·8	„ above	„	„	June.
W.	„	37·2	„ below	„	„	January and November.
N.W.	„	37·7	„ above	„	„	May.
N.W.	„	20·3	„ below	„	„	December.

The numbers in the last column of Table XVI show the number of days in each month in the ten years the air has been in motion at 9 a.m. The three largest of these numbers are in the months of June, July and August, 264, 286 and 264 respectively, the two smallest are in October and November, and the next in order was February, being 179, 188 and 207, respectively. The total number of days of air in motion is 2,772, being the same as that in Table XIV. The total number of days of observation was 3,653, so that in these 10 years, 881 days the air was calm, or nearly so. These 881 are made up of—

61	days in	January.	24	days in	July.
76	„	February.	46	„	August.
88	„	March.	75	„	September.
89	„	April.	131	„	October.
54	„	May.	112	„	November.
36	„	June.	89	„	December.

From these it appears that the air is most continually in motion in July, next in order in June and August, and is least continual in motion in October and November.

In this discussion I have not made any reference to the strength of the wind ; this I must defer to a future time.

## NOTE ON AN ARAMÆAN INSCRIPTION FROM EGYPT

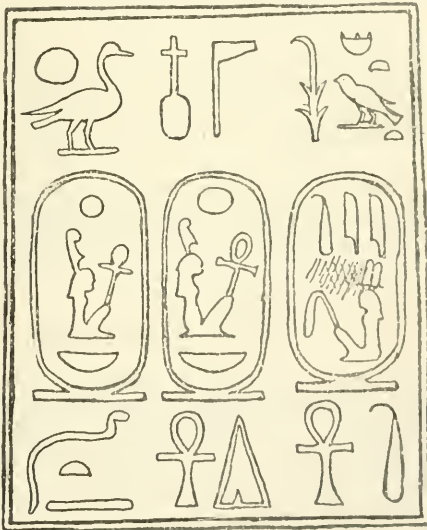
By PROFESSOR SAYCE.

I HAVE found the names of two Aramæans, written in the Aramæan form of the Phœnician alphabet, on a rock on the western bank of the Nile, about a mile to the north of the wady called Shut er-Rigâleh. One reads

𐤀 𐤆 𐤆 𐤀 𐤀, אַמְרָא, "Amrâ," with the terminal *aleph* of

Aramaic; the other, 𐤌 𐤏 𐤆 𐤆 𐤆 𐤏, חַמְמִין-נָתָן, "Khmun-nathan."

The interest of the last name lies in the fact that it is compounded with the name of the Egyptian god Khnum.





SKETCH OF THE INSCRIPTION ON ALABASTER VASE FOUND NEAR GAZA.

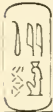
## NOTE ON AN ALABASTER VASE.



By P. LE PAGE RENOUF.

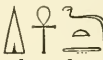
THE inscription upon the alabaster vase said to have been found in the neighbourhood of Gaza contains three royal Egyptian "rings," or, as others call them, "cartouches."

Two of them are identical<sup>1</sup> and contain the throne name of King Amenhotep III., of the eighteenth dynasty, , *Neb-maât-Râ*.

Above these two rings are the words , "good god, son of Râ."

Facing these rings is that of his queen, Tia, somewhat damaged, , so that it is not possible to see whether the vowel *i* is followed (as it generally is) by some other sign.

Over the queen's name is written her title, , "Royal Wife, the Great One." The latter adjective has sometimes, I think, been supposed to *imply* that there were other wives besides the "principal" one. This is not the case. The word is used not relatively but absolutely, and is sometimes followed by a noun dependent upon it, as in the case of the mother of Amenhotep III., Mâutemua, , "Most Gracious." This king, certainly, had other wives besides Tia.

Under the king's names are the words , "giving life for ever," and they are apparently repeated under the queen's name, but the last signs here are too much injured to be deciphered with certainty. The whole may confidently be restored as in the plate.

## NARRATIVE OF A SECOND JOURNEY TO PALMYRA,

including an exploration of the Alpine regions of Lebanon and Anti-Lebanon, and the southern half of the Nusairy Chain.

By Rev. GEORGE E. POST, M.A., M.D., F.L.S.

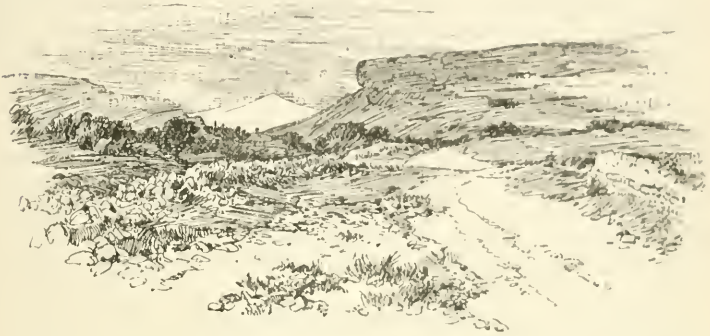
(Continued from April "Quarterly Statement," p. 167.)

After a ramble on foot through the town we took our lunch under the shade of the poplar trees by the fountain above the gorge, and at 1 p.m. started for Yebrûd. Our road lay over the glaring chalk hills, at this season almost barren of vegetation, until we neared the entrance of the Yebrûd gorge. There, in a vineyard to the right of the road, we found fine specimens of *Daucus pulcherrimus*, Willd. (new for this region).

<sup>1</sup> Compare Lepsius, *Denken*, III., Pl. 82, *e* and *f*. In the latter place the ring of Tia is between two identical rings of the king.



From this point we had a fine effect of a pure white chalk hill of a conical shape, standing out in strong contrast to the green gardens and orchards of Yebrûd, and the grey limestone of the mountains which hem in the pass. The illusion of a snow-capped peak was perfect. The accompanying cut represents the appearance of the hills as seen from the rocky bluff which overlooks the fountain :—



The following cut represents this and an adjacent hill to the right, taken from the Mohammedan cemetery just south of the town. Even so close as this it would be difficult to avoid the illusion of hills covered with slightly-discoloured snow, were it not for the glare and heat of July



sunshine, and the threshing floors and heaps of grain half way up their side. Such chalk hills are quite numerous in the interior, and form striking features in the landscapes.

We took a dip in the icy pool at the throat of the pass, a refreshing sequel to a hot and dusty day. On the common by the side of the pool

we saw a worn-out horse, which had had a hoof wrenched off, and instead of being killed to put it out of misery, was turned out to graze and die when Allah wills. The barometer at Yebrûd at 5 p.m. was 25·8, height, 4,600 feet.

We declined several hospitable invitations to stay to dinner, and to put up for the night in Yebrûd, and pressed on toward en-Nebk, an hour away, from which place we hoped to telegraph our friends in Lebanon. We found the telegraph officer away at his dinner. We went to his house, and he politely received the despatch and money to pay for its transmission. It is, perhaps, needless to say that it never arrived. There being no one to hold him to account, he, of course, pocketed the money, and never troubled himself any more about the message.

As we turned to leave a soldier came up to say that the governor would like to see us at the seraglio. We fancied that he wanted some backshîsh, or to put some impediment in our way that would bring us late to camp, so we spurred our jaded horses into a gallop, and were soon beyond the reach of pursuit on our way to Deir-'Aṭīyeh, which we reached at a quarter before eight o'clock.

As one of our muleteers had deserted us at Deir-el-'Ashaîr, we needed to find a man to accompany us on the desert to help in the varied services there required. After some difficulty we secured a man named Mûsa, who was to go on foot through the desert, and as far as we might choose thereafter. A more willing and faithful servant than he proved for the next sixteen days could not be found.

*Friday, July 18.*—Barometer at Deir-'Aṭīyeh at 6½ a.m., 26·3; height, 4,000 feet. At our former visit we also made it 4,000 feet. It was nearly 8 o'clock before we were in the saddle, and fairly began our desert trip. The flora between 'Aṭīyeh and el-Mahîn had almost entirely changed since the spring. *Delphinium oliganthum*, Boiss., *Mathiola Damascena*, Boiss. (in fruit; we had met it in flower in the same place in April), *Reaumuria Billardieri*, Jaub. et Sp., *Fagonia Olivieri*, D.C., *Achillea fragrantissima*, Forsk., *Kochia latifolia*, Fresen., *Chenolea Arabica*, Boiss., *Salsola crassa*, M.B., & *glauca*, M.B., *S. rigida*, Pall., var. *tenuifolia*, Boiss.

We arrived at el-Mahîn at 2¾ p.m. Barometer, 27·3; height, 2,950 feet. At our former visit we did not take its height. We only stopped to water our horses at the copious fountain, and then pressed on to Qaryetein. An hour before reaching it we came upon a pool filled with a reeking mass of dead locusts, a presage of what we were to encounter in the desert. The scanty vegetation of the plain of Qaryetein was also eaten by locusts. We obtained poor specimens of *Zygophyllum fabago*, L. At 6½ p.m. we reached Qaryetein, and again took up our quarters at the hospitable home of the teacher Shahîn. Barometer at 7 p.m., 27·8; height, 2,450 feet. The following day it was 27·9; height, 2,385 feet; mean, 2,367 feet. At our former visit we had made it 2,630 feet.

*Qaryetein, Saturday, July 19.*—The morning was spent in examining and labelling the collections of the past two weeks, and arranging for the

desert journey. We learned to our great disappointment that the locusts had filled up the pool at 'Ain-el-Wu'ûl, so that it would be impossible to explore as we had intended the mountains of that range, unless we could take with us a supply of water for three days, no easy thing with such a train as ours. We finally managed to explore the mountain due east from Qaryetein on the following Monday, and then to proceed on Tuesday to el-Jebâh, where the water is potable all the year round, and was undefiled by locusts. From el-Jebâh, by taking a camel-load of water, we could get through to 'Ain-el-Beïda in one day, and thence to Palmyra in six hours.

On Saturday afternoon we went out to Mar Liân. In the gardens around it we found *Trifolium fragiferum*, L., *Convolvulus pilosellifolius*, Desr. (a plant of the Lower Euphrates Valley, but found by myself in the Jordan Valley near the Dead Sea), *Zygophyllum fabago*, L., *Suaeda* sp., *Centaurea Postii*, Boiss., *Atriplex Tataricum*, L., var. *virgatum*, Boiss., *Prosopis Stephaniana*, Willd. On the banks of the ditch outside the gardens *Gypsophila hygrophila*, Post (a new species), and *Juncus pyramidalis*, Loh.

In the water of the ditch we found a species of fish, kindly named for me by Professor Lortet, of Lyons, as *Cyprinodon dispar*, Rüppel. We found the same species in the water of Ras-el-'Ain.

*Qaryetein, Sunday, July 20.*—I preached in the morning to a small audience on the temptations of Christ. The day was a welcome and needed rest after our severe fatigues and exposure to the midsummer sun.

*Monday, July 21.*—We started in the morning with Mûsa to take care of our horses, and an attendant mounted on a donkey to take some water-skins, and our former guard Khâlîd as a guide. We first passed Ras-el-'Ain, where we filled our water-skins, and then struck south for an isolated range somewhat lower than the Jebel-el-Bâridi. On our way through the rolling plain we collected *Reaumuria Billardieri*, Jaub. et Sp., *Glaucium Arabicum*, Fres., *Ajuga chia* Poir., *Suaeda fruticosus*, L., *Argyrolobium crotalarioides*, Jaub. et Sp., *Bunaea trifida*, Vahl.

At 2 p.m. we reached the top. Barometer, 25·8; height, 4,600 feet. We collected on the mountain and at its base *Alcea rufescens*, Boiss., *Dianthus deserti*, Post (a new species, of which specimens were also found by the author in the Judean wilderness), *Astragalus trifoliolatus*, Boiss., *Postia lanuginosa* D.C., *Verbascum Karyeteini*, Post (a new species), *Scrophularia variegata*, M.B. (new for the desert), *Teucrium pruinosum*, Boiss. (new for the desert), *Eremostachys macrophylla*, Month. et Auch., *Allium* sp., *Stipa* sp., *Rhamnus Palestina*, Boiss. (the only shrub on this range).

The view from the summit was grand. The boundless rolling plain to the south appeared of a pale green, owing to the scanty salsolaceous vegetation, which even at that season furnishes some pasturage to camels. Range after range of hills, similar to the one on which we were, stretched away in échelon to the south-west towards Damascus, while far away toward the west towered the broken profile of northern Anti-Lebanon.

Two hours to the south of us was a solitary encampment of Bedawin. To the north was the plain over which we had just come, interspersed with low chalk hills, and behind them the green oasis of Qaryetein, back of which was the range of Bil'ās, trending northward toward Aleppo. To the east was the range of Jebel-el-Bāridi, and beyond it Jebel-'Ain-el-Wu'ûl, and far away to the north-east el-Jebel-el-Abiaḍ. Between the latter two ranges was the broad plain through which passes the high road between Qaryetein and Palmyra.

On all the adjacent ranges of hills we could see the dark, olive-green spots which denoted the presence of bushes of *Rhamnus Palæstina*, Boiss., the only shrub of these woodless hills.

A stiff wind was blowing all the afternoon, making it difficult at times to keep our horses on their course. When we had taken in as much as our time allowed of the strange, barren landscape, we turned our faces toward Qaryetein, which we reached late in the afternoon, laden with a rich booty of new and rare species. Fayyâḍ Agha called to see us in the evening.

*Qaryetein, Tuesday, July 22.*—We spent the early morning in final preparations for our desert journey, and in a last call on the Agha, who gave us his warmest wishes for our pleasure trip. We left at 10½ a.m. The barometer was at 27.9.

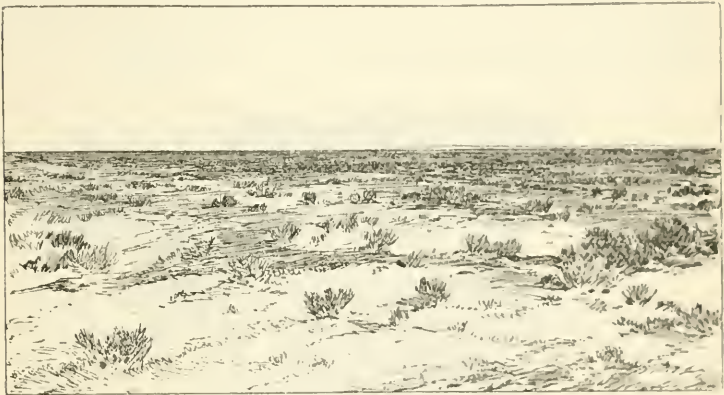
At 3 p.m. we arrived at *el-Ghondhur*, at which place we had parted from our guards three months before. Barometer, 27.7; height, 2,450 feet. Half an hour up the hill brought us to the hot-air bath of *Abu Rubah*. On the way we passed specimens of *Ephedra alte*, C. A. M., in fruit, the stalks being badly eaten by camels. There is an extensive ruin of a khan around the site of the bath. One vaulted hall is still standing. There must have been accommodation for hundreds of guests in the palmy days of the khan. The bath itself is a small vaulted chamber, in the partially paved floor of which is a blowhole, about 10 inches in diameter. I hung my thermometer in the hole, and after leaving it for several minutes it read 140° F. The air is somewhat charged with steam, and very slightly with sulphur. We heated our afternoon tea by hanging the bottle in the hole. We had no means of measuring the depth of the vent. The force of the blast is considerable. The barometer outside the blowhole at 4 p.m. read 27.55; height, 2,600 feet.

We turned our horses' heads again to the southward, and at 6 p.m. reached *el-Jebâh*. The barometer stood at 28; height, 2,150 feet. The same three old men were still there, not now watching the growing grain, but threshing out their small harvest. The water flowed still, nearly as in the spring.

The camel which we had brought to carry our water took fright at Mr. Day's pith hat, and started off at a full run into the desert. In vain the owner called him and ran after him. Two of the guardians joined in the chase, but the camel only galloped the faster. Seeing that he was likely to be lost entirely we saddled our three horses and set out in pursuit. After an exciting chase of half-an-hour we succeeded in turning

him toward the tent, when, seeing no further hope of escape, he quietly resigned himself to his keeper, and suffered himself to be led back to camp.

Wednesday, July 23.—As we had a long day before us we were in the saddle at a quarter to five in the morning. We rode along the foot of the hills which form the Bifās range. During the morning we collected *Eluropus levis*, Trin., *Ferula Blanchei*, Boiss. (with ripe fruits), *Bromus Danthoniæ*, Trin., *Salsola rigida*, Pull., var. *tenuifolia*, Boiss., *Salsola glauca*, M.B., *S. crassa*, M.B., *S. canescens*, Moq., *Chenolea Arabica*, Boiss., *Phelipea ramosa*, Cass., *Hyoscyamus albus*, L., var. *desertorum*, Asch., *Gymnarrhena micrantha*, Desf. Dry stalks of *Artemisia Herba-alba*, L., and *Poa bulbosa*, L., are everywhere. The accompanying cut gives the aspect of the desert plain, with its sparse salsolaceous vegetation.



Toward noon we passed *Qaṣr-el-Kheir*, about two hours to our right. A large caravan of traders was moving parallel to us all the morning on the regular road between Qaryetein and Palmyra. We afterwards met them at el-Beida. For several hours after noon we were passing a large caravan of friendly Arabs, about an hour to our left, on their way from el-Jebel-el-Abiad to el-Jebāh to celebrate the feast of the sacrifice (*el-dohīyeh*) by the water. It was a large tribe, with all its flocks and belongings.

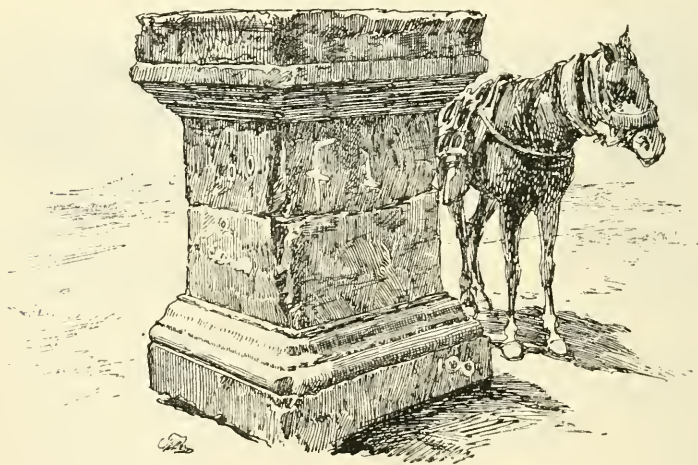
In the afternoon, as we neared el-Beida, we passed numerous heaps of *Ushnān*, the soda ash obtained by burning the *Arthrocnemum glaucum*, Del., which is one of the most abundant of the plants of this part of the desert. Two hours before reaching el-Beida we passed a ruined kban, an hour or more to our left.

We reached el-Beida at a quarter before seven, after fourteen hours in the saddle. The day had been very hot, and only late in the afternoon were there a few clouds to mitigate the intense power of the sun's rays. The horses were almost frantic from the flies, which buzzed about them

in swarms. The barometer at el-Beïda stood at 28·54 on our arrival; height, 1,600 feet.

The water at el-Beïda was slightly tainted with locusts, but not so much so as to be unfit for use. We found it inferior, however, to that of el-Jebâh. We offered the soldiers the same sum for the use of their bucket that we had paid before; they declined to let us use it at any price. Afterwards, when we produced one of our own, and proceeded to draw water, they relented and asked for a backshish. We gave them a small one by way of heaping coals of fire upon their heads.

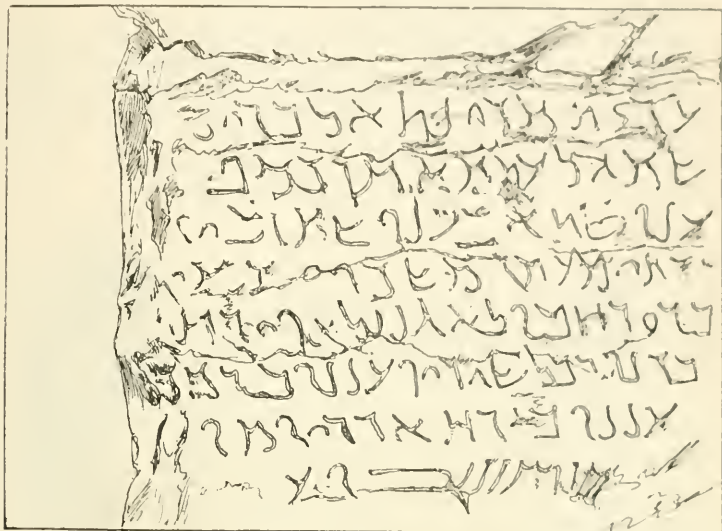
*Thursday, July 24.*—At a very early hour in the morning a marauding party of fifteen horsemen and twenty-five cameleers passed a short distance to the west of the station, and entered the range of mountains to the south of the plain. We were under some apprehensions lest they might waylay us and rob us half-way between el-Beïda and Palmyra. We saw no more of them, however. We afterwards learned that they were a party which had gone on a *ghazu* and failed, losing some of their number and carrying away no spoil.



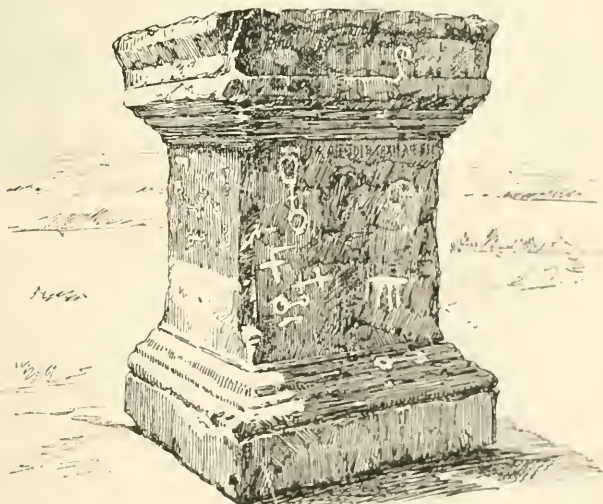
CUT (1).

We left el-Beïda at five minutes before eight in the morning. About half-an-hour away we came upon a sandy patch, with clumps of *Tamarix tetragyna*, Ehr., and *Crotophora verbascifolia*, Willd., var. *elata*, Post (new for the desert). Just beyond this patch we found *Delphinium flavum*, D. C. (new for this region), *Acantholepis Orientalis*, Less., and *Halimocnemis pilosa*, Moq. As we rose over a swell in the plain we saw camels with riders looming up before us, and at first thought of the *ghazu*, but we soon found that they belonged to the regular caravan between Palmyra and Qaryetein, and passed them with exchange of salaams.

Three hours from el-Beida we came upon a dry salt marsh filled with clumps of *Tamarix tetragyna*, Ehr., and *Lycium Barbarum*, L., with abundance



CUT (2).



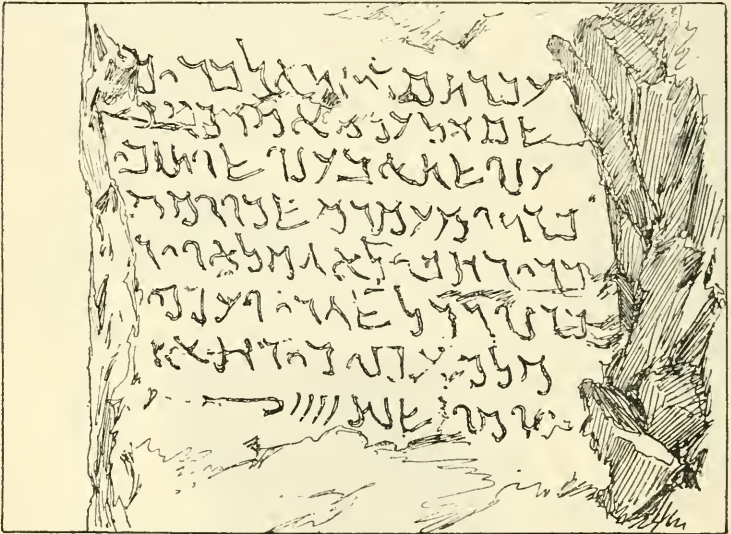
CUT (3).

of *Halocharis sulphurea*, Bge., in the intervals. In the centre of this marsh were the three altar-like structures, or bases of columns, alluded

to in the narrative of our former journey. The two perfect ones are about 6 feet in height. No remains of the fragmentary one are to be seen in the immediate neighbourhood.

Cut (1) is a view of the north and east faces of the westerly of the two altars, the one by which is the horse. The Palmyrene inscription is to the *left* of the north face, near the bottom of the shaft, and above it one line of Greek, and below it two, as appears in Prof. Porter's copy on a subsequent page.

Cut (2) is the photograph of this Palmyrene inscription. Both the Greek and the Palmyrene are the same on both of the altars.



CUT (4).

Cut (3) shows the north and east faces of the easterly altar. The Palmyrene inscription is to the *left* of the north face, between the lines of Greek as on the other altar, but near the top of the shaft.

Cut (4) shows this inscription. As there are trifling differences in the clearness of different parts of the two inscriptions, the one serves to help in deciphering the other. The following is Professor Porter's note on the inscriptions :—

[Bilingual inscription (Greek and Palmyrene) on the large square pillars in the desert about 2½ or 3 hours to the *west* of Palmyra on the road to *El Beidha*.

The Greek is in three lines, one in large letters across the top, and two in smaller letters beneath the Palmyrene, which is on the left side of the pillar in each case, thus :—



ΔΙΟΥΪΣΤΩΚΑΙΕΠΗΚΩΗΠΟΛΙΣΕΥΧΗΝ

עבד עדינתא לברוך  
 שמה לעלמא מן כסף  
 ענושתא בענושות זבי(דא)  
 בר תינעמיד מיטכו ומק(ימו)  
 בר ירהבול אגמלא וירחי  
 בר נורבל שגרי ועננו בר  
 מלכו עננו בירח אדר יומ  
 21 שנת 425

ΕΤΟΥΣΕΚΥΔΥΣΤΡΟΥΑΚΕΠΙΑΡΓΥΡΤΑΜΙΩΝΖΕΒΕΙ  
 [ΔΟΥΘΑΙΜΟΑΜΕΔΟΥΚΑΙΜΟ  
 ΚΙΜΟΥΙΑΡΙΒΩΛΕΟΥΣΚΑΙΠΑΡΑΙΟΥΝΟΥΡΒΗΛΟΥΚΑΙ  
 [ΑΝΑΝΙΔΟΣΜΑΛ(Ι)ΚΟΥ

Both Greek and Palmyrene are to be found in De Vogüé, "Inscriptions Sémitiques de Syrie Centrale" (No. 121, a, b). He mentions three pillars or altars as having the same inscription. We found only two. His reading of the Palmyrene differs from the above only in one word, the last in the second line. He reads (ב) כסף, *tributum, census*. The reading above as taken from a photograph is כסף, *silver*, which gives a better meaning and more nearly corresponds to the Greek *αργυραμιών, treasurers*, or overseers or masters of the finances.

The proper names do not correspond in the two languages, the Palmyrene in four cases adding a second name to that of the father as given in the Greek. De Vogüé translates in each case as though the word for son (בר) stood between, which may be correct; but may we not suppose that we have here the use of a surname or family name which may have been originally the name of an individual ancestor? The two copies of the Palmyrene differ in the orthography of the name corresponding to *anavidos* in the Greek. In one it is עננו, and in the other ענני. This is noticed in De Vogüé. The Palmyrene in Arabic characters stands thus:—

In Hebrew thus:—

عبدت عدينتا لبريک  
 سמה لعلما من كسف  
 عنوستا بعنوسوت زبي(دا)  
 بر تيمعمد مسکو و عتة (يمو)  
 بريرحبول اغملا ويرحي  
 بر نوربل سغري وعننو بر  
 ملکو عننو بيرح ادر يوم  
 21 سنة 425

עבדת מידינתא לברוך  
 שמה לעלמא מן כסף  
 ענושתא בענושות זבי(דא)  
 בר תינעמיד מיטכו ומק(ימו)  
 בר ירהבול אגמלא וירחי  
 בר נורבל שגרי ועננו בר  
 מלכו עננו בירח אדר יומ  
 21 שנת 425

We may translate as follows :—

The city (Palmyra) has erected (or dedicated) (this) to him whose name is for ever blessed, from the money of the Treasury under the administration of the treasurers Zebeida, son of Thaimo-'Amed Maskû, and Moqîmû, son of Yarhibûl Agmalâ, and Yarhî, son of Nûrbel Sagrî, and 'Ananî (or 'Ananû), son of Malkû Anani ; in the month of March, the 21st day, in the year 425 (114 A.D.)]

*(To be continued in October "Quarterly Statement.")*

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THE  
PALESTINE EXPLORATION FUND.

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NOTES AND NEWS.

AT the Annual Meeting of the General Committee, held at 24, Hanover Square, on July 19th, the following gentlemen were unanimously elected members of the General Committee, namely: Earl Cranbrook, Sir W. Q. Ewart, Bart., and John Pollard, Esq.

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The series of Lectures delivered in connection with the Fund in the spring of the year, at 20, Hanover Square, are now in the hands of the printer, and will be published shortly. Price of the volume, to Subscribers to the Fund, 2s. 6d., to others, 3s. 6d. The Lectures will also be published singly, price to Subscribers, 6d., to others, 1s.

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Owing to the severe attack of typhoid fever from which Mr. F. J. Bliss has been suffering, he has found it impossible to prepare his detailed report of last season's excavations in time for the present issue of the *Quarterly Statement*. After a stay of some weeks on the Lebanon, Mr. Bliss has recently returned to Jaffa, and a letter received from him, dated 17th September, reports that he hoped to recommence the work at Tell el Hesi on 26th September.

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Herr Schick still finds opportunities from time to time to continue his investigations in and around Jerusalem, and has sent an interesting report on "Acelanda" and other matters.

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The Rev. J. E. Hanauer reports that the first locomotive reached Jerusalem on August 21st. He adds that the station is at the large unfinished building south of the road leading westward from the Bethlehem road, past the south end of the Montefiore ground, and east of that leading southward towards the German colony.

Herr Schick reports:—"The railway is finished as far as Jerusalem, and on Sunday, August 21st, the first locomotive arrived with a small train. Some people took the opportunity to go by the train in the evening when returning to Jaffa, but in the neighbourhood of Bittir the fellahin had put something on the line, which caused the carriages to leave the rails and turn over. Nearly all the passengers were more or less injured, and although the train was put right and proceeded to Jaffa, the passengers were so frightened that they walked in the night back to Jerusalem.

The following is from the Report of the Oriental Congress which appeared in the "Times," of September 8th:—

"In the Assyrian Section, Professor A. H. Sayce delivered his presidential address upon the progress of the study of Assyriology in England. It was, indeed, he said, a matter of intense satisfaction to see what great progress Assyriology had made in the 18 years which had elapsed since the last Oriental Congress in London. The small band had increased to a goodly number; chairs of Assyriology are now established in all the principal Universities of Europe and America, and at last one has been established in Oxford. So important and so extensive was the work in this study that it was found necessary to assign to it a special section in the Congress of Orientalists. Assyrian was no longer a mere special study; its importance had been recognised in the fields of Biblical criticism and Oriental philology. By means of the labours of Assyriologists whole chapters of Oriental history have been reconstructed. Since the deciphering of the Deluge tablet by the late George Smith, no more startling and important discovery had been made than that of the Tell-el-Amarna tablets, which restore to us the earliest chapters of Canaanite history more than a century before the conquest of Canaan by Joshua. The discovery of these important documents has been followed immediately *by a find of still greater importance, that of the cuneiform inscriptions at Lachish.*<sup>1</sup> The importance of this tablet lies more in what it implies than in what it actually contains. It is a proof that Mr. Bliss has found his way to the entrance chamber of the archive chamber of the Amorite city of Lachish, and that before long the collection of tablets that were stored in it may be in our hands. The existence of these archive chambers in Canaan would explain strong Babylonian colouring, not only of the cosmogony and mythology of Phœnicia, but also of the earlier chapters of Genesis. It would be no longer necessary to suppose, as has been somewhat the fashion of late years, that the close similarity of the Biblical account of the Deluge was due to Jewish intercourse with Babylonia in the age of the Captivity. It would further explain the Palestinian character of the Elohist version of the story, which shows that it had already been at home in Canaan long before it was embodied in the Old Testament. If Babylonian legends made their way to the archive chambers of the Egyptian Kings, it was because they had first made their way to the archive chambers of Palestine. The fact that the Babylonian language and the complicated syllabary of Babylonia were the common medium of intercourse in the civilised East in the century before the Exodus shows that Babylonian influence in Western Asia had been long and powerful."

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With reference to the Tell-el-Amarna tablets, Professor Max Müller, in his opening address to the Congress, said:—

"In these despatches, dating from 1400 B.C., a number of towns are mentioned, many of which have the same names as those known to us from hieroglyphic inscriptions. Some of those names have survived to our own time. such as Misirûm for Egypt, Damascus, Megiddo, Tyre (Surrii), Sidou (Sîdûna), Byblos (Guble), Beyrut (Bîrûta), Joppa (Yâpû), and others. Even the name of Jerusalem has been discovered by Sayce in these tablets, as *Uru'salim*,

<sup>1</sup> Casts of these inscriptions are in the Museum of the Fund, 24, Hanover Square, where they can be seen on application to the Assistant Secretary.

meaning in Assyrian the Town of Peace, a name which must have existed before the Jews took possession of Canaan. Some of these tablets (82) may be seen at the British Museum, others (160) at Berlin, most of the rest are at Gizeli. We are indebted to Mr. Budge for having secured these treasures for the British Museum, and to Dr. Bezold and Mr. Budge for having translated and published them."

We regret to hear of the death of Dr. Carl Sandreczky, at the age of 83. For many years he had been a member of the General Committee of the Fund, and rendered important service in carrying out the Ordnance Survey of Jerusalem, obtaining and transliterating the names of the streets and other places, which, in the published Survey, are given in his own handwriting, reproduced by the zinco-lithographic process. Dr. Sandreczky went out to Greece with King Otho in 1834, and held important appointments as Judge in that country. Subsequently he became a missionary of the Church Missionary Society. He was a man of much learning and culture, an excellent Arabic scholar, and was the author of a book of travels describing a journey made by him in Mesopotamia, Kurdistan, and Urumiah. In 1869 he contributed to the *Quarterly Statement* a valuable paper on the Rock Tombs of Medyeh, which he regarded as the site of Modin, and in 1872 a translation of names of places on the east of Jordan.

Mrs. E. A. Finn sends the following note respecting *The Jerusalem Literary and Scientific Society* :—

"Mr. Finn had proposed the formation of such a society in 1846, within a month of his arrival in Jerusalem. At that time the 'Biblical Researches' of Dr. Robinson, and Williams' 'Holy City' (first edition), were the only modern works of importance on the topography of the Holy Land, and Mr. Finn suggested that it would be well for residents in Palestine to combine for the purpose of noting and recording such facts as might come to knowledge respecting the archæology, botany, natural history, and meteorology of the country. Seven gentlemen and ladies (six of them English) took part in the first meeting of the Society in 1849, and were soon joined by other resident and corresponding members. The English bishop and the Earl of Aberdeen were vice-patrons, and Archbishop Howley, of Canterbury, was patron. The Prince Consort sent a donation of twenty-five guineas to the Library Fund. The King of Prussia directed that members of the Jerusalem Literary Society should have free use of the Royal Library which was being established. The fundamental rule of the Society was that 'The object of this Society is the investigation and elucidation of any subject of interest, literary or scientific, of any period whatever, within the Holy Land, *i.e.*, within the territorial limits of the Mediterranean to the Euphrates, and of the Nile to the Orontes.' Weekly meetings were held at the British Consulate. Papers were read, followed by discussions on the various subjects within the scope of the Society, and minutes of proceedings were kept. Antiquities and specimens in botany, natural history, &c., were collected for a museum, which was begun at once. The latter was enriched by valuable marbles sent from Nineveh by Layard, by ancient glass and pottery from Phœnicia and other places, and by Macenbeam, Herodian, and other coins, &c. Ancient Samaritan MSS. were obtained for the library, as also copies, or transcripts of books on the history, topography,

&c., of the country. It was intended to form a special Biblical and Historical Museum, and, in short, the foundation was laid of an institution which should aid students in their researches in all important subjects of interest connected with Palestine, and should, at the same time, preserve *on the spot* the precious relics of antiquity being brought to light by intelligent observers and collectors.

“The annual addresses of Mr. Finn, as president, give interesting details as to progress made and plans for useful work laid out.

“One of the members, the Rev. H. C. Richardt, pursued the study of numismatics with rare success, and possessed perhaps the finest collection of Palestine coins in existence, including coinage of Jerusalem, Tiberias, Cæsarea, Nâblus, Sepphoris, Ashkelon, &c.

“Mr. Finn had himself discovered and identified many important ancient sites. In 1851 he reminded the members that ‘We have not yet even commenced *the exact geographical survey* of Palestine which we consider so desirable. We have as yet *cut into no tumuli* on the plain of the Jordan.’ He unceasingly urged these measures, and also ‘the forming at Jerusalem of a depôt of plain but good geodetical and astronomical instruments (which he began), and also of meteorological instruments for taking simultaneous observations by the corresponding members at various points of this *exceedingly diversified country*,’ and also that magnetic observations should be taken.

“These and other important matters were urged upon the resident members, and brought under the notice of influential travellers and visitors of many nationalities who attended the meetings. Among the latter were Dr. Robinson, who mentions in his last volume of ‘Travel and Research in Palestine,’ his pleasure at the good work being done by the Jerusalem Literary Society. Dr. Roth, of Munich, Dr. Petermann, Van de Velde, and numerous other distinguished foreigners took part in the proceedings, or became corresponding members. British travellers, among them Dean Stanley (in 1853 and 1862) Sir George Grove, and many others, were entreated to further the Society’s objects of exploration and research before the changes then already begun—the influx of foreigners and the erection of modern buildings—should obliterate precious memorials and landmarks.

“The Jerusalem Literary Society’s library and small museum still exist, and the surviving members of the Society would gladly see the Association of the Palestine Exploration Fund, recently established at Jerusalem, unite in keeping up and carrying on the work so simply and quietly begun in 1849.”

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The Rev. T. E. Dowling having left Jerusalem for six months on a visit to Australasia, Mr. G. Robinson Lees has kindly consented to act as Honorary Secretary for Jerusalem during his absence.

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The following gentlemen have kindly consented to act as Honorary Local Secretaries: The Rev. H. B. Waterman, D.D., 3,436, Rhodes Avenue, Chicago, Illinois; the Rev. W. Bailey, Colney Heath Rectory, St. Albans.

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The Rev. L. G. A. Roberts has been appointed Lecturer in Canada. His address is Hudson Parsonage, Province Quebec, Canada.

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Owing to want of space, a paper by Mr. Glaisher on the strength of the wind at Sarona in the ten years 1880 to 1889, has had to be postponed until January.

We are happy to state that M. Clermont-Ganneau is actively engaged on the letterpress which is to accompany the drawings of M. Lecomte, illustrating M. Ganneau's Archaeological Mission, and that considerable progress has already been made in the work.

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The museum of the Fund, at 24, Hanover Square, is now open to subscribers between the hours of 10 a.m. and 5 p.m., except on Saturdays, when it closes at 2 p.m.

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The Committee have to acknowledge with thanks the following donations to the Library of the Fund:—

“Har Moad, or Mountain of the Assembly.” By Rev. O. D. Miller, D.D. S. M. Whipple, North Adams, Mass. From the Publisher.

“Voyage en Syrie et en Egypte,” par M. C. F. Volney. 2 vols. From Dr. Chaplin.

“Plantæ Postiaræ,” by Dr. G. Post. Fasciculi I-IV. From the Author.

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The Committee will be glad to receive donations of Books to the Library of the Fund, which already contains many works of great value relating to Palestine and the Holy Land.

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It may be well to mention that plans and photographs alluded to in the reports from Jerusalem and elsewhere cannot all be published, but all are preserved in the offices of the Fund, where they may be seen by subscribers.

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The second edition of “Heth and Moab” having been sold out, a third and revised edition is in the press, and will be ready for publication in November.

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A new edition of “Twenty-one Years’ Work” is in course of preparation, and will be brought down to date. The new title will be “Twenty-Seven Years’ Work.”

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The first volume of the “Survey of Eastern Palestine,” by Major Conder, has been issued to subscribers. It is accompanied by a map of the portion of country surveyed, special plans, and upwards of 350 drawings of ruins, tombs, dolmens, stone circles, inscriptions, &c. The edition is limited to 500. The first 250 subscribers pay seven guineas for the three volumes; subscribers to the “Survey of Western Palestine” are privileged to have the volumes for this sum. The price will be raised, after 250 names are received, to twelve guineas. The Committee are pledged never to let any copies be subscribed for under the sum of seven guineas. Mr. A. P. Watt, 2, Paternoster Square, is the Sole Agent. The attention of intending subscribers is directed to the announcement in the fore part of this number.

Mr. H. Chichester Hart’s “Fauna and Flora of Sinai, Petra, and the Wady ‘Arabah” has been completed and sent out to subscribers.

The books now contained in the Society's publications comprise an amount of information on Palestine, and on the researches conducted in the country, which can be found in no other publications. It must never be forgotten that no single traveller, however well equipped by previous knowledge, can compete with a scientific body of explorers, instructed in the periods required, and provided with all the instruments necessary for carrying out their work. The books are the following (*the whole set (1 to 15) can be obtained by subscribers to the Fund by application to the Head Office only (24, Hanover Square, W.), for £3 1s. 6d., carriage paid to any part in the United Kingdom only*):—

By Major Conder, R.E.—

- (1) "Tent Work in Palestine."—A popular account of the Survey of Western Palestine, freely illustrated by drawings made by the author himself. This is not a dry record of the sepulchres, or a descriptive catalogue of ruins, springs, and valleys, but a continuous narrative full of observations upon the manners and customs of the people, the Biblical associations of the sites, the Holy City and its memories, and is based upon a six years' experience in the country itself. No other modern traveller has enjoyed the same advantages as Major Conder, or has used his opportunities to better purpose.
- (2) "Heth and Moab."—Under this title Major Conder provides a narrative, as bright and as full of interest as "Tent Work," of the expedition for the *Survey of Eastern Palestine*. How the party began by a flying visit to North Syria, in order to discover the Holy City—Kadesh—of the children of Heth; how they fared across the Jordan, and what discoveries they made there, will be found in this volume.
- (3) Major Conder's "Syrian Stone Lore."—This volume, the least known of Major Conder's works, is, perhaps, the most valuable. It attempts a task never before approached—the reconstruction of Palestine from its monuments. It shows what we should know of Syria if there were no Bible, and it illustrates the Bible from the monuments.
- (4) Major Conder's "Altaic Inscriptions."—This book is an attempt to read the Hittite Inscriptions. The author has seen no reason to change his views since the publication of the work.
- (5) Professor Hull's "Mount Seir."—This is a popular account of the Geological Expedition conducted by Professor Hull for the Committee of the Palestine Fund. The part which deals with the Valley of Arabah will be found entirely new and interesting.
- (6) Herr Schumacher's "Across the Jordan."
- (7) Herr Schumacher's "Jaulân."—These two books must be taken in continuation of Major Conder's works issued as instalments of the "Survey of Eastern Palestine." They are full of drawings, sketches, and plans, and contain many valuable remarks upon manners and customs.

By Walter Besant, M.A.—

- (8) "The Memoirs of Twenty-one Years' Work."—This work is a popular account of the researches conducted by the Society during the past twenty-one years of its existence. It will be found not only valuable in itself as an interesting work, but also as a book of reference, and especially useful in order to show what has been doing, and is still doing, by this Society.



- (9) Herr Schumacher's "Kh. Fahil." The ancient Pella, the first retreat of the Christians; with map and illustrations.

By George Armstrong—

- (10) Names and Places in the Old and New Testament and Apocrypha. This is an index to all the names and places mentioned in the Bible and New Testament, with full references and their modern identifications, as shown on the new map of Palestine.
- (11) Besant and Palmer's "History of Jerusalem."—The "History of Jerusalem," which was originally published in 1871, and has long been completely out of print, covers a period and is compiled from materials not included in any other work, though some of the contents have been plundered by later works on the same subject. It begins with the siege by Titus and continues to the fourteenth century, including the Early Christian period, the Moslem invasion, the mediæval pilgrims, the Mohammedan pilgrims, the Crusades, the Latin Kingdom, the victorious career of Saladin, the Crusade of Children, and many other little-known episodes in the history of the city and the country.
- (12) Northern 'Ajlûn "Within the Decapolis," by Herr Schumacher.

By Henry A. Harper—

- (13) "The Bible and Modern Discoveries."—This work, written by a Member of the Executive Committee of the Palestine Exploration Fund, is an endeavour to present in a simple and popular, but yet a connected form, the Biblical results of twenty-two years' work of the Palestine Exploration Fund. The writer has also availed himself of the discoveries made by the American Expeditions and the Egyptian Exploration Fund, as well as discoveries of interest made by independent travellers.

The Bible story, from the call of Abraham to the Captivity, is taken, and details given of the light thrown by modern research on the sacred annals. Eastern customs and modes of thought are explained whenever the writer thought that they illustrated the text. This plain and simple method has never before been adopted in dealing with modern discovery.

To the Clergy and Sunday School Teachers, as well as to all those who love the Bible, the writer hopes this work will prove useful. He is personally acquainted with the land; nearly all the places spoken of he has visited, and most of them he has moreover sketched or painted. It should be noted that the book is admirably adapted for the School or Village Library.

By Guy le Strange—

- (14) "Palestine under the Moslems."—For a long time it had been desired by the Committee to present to the world some of the great hoards of information about Palestine which lie buried in the Arabic texts of the Moslem geographers and travellers of the Middle Ages. Some few of the works, or parts of the works, have been already translated into Latin, French, and German. Hardly anything has been done with them in English, and no attempt has ever been made to systematise, compare, and annotate them.

This has now been done for the Society by Mr. Guy le Strange. The work is divided into chapters on Syria, Palestine, Jerusalem, and Damascus, the provincial capitals and chief towns, and the legends related by the writers consulted. These writers begin with the ninth century and continue until the fifteenth. The volume contains maps and illustrations required for the elucidation of the text.

The Committee have great confidence that this work—so novel, so useful to students of mediæval history, and to all those interested in the continuous story of the Holy Land—will meet with the success which its learned author deserves.

By W. M. Flinders Petrie—

- (15) "Lachish" (one of the five strongholds of the Amorites).—An account of the excavations conducted by Mr. Petrie in the spring of 1890, with view of Tell, plans and sections, and upwards of 270 drawings of the objects found.

By Trelawney Saunders—

- (16) "An Introduction to the Survey of Western Palestine, describing its Waterways, Plains, and Highlands, with special reference to the Water Basin—(Map. No. 10)."

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The new Map of Palestine embraces both sides of the Jordan, and extends from Baalbek in the north to Kadesh Barnea in the south. All the modern names are in black; over these are printed in red the Old Testament and Apocrypha names. The New Testament, Josephus, and Talmudic names are in blue, and the tribal possessions are tinted in colours, giving clearly all the identifications up to date. It is the most comprehensive map that has been published, and will be invaluable to universities, colleges, schools, &c.

It is published in 21 sheets, with paper cover; price to subscribers to the Fund, 24s.; to the public, £2. It can be had mounted on cloth, rollers, and varnished for hanging. The size is 8 feet by 6 feet. The cost of mounting is extra (*see Maps*).

In addition to the 21-sheet map, the Committee have issued a separate Map the 12 sheets (*viz.*, Nos. 5-7, 9-11, 13-15, 20-22), which include the whole of Palestine as far north as Mount Hermon, and the districts beyond Jordan as far as they are surveyed. *See key-map to the sheets.*

The price of this map, in 12 sheets, in paper cover, to subscribers to the Fund, 12s. 6d.; to the public, £1 1s.

The size of the map, mounted on cloth and roller for hanging, is 4½ feet by 6¾ feet.

Any single sheet of the map can be had separately, price, to subscribers of the Fund, 1s. 6d. Mounted on cloth to fold in the pocket suitable for travelling, 2s. To the public 2s. and 2s. 6d.

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*A copy of names and places in the Old and New Testament, with their modern identifications and full references, can be had by subscribers with either of these maps at the reduced price of 2s. 6d.*

The first and second parts, Vol. I., of "Felix Fabri," were issued to subscribers to the Pilgrim's Text Society in May and July. Parts I and II, Vol. II, of the same work are in the press. The account of "Sæwulf's Pilgrimage to Jerusalem and the Holy Land" (1102 A.D.) is nearly ready for publication.

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Branch Associations of the Bible Society, all Sunday School Unions within the Sunday School Institute, the Sunday School Union, and the Wesleyan Sunday School Institute, will please observe that by a special Resolution of the Committee they will henceforth be treated as subscribers and be allowed to purchase the books and maps (by application only to the Secretary) at reduced price.

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The income of the Society, from June 19th to September 19th, was—from annual subscriptions and donations, including Local Societies, £112 0s. 6d.; from all sources, £247 10s. 11d. The expenditure during the same period was £377 2s. 2d. On September 19th the balance in the Bank was £288 4s. 2d.

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Subscribers are begged to note that the following can be had by application to the office, at 1s. each:—

1. Index to the *Quarterly Statement*, 1869–1880.
  2. Cases for binding Herr Schumacher's "Jaulân."
  3. Cases for binding the *Quarterly Statement*, in green or chocolate.
  4. Cases for binding "Abila," "Pella," and "Ajlân" in one volume.
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Early numbers of the *Quarterly Statement* are very rare. In order to make up complete sets, the Committee will be very glad to receive any of the following numbers:—

No. II, 1869; No. VII, 1870; No. III, 1871; January and April, 1872; January, 1883, and January, 1886.

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It having been reported to the Committee that certain book hawkers are representing themselves as agents of the Society, the Committee have to caution subscribers and the public that they have no book hawkers in their employ, and that none of their works are sold by itinerant agents.

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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.

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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.

## ANNUAL MEETING.

THE Annual Meeting of the General Committee was held at the office, 24, Hanover Square, W., on July 19th.

James Glaisher, Esq., F.R.S., in the chair.

Amongst those present were Sir Edmund A. H. Lechmere, Bart., M.P., Rev. C. D. Ginsburg, D.D., Rev. W. J. Stracey, Rev. A. Löwy, Rev. W. H. Rogers, D.D., Walter Besant, Esq., M.A., W. Aldis Wright, Esq., LL.D., Professor Edward Hull, F.R.S., LL.D., Professor Hayter Lewis, F.S.A., James Melrose, Esq., Basil Woodd Smith, Esq., William Simpson, Esq., &c.

The CHAIRMAN, having mentioned that letters of regret for inability to attend had been received from the Rev. Dr. Wright, Lord Rollo, D. McDonald, Esq., J. Sebag-Montefiore, Esq., F. D. Mocatta, Esq., Herbert Birch, Esq., Colonel Sir Charles Wilson, K.C.B., Professor Sayce, and others, called upon the Secretary to read the Report of the Executive Committee.

The HON. SECRETARY (Mr. Walter Besant) then read the following report :—

GENTLEMEN,

In resigning the office to which they were appointed at the last Annual Meeting of the Fund your Executive Committee have the honour to render the following account of their labours :—

The Committee have held twenty-one meetings for the transaction of business.

The chief exploring work of the year has been the continuance of the excavations at Tell el Hesi. These were resumed after the hot weather was nearly over, and carried on until December 14th, when the winter storms rendered it necessary to desist for a time.

In the early spring they were again resumed, and continued until the beginning of June.

Your Executive Committee regret to report that Mr. Bliss has been laid up with a severe attack of typhoid fever.

The results of this work have been most encouraging. In the October and April numbers of the *Quarterly Statement* the reports of Mr. Bliss were published, together with plans of the ground and drawings of pottery, and many bronze and iron weapons, flints and other implements of various kinds which had been found, as well as a plan of a "singular structure" of large size, covering about one-tenth of the area of the town.

Mr. Bliss has since reported the discovery of a "small fine stone, bearing a fine cuneiform inscription," and of several scarabs, beads and cylinders.

From the casts and squeezes sent home Professor Sayce has been able to decipher the inscription, respecting which he thus writes:—

"QUEEN'S COLLEGE, OXFORD.

"The discovery which Mr. Bliss has just made at Tell el Hesi is by far the most important that has yet been made in Palestine. Dr. Flinders Petrie ought to be especially gratified, as it verifies, in the most striking manner, not only his theory that Tell el Hesi represents the site of Lachish, but also his conclusions as to the relative ages of the strata of which the Tell is composed.

"The cuneiform tablet discovered by Mr. Bliss is in the same handwriting as those in the Tell el Amarna collection, which were sent from the south of Palestine. The forms of the characters are the same, as are also the formulæ and the peculiarities of grammar. We have in it one of the letters which were written to the Egyptian Governor of the Amorite city of Lachish in the century before the Exodus.

"The casts and squeezes forwarded by Mr. Bliss are excellent, but until the original can be examined, several of the characters, more especially at the edges, must remain uncertain. So far as I can read the text it is as follows:—

"[To] the Governor [I] O my father, prostrate myself at thy feet. Verily thou knowest that Baya (?) and Zimrida have received thy orders (?), and Dan-Hadad says to Zimrida, "O, my father, the city of Yarami sends to me, it has given me 3 masar and 3 . . . and 3 faulchions." Let the country of the King know that I stay; and it has acted against me, but till my death I remain. As for thy commands (!) which I have received, I cease hostilities, and have despatched these [men] and Rabi-iluma. [Let the King (?)] send his [messenger(?)] to this country to [strengthen me (?)]."

"The meaning of some of the words is unfortunately doubtful, and I have marked lacunæ by brackets.

"The city of Yarami may be the Jarmuth of the Old Testament, Jarmuth being a plural, of which Yarami would be the singular. We learn from one of the letters sent by the King of Jerusalem to Egypt and discovered at Tell el Amarna, that Zimrida was the Governor of Lachish, where he was murdered by some of his own people. I have given a translation of the letter in the last volume of the new series of the "Records of the Past" (vol. v). It seems almost providential that the first cuneiform tablet discovered at Tell el Hesi should make mention of this very Zimrida.

"The smaller antiquities discovered by Mr. Bliss tell the same tale as the tablet. The Egyptian beads and scarabs belong to the age of the eighteenth dynasty, and among them is a bead bearing the name and title of "Teie, the royal wife." Teie was the wife of Amenophis III, and

the mother of Amenophis IV or Khu-n-Aten, the two kings to whom the Tell-el-Amarna correspondence was addressed

“Even more interesting to me are the Babylonian cylinders and their imitations. They testify to the long and deep influence and authority of Babylon in Western Asia, and throw light on the prehistoric art of Phœnicia and Cyprus. The cylinders of native Babylonian manufacture belong to the period B.C. 2000-1500; the rest are copies made in the west. One of these is of Egyptian porcelain, and must have been manufactured in Egypt, in spite of its close imitation of a Babylonian original; others are identical with the cylinders found in the prehistoric tombs of Cyprus and Syria, and so fix the date of the latter. On one of them are two centaurs arranged heraldically, the human faces being shaped like those of birds. European archæologists will be interested in learning that among the minor objects are two amber beads.”

As it is evident that the excavations have now reached a level where important objects may be discovered, and perhaps the “library” of cuneiform writings predicted by Professor Sayce be brought to light, measures have been taken by your Committee to prevent any searching of the ruins by unauthorised persons during the period when the work is necessarily suspended. It is hoped that the excavations will be renewed in October.

Herr Schick has continued his useful labours in and around Jerusalem, examining and noting anything of importance brought to light in the various building operations which have been carried on, or which have been discovered through excavations made for the purpose.

One of the most interesting of these is a series of rock chambers, &c., in the hill now known as “Nicophorih,” west of Jerusalem, which Mr. Schick is disposed to regard as the long-sought-for “Monuments of Herod.” Accurate plans and sections of the spot were published in the *Quarterly Statement* of April last, together with drawings of architectural ornamentations and photographs of two sarcophagi found in the Tomb Chambers.

Much attention having been drawn to a tomb, believed by the late General Gordon to be the tomb of our Lord, situate at the foot of the hill over Jeremiah’s Grotto, which has recently come to be called the “Skull Hill,” Mr. Schick was requested by your Committee to examine and report upon the same, and his account of it, with plans and section, were published in the April *Quarterly Statement*.

The ancient pool in the upper part of the Kidron Valley, which was partially examined many years ago by Sir Charles Wilson, has been more fully explored by Herr Schick, and several shafts sunk with a view to ascertaining its extent and boundaries, and whether any indications of its water having been conveyed into the city now remain.

Amongst the labours of Mr. Schick on behalf of the Fund may also be mentioned his examination of certain ancient remains at the north-west corner of the City of Jerusalem, which he thinks may show that in

remote times the city extended to that point ; and a careful examination of the buildings outside the "Double Gate," which resulted in the discovery of some ancient masonry.

The meteorological observations are being carefully continued at Jerusalem and Tiberias, and Mr. Glaisher, our Chairman, has bestowed much time and care in preparing the results for publication, and drawing up a comparison between them and the results of similar observations in England.

Mr. G. Robinson Lees, of Jerusalem, has collected a considerable number of ancient pottery lamps, and one or two pottery masks, accounts of which he has kindly sent to the Fund.

Your Executive Committee are able to report that the arrangement of the Museum has been completed, and that the numerous objects of interest in possession of the Fund can now be seen at the office.

They have to lament the loss by death during the last twelve months of the following members of the General Committee :—His Grace the Duke of Devonshire, Sir John Coode, Oliver Heywood, Esq., John Murray, Esq., the Rev. Henry Allon, D.D., and of the Rev. Greville J. Chester, who was for many years a valued friend and supporter of the Fund, and who rendered important assistance in arranging the Museum.

The death is announced in the "Times" of to-day of Mr. John MacGregor—Rob Roy—who was one of the oldest members of the society. He joined the Executive Committee in June, 1866, exactly one year after the foundation of the Society, and continued on the Committee until about three years ago, when his failing health obliged him to retire. No one ever took a keener interest in the Society's work than John MacGregor.

His book, "The Rob Roy on the Jordan," has passed through many editions, and is still a popular work.

They have also to regret the loss by death of many of their old subscribers who helped on the work of the Fund from its commencement.

Since the date of the last Annual Meeting 148 new subscribers have been added to the list.

With the view of rendering the work of the Fund better known your Executive Committee resolved to arrange for the delivery of a series of lectures respecting it during the London season. The large room of the Royal Medical Society, a few doors from the office of the Fund, was hired for the purpose, and lectures were delivered, the first by Colonel Sir Charles Wilson, K.C.B., the President, His Grace the Archbishop of Canterbury, presiding, the others by Major Conder, D.C.L., the Rev. Canon Tristram, LL.D., Walter Besant, Esq., M.A., the Rev. W. Wright, D.D., W. M. Flinders Petrie, Esq., D.C.L., and the Rev. Canon Dalton, C.M.G. Your Executive Committee desire to tender their cordial thanks to these gentlemen for the valuable service they have thus rendered to the Fund.

Amongst the papers published in the *Quarterly Statement* since the last Annual Meeting may be mentioned :—

By Dr. Flinders Petrie—

“Notes on Chisel Marks at Jerusalem”; “Tomb Cutters’ Cubits at Jerusalem”; “Note on the Results at Tell el Hesj.”

By Baurath Schick—

“Foundation of present City Wall”; “Remains of Old Wall inside City”; “Ancient Conduit from North-west of Jerusalem”; “Old Pool in Upper Kidron Valley”; “Remarkable Rock-cut Tomb in Wâdy-el-Jôz”; “Discoveries near the North-west Corner of the City”; “The Buildings South of the Double Gate”; “Chisel Marks at the Cotton Grotto”; “Recent Discoveries at Nicophorieh”; “Gordon’s Tomb”; &c.

By F. J. Bliss, B.A.—

Two “Reports of the Excavations at Tell el Hesj” (Lachish); “Excavating from its Picturesque Side”; “The Maronites”; &c.

By Professor T. Hayter Lewis—

“Additional Note on St. Stephen’s Church.”

By G. Robinson Lees—

“Notes on Potters’ Marks, &c.”; “On Lamps, &c.”

By Rev. J. E. Hanauer—

“Was there a Street of Columns in Jerusalem”; “On the Site of Calvary”; &c.

By Rev. G. E. Post, M.D., M.A.—

“Second Journey to Palmyra.”

By James Glaisher, Esq., F.R.S.—

“On the Monthly and Annual Mean Temperature of the Air in Palestine and England in the ten years ending 1889”; “On the Fall of Rain, the Amount of Cloud, and Frequency of Cloudless Skies at Sarona in the ten years ending 1889”; “On the Direction of the Wind at Sarona in the ten years 1880 to 1889.”

By Professor West, M.A.—

“Barometrical Determination of Heights in Lebanon, Anti-Lebanon, and on Hermon.”

By Professors Neubauer and Clermont-Ganneau—

“The Hebrew Phœnician Inscription from Tell el Hesj.”

By M. Lortet—

“Researches on the Pathogenic Microbes of the Mud of the Dead Sea.”



By Major Conder, D.C.L., LL.D., R.E.—

“The Lachish Text” ; “The Lachish Ruins” ; “The Sinaitic Inscriptions” ; “Alosa Elishah, Translation of a Phœnician Inscription” ; “Recent Hittite Discoveries” ; &c.

By the Rev. H. G. Tomkins—

“Dinhabah ; a New Identification.”

By the Rev. W. F. Birch—

“Sennacherib’s Catastrophe at Nob.”

Your Executive Committee desire again to record their special thanks to the Honorary Secretaries for their efforts so cheerfully and readily given on behalf of the Society’s work.

It is proposed that the following gentlemen be invited to become members of the General Committee :—

Lord Cranbrook.  
Sir W. Q. Ewart, Bart.  
John Pollard, Esq.

The following is the Balance Sheet for the year ending 1891, which was published in the April *Quarterly Statement* :—

## BALANCE SHEET FOR THE YEAR ENDING 31ST DECEMBER, 1891.

RECEIPTS.		EXPENDITURE.	
	£ s. d.		£ s. d.
To Balance in Bank 31st December, 1890	.. 811 7 7	By Exploration	.. .. ..
Donations and Subscriptions	.. 1,637 13 11	Printing and Binding, including <i>Quarterly Statement</i> ..	.. .. ..
Proceeds of Lectures	.. 13 8 5	Maps, Lithographs, Photographs, Illustrations, &c., including those for the <i>Quarterly Statement</i>	.. .. ..
Sales of Maps	.. 183 10 2	Management, including Rent, Salaries, Wages, Advertising, Insurance, Stationery, and Sundries	.. .. ..
Sales of Memoirs of Western and Eastern Palestine and other Books published by the Society	.. 759 11 2	Postage and Carriage of <i>Quarterly Statements</i> , Books and Maps..	.. .. ..
Sales of Photographs and Slides	.. 45 18 0	Museum Fittings and Removal of Office	.. 121 14 1
		Liabilities paid off, due at end of 1890..	.. 418 7 0
		Balance in Bank 31st December, 1891..	.. £314 6 3
		Less Subscriptions paid in advance on account of 1892	17 5 6
		Net Balance	.. .. 297 0 9
	<u>£3,451 9 3</u>		<u>£3,451 9 3</u>

## TREASURER'S STATEMENT.

It will be seen that the total expenditure on exploration was £850 18s. 6d. The very heavy sums paid for printing, binding, maps, lithographs, illustrations, photographs, &c., for the most part represent books and maps published by and sold by the Fund, and the *Quarterly Statement* distributed among the subscribers gratuitously.

In the statement of assets and liabilities, it will be seen that a large amount of these publications, for nearly all of which there is a steady demand, remains on hand.

Special expenses were incurred during the year in consequence of the offices of the Fund being removed to 24, Hanover Square. During the quarter in which this took place rent had to be paid for both the old and present offices.

Outstanding liabilities to the amount of £418 were paid off during the year.

ASSETS.				LIABILITIES.			
	£	s.	d.		£	s.	d.
Balance in Bank.. ..	314	6	3	Printing, Lithographing, Rent, and Current Ex- penses .. .. .	671	0	10
Stock of Books, Maps, Photos, &c., on hand..	1,500	0	0	Excavations.			
Surveying Instruments..	100	0	0				
Show Cases, Furniture and Fittings .. ..	100	0	0				
In addition to the above there is the valuable and unique collection of antiques, models, &c.							

W. MORRISON,  
*Treasurer.*

The CHAIRMAN.—Gentlemen, I think I may remark that this report implies progress, decided progress. It indicates that most important find of the tablet, which holds out the hope of more important finds yet to come. The tablet is the most important discovery that we have made for a long time. I suppose the inscription on it is more ancient than the Moabite stone. I will ask whether any gentleman has any remark to make upon the report?

Professor Löwy.—I beg to move that the report be received and adopted.

Professor HULL.—I have great pleasure, sir, in seconding the resolution that this exceedingly interesting report be received and adopted. I am sorry to say I have not had many opportunities of attending the meetings of the General Committee up to this time, I believe only one, in fact, since 1884, but I trust to be a better attendant in the future. I quite concur in what you said, that this report is of extreme interest, particularly from the finding of this very ancient tablet and inscription; and it shows that if anyone is bold enough to venture to suggest that

Palestine has already yielded up all its treasures to the antiquary and historian, he is very much mistaken indeed. I concur with you also in supposing that what we have found is a foretaste of what may be found by further excavation.

The CHAIRMAN.—I should like to remark with respect to Professor Hull's statement that we have not exhausted Palestine, that I think those who heard Mr. Besant speak of the 27 years' progress will rather think we are only upon the threshold of these discoveries. He, in his lecture, said none in that room would live long enough to see all the future discoveries; still, we hope some of us will live to know some of them.

The resolution was put and carried unanimously.

Professor LÖWY.—I have read many of the *Quarterly Statements*, as everyone else has who is interested in the Palestine Exploration Fund, and I have often regretted that there is no general index given to them. I do not speak in any spirit of fault finding. I believe we have all to be extremely grateful for the marvellous work which has been accomplished, but it would be of immense advantage to readers who are much occupied if an index were given to the series of *Statements* which have been published, either complete or devoted to the first ten volumes, and then another to the next ten, and so on. I am a great advocate of having in literary and historical works, and other works of research, a subject-index which guides me at once, without much loss of time, to what I am seeking, and it is not by a desire to facilitate laziness, but rather to help research that I beg leave on this occasion to propose for the consideration of the Executive Committee, whether it would not be possible to publish an index so as to help the students.

Mr. BESANT.—There is a general index to the *Quarterly Statements* up to 1881, and the desirability of bringing it up to the present date, has already been brought before the Executive Committee. Each number, however, has a table of contents, and an index is appended to each annual volume.

The CHAIRMAN.—No doubt the subject will be taken into consideration by the Executive Committee, and we thank Professor Löwy for bringing it forward.

And now, gentlemen, as to the series of lectures that we have had I think they have been unique. We hope to have them published about October. I am sure the lecturers deserve our thanks; the Executive Committee have mentioned this in the report which you have adopted, but I should like to move that the best thanks of this meeting be given to them for their kindness. Perhaps some gentleman who attended the lectures will second that.

Sir EDMUND LECHMERE.—I shall be very glad, having had the honour of presiding at one of the lectures, to second such a resolution as you have indicated. The one that I attended was of immense interest, by Dr. Tristram, and I am sure everybody must have been delighted. I

have great pleasure, therefore, in seconding a very hearty vote of thanks to those gentlemen.

The resolution was carried unanimously.

The CHAIRMAN.—The next vote of thanks I should like to move is to our Honorary Secretary. No one but myself knows how deeply indebted we are to him. He is a busy man, and yet I do not think I have been more than once or twice at any of the meetings when he has been absent; and when he is present, I feel I am on safer ground than when he is absent. I will say no more. If I were to speak ever so long it would only be in his praise, and to express my own indebtedness to him and yours also, and I hope and trust the interest that he has in Palestine will never cease (hear, hear). I beg to move that the best thanks of the meeting be given to Mr. Besant.

The resolution was submitted to the meeting, and carried unanimously.

The CHAIRMAN.—There is Herr Baurath Schick, more than 70 years of age, but age seems to exercise no bad influence on him; he has given us valuable information, and that information is specially valuable because we can place confidence in him and everything that comes from him.

The resolution was adopted unanimously.

The CHAIRMAN.—Then, gentlemen, we are indebted to Mr. Bliss for continuing Dr. Petrie's work. As has been mentioned, he had been with Dr. Petrie for some time, and had learnt some of his ways. The native workmen work well with him. He seems to understand them, and they understand him. It is to his exertions that we are indebted for this tablet. Unfortunately, his sister had to write to us to say that he was laid up with a severe attack of fever, and we have been in great anxiety about him. But a letter from his brother received this morning says: "My dear brother desires me to send you a list of the stores he will require for next time. He is convalescent, although very unwell, and cannot write yet." Mr. Bliss is determined to go on with the work, and adds that he hopes to be on the spot about September 13th. If that be the case, we may look forward to some very interesting results. Everyone will have sympathy with him in his illness; everyone will hope it may be of short duration, and that he will be able to go on in the autumn with energy in what he has begun. I ask your thanks for Mr. Bliss, for the labours he has bestowed on the work.

The vote was unanimously accorded.

The CHAIRMAN.—There are various correspondents from various localities. We cannot deal with each individually, but I should like a note upon the minutes that we are indebted to them, and thank them for the information sent to us from time to time.

Agreed to unanimously.

The CHAIRMAN.—And now I come to Mr. Armstrong, our Assistant-Secretary. Of course I know a great deal about his work and the manner in which that work is performed. It is faithfully performed (hear, hear), and having said that I will say no more, but merely ask you to give your thanks to Mr. Armstrong for the faithful and good manner in which he performs his duties.

This resolution was adopted unanimously.

Professor LÖWY.—Mr. Chairman, will you permit me to put a question before you dissolve this meeting? You were kind enough to accept the hint which I gave last year with regard to the lectures, and I believe these lectures have been acceptable, not only to those who attended, but also to many who have heard of them, and I believe that the Society will profit by the efforts which have been made by the lecturers. May I respectfully inquire whether it is the intention of the Executive Committee to renew those lectures, or have lectures in the coming year. I put this merely as a question, not as a suggestion.

The CHAIRMAN.—The Committee have not yet taken that into consideration. Everything will depend upon circumstances. I can give no pledge with reference to the question, for unless we see that we can give lectures with advantage we shall not give them. I may say that the lectures just cleared themselves. We have a few pounds in hand after all the expenses, without counting many subscriptions and donations sent up in consequence of the lectures.

Now, gentlemen, I think we have got to the end of this meeting, and I cannot close it without the hope that we may find those tablets which have been referred to by Mr. Sayce, who, as also Major Conder, 15 years ago told us that Tell el Hesi would prove to be Lachish, and if we do, everybody will look back with pleasure upon the time and support they have given to the Palestine Exploration Fund. I am certain that good work will yet be done, and I do hope, in spite of our Honorary Secretary deferring many of the discoveries until we are all gone, that we shall have the pleasure of seeing many of them. I can say no more than to wish that you all will be with me again at our next Annual Meeting, and that it will be as pleasing to us as this is. Thank you for your attendance. (Cheers).

Dr. GINSBURG.—I wish to propose, before we separate, a vote of thanks to our Chairman. Whatever has been done by us as an Executive Committee has generally been inspired by him. His heartiness and his zeal in the work are really beyond description.

I move that a hearty vote of thanks be given to our Chairman.

The resolution was seconded by Dr. ALDIS WRIGHT and carried by acclamation.

The Executive Committee having been re-elected the meeting terminated.

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## LETTERS FROM HERR SCHICK.

## I.—ACELDAMA.

SOME months ago a gentleman at Stockholm wrote to ask me to take for him the following measurements: "The length of inside of the house for dead bodies, called 'Aceldama,' also its breadth, measured from the northern wall to the large pier, and further on to the inner rock wall; also the height from the top of the building down to the rubbish; and the size of the holes in the roof, together with those in the rock, and their number."

Inclined to serve others whenever I can, I thought to go down and take these measurements, but could not effect it till the end of May, when I found things of much interest, at least to me, and now send to you also a report of my observations, together with plans and sections, and some remarks.

First, as to what I have found in books. The late Dr. Schulz says in his "Vorlesung," "Many writers speak of this house for bones and dead bodies, but only in general, and it deserves more attention than has been bestowed on it hitherto. With the help of a ladder I went down into the pit, and can now speak more positively on the matter." But his description which follows is not exact, and is liable to be misunderstood. Dr. Tobler, in his "Topography of Jerusalem," vol. ii, gives a fuller and more detailed description, but no plan or section, and his measurements were made some by steps, others by estimation. But the history of the place which he gives at length is very valuable. Dr. Sepp, in his "Jerusalem," vol. i, copies Tobler, and adds some remarks of his own: for instance, that this is the very first "Campo Santo" of the Christian world. Further, that the skulls found here are not Semitic but of the Caucasian race, and some even of the negro type. Professor Krafft, who also went down by help of a rope into the pit, gives similar facts in his "Topography of Jerusalem," adding that, with regard to the belief that dead bodies are here remarkably quickly dissolved and without bad smell, it is true, as was proved with a dog during his stay in the Holy City.

In searching through the publications of the English Exploration Fund, as far as they are in my possession, I found in the Jerusalem Volume, page 380: "There is a very fine rock-cut and masonry vault at this place, 30 feet long, and 20 feet wide, and 34 feet high, with two piers of drafted masonry with a rustic boss. The stones are of moderate dimensions and very white; the top course is arched out to support the roof, which is groined and of rubble. This vaulted building resembles Cru-

saling work. . . . The lower part of the vault is a great rock-cut trench. Tombs exist in the sides. . . . Immediately east of Hakk ed Dumm is the cave called Ferdûs er Râm;<sup>1</sup> it is some 35 feet high, and 10 by 6½ yards area."

Lewin, in his "Siege of Jerusalem," London, 1863, p. 170, says: "Aceldama is a little level plot overhanging the valley of Hinnom, with a few trees. On the east side is an old building over a quadrangular pit, sunk some 30 feet into the rock. This was many centuries the charnel-house into which the bodies of pilgrims who died at Jerusalem were thrown for interment. The custom of antiquity, therefore, corroborates the tradition that this was the field purchased with the thirty pieces of silver." And Ritter, in his "Erdkunde von Asien," Berlin, 1852, vol. viii, 2nd part, thinks in regard to this place that it was a loam pit, already exhausted or nearly void of clay, and therefore was sold by the potter to the priests for the betrayal money of Judas, as a fit place "to bury strangers in" (Matthew xxvii, 7). Ritter adds that "in the very neighbourhood, even to-day, clay is taken by potters," which last notice is repeated by nearly all following writers without sufficient ground. The place where a kind of clay<sup>2</sup> is found is higher up the "Hill of Evil Counsel," in the neighbourhood of the Aqueduct coming from Solomon's pools, near the road crossing from Zion Gate, which goes down into the valley of Hinnom, and up again on the opposite slope. In this neighbourhood also are rock-cut tombs.

Not improbably the potter's manufactory was lower down, possibly even in the valley in the neighbourhood of the waters of Siloah or Bir Ajûb. Similar manufactures are now often carried on in caves, or other places sheltered by rocks, and probably it was so in ancient times; so, as long as there is not found a better place, we may with some confidence consider the traditional Aceldama as the genuine one, and that the potters had here a cave in which their work was carried on, till the place was bought by the priests for thirty pieces of silver, to be henceforth a burial-place for strangers.

Robinson (vol. ii, page 354) says: "The tradition which fixes Aceldama upon this spot reaches back to the age of Jerome." Antonius passed the Siloah water and came afterwards to Aceldama, where the strangers were buried, and between the tombs were lodgings of the Church servants (or holy men). In A. D. 670 it is described by Arculph as on the south of Zion, "a small field (Aceldama) covered with a heap of stones, where the bodies of many pilgrims are carefully buried, while others are left to rot on the surface."<sup>3</sup> In the Crusading time Aceldama was used to bury the pilgrims, and also all those who died in the Knight's Hospital. It was

<sup>1</sup> Ferdûs is the general name for the Christian tombs in this region.

<sup>2</sup> It is rather a kind of chalk used by potters for mixing with the real clay.

<sup>3</sup> It seems that the Bishop did not visit the place itself, but saw it from a distance. In A. D. 1053, a monk, Wernifer, was buried here, and in 1059 the Abbot Walstan (*see* Sepp i, p. 300).



the place where it is shown now, as many of the writers of that time prove. In A.D. 1143 a church was there, which belonged to the Syrians, but was given over to the Latins. In A.D. 1218 earth was taken from here and brought by ships to Pisa in Italy for the new "Campo Santo" there.

In A.D. 1336 Baldensel says that the bodies of many holy persons were lying here, and Rudolph von Sachsen says: "Aceldama was situated south over the Valley of Jehosaphat, not large, but a deeply-excavated place, vaulted over in a spot surrounded by trees, having holes in the roof, through which the dead bodies were let down, of which after three days nothing was left but bones." In this time the Latins bought the place again, and built a church near, or on it, but the church was soon destroyed by the Muhammedans again, for in 1483 the monk Fabri found it destroyed. In A.D. 1560 the pilgrims Wormser and Villinger mention that there was a hole, where one could creep in and look into the inside, very likely a small window situated at some height, as in general visitors could look into the interior only through the holes in the roof. In A.D. 1583 the place was in possession of the Armenians, who allowed other denominations to bury there for payment. Quaresmius states that in A.D. 1625 and one hundred years later, the Greeks had the control of the place (Sepp H., "Jerusalem," Schaffhausen, 1873, i, p. 299). In 1697 Maundrell says, after describing its situation, "It is called 'Campo Santo,' a small plot of ground not more than 30 yards long, and about half as much broad; one half of it is taken up by a square fabric, 12 yards high, built for a charnel-house. The corpses are let down into it from the top, there being five holes left open for that purpose. Looking down through these holes one could see many bodies under several degrees of decay, from which it may be conjectured that this grave does not make that quick despatch with the corpses committed to it which is commonly reported. The Armenians have the command, for which they pay rent to the Turks." Good and bad here came together in death; for it is said that in 1681 malefactors were also buried there, where, according to Sepp H., the "arch offender" Judas Iscariot himself found his tomb!

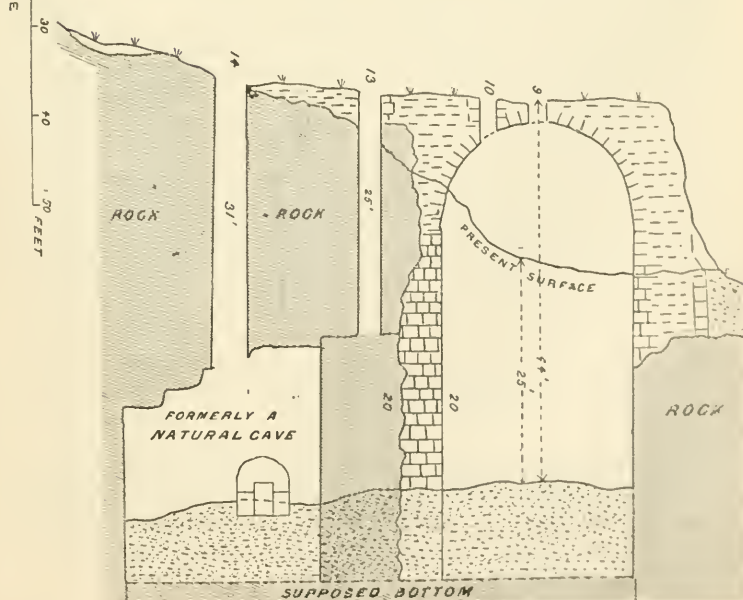
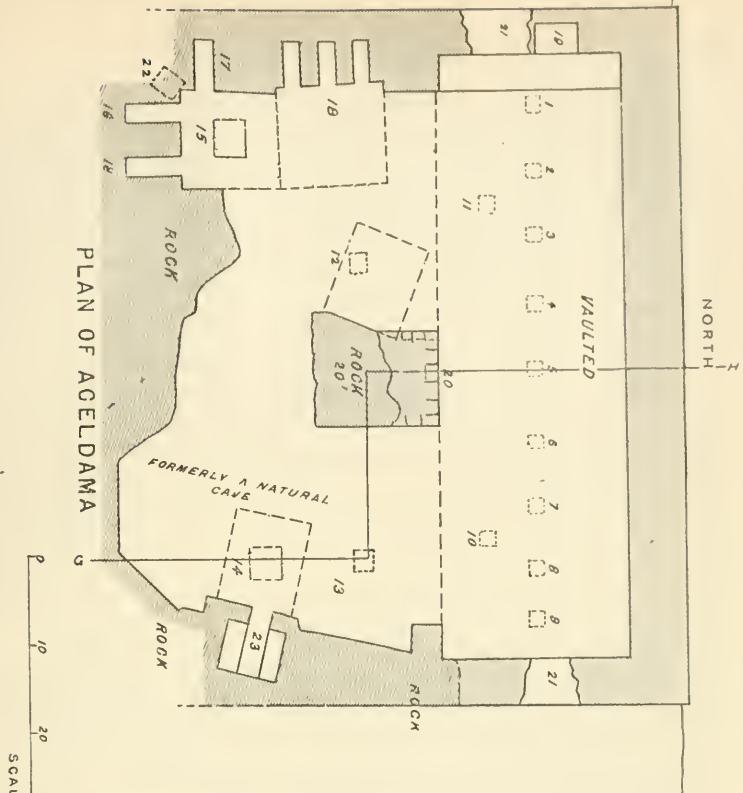
Many pilgrims and travellers visited the place, but not many went down into the vast grave. In the year 1845 Krafft let himself down by a rope, and Dr. Tobler on a rope ladder, and Dr. Schulz a few years before by a regular ladder, as I myself did in 1892.

2. My description of the place.—It is now a partly-ruined building, 78 feet long outside, and 57 feet wide, erected over rock-cut caves and a deep trench (*see* plan and section), situated on a steep slope of the rocky hill. At the southern part the roof consists of rock, and is level with the hillside, and the northern part, being about 20 feet lower, is walled up as a rectangular oblong building, roofed with a vault (*see* Section), just over the deep rock-hewn trench, which is 63 feet long and 21 feet wide, and from the present surface of the ground to the surface of the accumulation of bones, &c., 25 feet deep, or from the top of the roof to the accumu

lation, 44 feet deep. The depth of the accumulation is not known, but I conjecture it to be from 10 to 15 feet, perhaps even more, so that the whole height would be on an average of about 60 feet. The trench is cut into the rock about 30 feet deep, or the half of the whole height, a gigantic grave of the usual form! In order to make it still larger, caves already existing to the south of it, some natural, others artificial, as rock-cut tombs, were added, and their bottoms made deeper, and parts of their roofs broken out, leaving piers at the corners, and especially one in the middle, bearing the roof of rock, and also one side of the vault. This addition added to the large tomb a space about 60 feet long, 28 feet wide, and from 30 to 35 feet high, as the drawings will show. That these were originally, especially on one side, rock-cut tombs, can be seen by the six loculi (numbered 16-18 in the drawing), and it is nearly certain that there were on the other side natural caves, in which the potters may have carried on their trade in our Lord's time. I have shown by dotted lines in the Plan the outline, and in the section the height of the rock-cut chambers as they probably were. In the corner there is near the roof a door (marked 22), which seems to me to have been made afterwards for a more convenient entrance to the large tomb or charnel-house. Rock-cut tombs were only in the western part of these caves; in the eastern were none, except a small rock-cut chamber, with two benches for dead bodies (23).

The middle pier is only partly rock; it was squared and strengthened by masonry of white stones of moderate size, dressed nicely with some slight bevelling round, so that I put them in the early Christian time, if not even in the Jewish (as Schulz, Tobler, and others have done), but the masonry work of the walls in west, north, and east, standing on the perpendicular rock scarps, seems to me to be Crusading; there are no large stones, and the whole is of very common workmanship. In the west wall is a door-opening now walled up (marked 19), which seems to have been made later. In the west and east wall are now breaches (21), which become every year larger, and so the building looks ruinous. Through these breaches one may look into the interior, and by means of a ladder go down to the surface of the accumulation, which consists of earth, small stones, and bones. I found the place quite dry, and without any bad smell.

The vault is not groined—as some writers have said—although it has a few ribs from the piers, but is tunnel-like, more than semi-circular, and slightly pointed. In the centre of the arch are in one line, and at equal distances, nine openings or holes of a square form, nearly 2 feet wide, which could be covered by flat stones, as one still is. These holes are marked in the drawings 1-9. Four feet distant are two holes, a little larger, marked 10 and 11, 30 feet distant one from the other, piercing the side of the vault. Fourteen feet south of these are again two similar holes, 12 and 13, also some 30 feet distant the one from the other, and cut through the rock roof, the western for 15 feet deep, the eastern for 25 feet. About twelve feet further south there are again two



SECTION ACCORDING TO THE LINE G.H.

similar holes of larger size, marked 14 and 15, also hewn in the rock, the western 20 feet, the eastern 31 feet deep. These four holes or shafts, cut into the rock, seemed to me the most remarkable feature of the whole edifice; they are on the top 3 feet 4 inches wide each way (being square like all the others), but below more than half a foot wider, so that anything which might be put in on the top would fall through, and not be stopped anywhere. The reason for all these holes was certainly to give light, and allow access of air; but they may also have served, as so many writers say, for letting down the dead bodies.

3. To all this I would add the following remarks. In a place like Jerusalem, to which in all ages many pilgrims and strangers flocked, of whom many died, it was necessary to have such a place of burial for them. And we find that even in the Jewish time there was such a place. In Jeremiah xxvi, 23, we read that Urijah was killed with the sword and his dead body cast into "the graves of the common people." In the time of the Romans, when many strangers came to the Holy City, the general burial-place for such people was not sufficient, so the priests bought in addition to it the "field of the potter," and very likely Judas, the betrayer, was also cast here. In the Christian time matters, or rather ideas, changed, and it became an honour to be buried at the "Aceldama." It was believed that those buried here had not to undergo the judgment of God, and that the bodies very soon, without unpleasant decaying, would be consumed, leaving only dry bones; so that even earth from here was taken to other burial-grounds, as mentioned above. There must have been some truth in this, otherwise the belief would not have survived so long, as the contrary might have been proved very easily. Professor Krafft, of Bonn, says, in his "Topography on Jerusalem" (now 46 years ago), that it was proved by a dead dog, which was cast down, drying quickly and giving no bad smell. It seems to me that the many shafts there occasioned continual ventilation, and so the bodies dried up. But without further proof, nothing positive can be said. That in all ages a great many bodies were brought here is quite certain, but how they were let down is rather a puzzle. The holes certainly may have been used for letting them down, but they are not wide enough for the body of a full-grown man to be let down in a horizontal position. To cast them simply down would have been unseemly, and is not likely; so I think they had some contrivance for the purpose, perhaps a kind of coffin with a movable cover or bottom. Some writers think that from time to time people had to go down and arrange matters, and Dr. Tobler takes it for granted that from time to time the bodies were cleared out again, which I think is rather doubtful. Certainly it was not done in the last centuries. It is said that dead bodies were buried there as late as the year 1829.

In the neighbourhood there are many Jewish rock-cut tombs, which, were used again by Christians. Some were turned into chapels, and others became the lodgings of hermits or anchorites, who were

afterwards buried there. But under the long rule of the Muhammedans, all things of this sort had to be given up, and the place became waste and neglected. The whole Necropolis here bore the name of "Paradise," as the resting-place for the bodies of the believers, and this name is kept up even to this day. The Greek Church now has it in possession, and is about to clear and bring it into veneration again. The bones are collected and covered with some cloth; lodgings for watchmen are arranged by putting iron bars and shutters in the openings, and wooden doors in the entrances. Two places I found already converted into chapels, where lamps and candles are now continually burning, and the altars are decorated with pictures, &c. In one of them, which has a nice entrance dating back to the Jewish time, it is said that the frightened disciples took refuge on the night when our Lord was betrayed. The ceiling of this one has round about a cornice and is flat, whilst another has a dome resting also on a cornice, which is supported by half-round pillars. See "Survey of Western Palestine," Jerusalem Volume, p. 380.

### II.—A POOL CLEARED OUT.

On the Ordnance Survey Map of Jerusalem, scale  $\frac{1}{25000}$ , is inserted north of the city, between the trees of the olive-grove, a square marked "old cistern;" it is 850 feet west of the Damascus road, and 1,740 feet (in a straight line) from Damascus Gate. This pool has recently been cleared out, and it was found to be entirely hewn in the rock 18 feet deep, having at the north-eastern corner a stair, as such pools generally have. Inside it is partly cased with modern masonry, and on the bottom are remains of two former piers. Apparently the old pool had been arched over, and for carrying the arches the two piers in the middle and the casing on the sides were made. The roof has long since fallen in, and the stones of it were now found and cleared out. They were rubble and scarcely dressed.

South of this pool, and passing near it, is now a new road, and south of this road are remains of an old wall, which has been recently excavated, but nothing of interest was found. Further south, a native is building a house, and on clearing the ground found a cistern hewn in the rock 25 feet long, 18 feet wide, and 15 feet deep.

### III.—AN ANCIENT STONE WEIGHT.

The Algerine brethren at St. Ann's have found in their ground a rounded stone of soft *mizzeh*, with an inscription on it. On ascertaining its weight and deciphering to some degree the writing upon it, they formed the opinion that it is probably an ancient "Talent." Though

rounded in form it is not a ball, being longer (15 inches) than wide ( $12\frac{1}{2}$  inches), and also not so high as broad. All the sides are rounded, not polished, but to some degree smoothed by use. It has in the smaller end a half ball-like excavation 4 inches wide and  $2\frac{1}{2}$  inches deep. Its weight is (as I am told)  $41\frac{9}{10}$  kilos. The inscription seems to be Phœnician, but many letters are indistinct. I send a copy (reduced  $\frac{1}{10}$ ), made from a squeeze. One of the St. Ann's school-teachers gave a lecture on the subject in the lecture-room of the Dominican brethren at St. Stephen's place, near Jeremiah's Grotto, where a lecture is given every Friday in the French language, which anyone may attend. In this lecture the stone was stated to be a "Talent." The lecture will shortly be published in the "Revue Biblique," Paris.

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#### IV.—NEW SEWER NEAR THE CHURCH OF THE HOLY SEPULCHRE.

In several of my former reports, especially in one published in the *Quarterly Statement*, 1890, p. 20, I have noted that east of the Church of the Holy Sepulchre there was in ancient times a rock platform to which I gave the name of "Acra," following in this Sir Charles Wilson's Plan of the Ordnance Survey (1864, 1865). In the *Quarterly Statement*, 1889, p. 67, I pointed out that there was under this platform a cave, and how in the Russian ground, at one place, the rock stands up higher than the street, and that near to it is a trench  $47\frac{1}{2}$  feet deep, in which old hewn stones were found, which had apparently fallen there when the walls tumbled over. Compare also *Quarterly Statement*, 1888, p. 57. To this I may now add :—

That the Greek Convent recently made a sewer from the little gate which leads from the churchyard of the Church of the Holy Sepulchre to Harat ad Dabbachin eastwards, under the ground of Harat ad Dabbachin, between the new buildings and the Muristan, bending at the end of the Russian building northwards, and then eastwards again to the above-mentioned cave north of the threefold "sûk." Now I observed that the whole sewer is made through *débris*, at no place was the rock met with, but only a few cross-walls of no great importance. East of the Russian building the ancient pavement was met with (*see* 1888, p. 58), and also some hewn stones similar to those found in the Russian ground, as related above.

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#### V.

Some twenty or thirty years ago the Roman Catholic "Sisters of Zion" built a Convent and Church opposite the barracks at the north-west corner of the Haram es Sherif, and in this church one of the

remaining arches of Hadrian's Triumphal Arch was included, forming the choir. The Church is vaulted and had a flat roof, but the Sisters have recently erected over it a very nice and rather high dome, giving the town in this region quite another aspect. The dome rests on a new drum pierced with windows and decorated with a kind of pillars.

## TELL EL ARMARNA TABLETS IN THE BRITISH MUSEUM.

### *Letters from Syria and Palestine.*

By W. ST. CHAD BOSCAWEN, Esq.


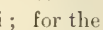
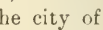
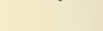
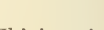
THE publication of the collection of tablets from Tell el Amarna, in the British Museum, has long been awaited by students, and now that the work has been issued, the whole of this important find has become accessible. Though not so large as the collection at Berlin, the British Museum series are most important, and contain several letters of great historical value.




















The most valuable inscription is the long letter from Amenophis III to Kallima-Sin, King of Babylonia, a document which supplements other inscriptions in the collections of Berlin and Gizeh, which together restore to us a most important chapter in Oriental history. The collection is, however, extremely rich in letters from Syria, Phœnicia and Palestine. There are thirteen letters from Rib-Adda, the Egyptian Consul in Gebal, or Byblos; two from Ammunira, of Beyrût, and three from Abi-Milki (Abimelech), of Tyre. There are two letters of great geographical interest from Akizzi, Governor of Ẕatna, a city near Damascus. There are twenty-six letters from Palestine, from Hazor Gezer, Askelon and Urza. Several of these are of special interest, as they are from Amorite sheiks, and give us valuable names and phrases of the Amorite speech.

The letters of Akizzi | 𐎠 𐎡 𐎢 𐎣 𐎤, of Ẕatna, are of much value, as they supply us with considerable information regarding the geography of North Syria, especially the districts adjoining Damascus.

There are two paragraphs in the second of these letters (n.m. 37) which afford us an important list of names. The writer says:—

“Oh my Lord *Arzauya*, of the city of Rukhizi, and *Teuwa* (𐎠𐎡) *et-te*, of the city of Lapana, dwell in the land of Ubi 𐎠𐎡 𐎢𐎣 𐎤 and Dasa, in the land of Am. 𐎠𐎡 𐎢𐎣 𐎤. Now the land of Ubi is not for my Lord, and each day (*yūme samma*) to Aitugama they send, and thus they say come and take the whole of the land of Ubi.

“Oh my Lord, in like manner (*kimie*), the city of Damascus,    (*Atu Ti-ma-aš-gi*), is in the land of Ubi; for the feet of my Lord it raises its hands, and in like manner the city of *Ḳatna* ( ) raises its hands and cries out.”

Here we have much valuable information. The land of Ubi is evidently the Hebrew *Hobah*, , which is expressly described in Genesis xiv, 15, as being one on the left hand, or north of Damascus. Here *Hobah* is associated with the land of *Am*, which is the region bordering on the *Sajur* and the city of *Pethor*, the *Pitru* of the inscriptions, the birth-place of *Balam*. This land of *Am* is the “land of the children of *Ammo* ()”, of Numbers xxii, 5, which was situated in the district watered by the *Sangara* River, the modern *Sajur* River, close to which is the *Mound of Tashatan*, which I regard as the site of *Pethor* (*Quarterly Statement*, 1881, page 226). In a small fragment in the Berlin collection (No. 163), we have mention made of “*Mitani*, the land of *Am*, and the three Kings of the Hittites.” This district then extended from the *Sajur* south-west until it reached the province of *Hobah*, which extended northwards of *Damascus*. The city of *Ḳatna*, from which *Akizzi* writes, appears to have been to the north-west of *Damascus*, bordering on the land of *Nukhašše*,    , that is, the Upper *Orontes* Valley—the Egyptian *Anaugas*. In this same letter another paragraph (lines 40–45) affords additional information. “Oh my Lord, now I to my Lord said in this manner. The King of *Nukhašše*, the King of *Ni*,   , and the King of *Zinzar*, with the King of *Kannat*; now all these kings to my Lord are servants.” This passage carries us to the *Euphrates* for *Ni*, the   *Ni-i* of the *Karnak* lists (No. 132). Now this city was on the *Euphrates*, near to *Naharain* or *Mitani*, for we read in the annals of *Thothmes III*, “The King came to *Ni* on his return home. After he had arrived there he placed on his memorial tablet in the land of *Naharain* that the boundary stones of *Egypt* had been extended.” (*Brugsch*. “*Hist. Eq.*,” i, 333). In the famous inscription of *Amen-em-heb* we have reference to the regions mentioned here. “I saw the victory of the King, the King of the south and of the north, in the country of *Senzar*” (“*Rec. Past.*,” iv, p. 10) which is evidently the *Ziuzar* of this paragraph, and which was evidently not far from *Carchemish*, apparently between that city and *Aleppo*. And again, he says:—“I began to see again another perfect action performed by the King, the master of two worlds, in the country of *Ni*. He took in hunting 120 elephants (or their tusks).” I should be inclined then to place *Ni* a little north of *Carchemish*, near *Birejik*. There is another reference to *Ni*, which associates it with the important stronghold of *Tnup*,    , *Du-ni-ip*, the Egyptian     *Tu-nep*, the modern *Tenneb*, near *Aleppo*, and south of *Azzas*, the *Khazazu* of the *Assyrians*.



Here, in the letter from the people of Tunip, we read:—"And when his soldiers and his chariots he shall send, then Azira, in like manner as to the city of Ni, he shall do to them."

It will be seen from the above what important information we gain from these tablets as to the geography of North Syria, and its numerous petty kingdoms.

The letters from Palestine are, however, still more interesting, and are full of valuable material.

I select, as an example, the letter of Vapakhi (𐎓 𐎗𐎍𐎗𐎓 𐎗𐎓 𐎗𐎓), *Ya-pa-khi* 𐎗𐎓 who was Governor of Gezer (tel Jiser).

He writes thus:—

"To the King my Lord, my God, my Sun-god, who is from Heaven; thus speaks Yapikhi, the official of the city of Gezer (𐎗𐎓𐎗𐎓 𐎗𐎓𐎗𐎓 𐎗𐎓𐎗𐎓 𐎗𐎓𐎗𐎓 *Ga-az-ri*), thy servant, the dust of thy feet, the holder of thy horses. To the feet of the King, my Lord, my Sun-god, who is from Heaven, seven times seven I cast myself, in mind, body and speech.

"That which is said, Oh King, my Lord, for me may he hear, and all is very good.

"I am the servant of the King, the dust of Thy feet.

"May the King know this.

"My Lord, when my younger brother has estranged himself from me, and entered into the city of Mu-ru?-kua-zi, to the soldiers he has given his hands.

"In this now he is an enemy to me, and an expedition to thy land he has sent. My Lord, in regard to this matter his commissioner order?"

The next letter is from Widya (𐎗𐎓 𐎗𐎓𐎗𐎓 𐎗𐎓𐎗𐎓 𐎗𐎓𐎗𐎓), of Askelon, of whom there are letters both in the British Museum and at Berlin. I read thus:—

"To the King, my Lord, my God, my Sun-god who is from Heaven, speaks thus Widya, thy servant, who is as the dust of thy feet, the holder of thy horses; to the feet of my Lord I bow myself seven times seven, in mind and body. Now I am keeping the orders (words) of the King, my Lord, the Son of the Sun-god. Now I have caused to be served food, drink, oil, corn, oxen and straw, before the soldiers of the King, my Lord . . . with all to the soldiers of the King, my Lord. In what manner can I be the Consul *targu?* of the King, my Lord, the Son of the Sun, and not listen to his commands?"

Another tablet of this group is that of Dagan-takala, whose name is especially interesting as containing the name of the great Philistine Deity, Dagon.

“To the Great King, my Lord, the Sun-god from Heaven, Dagan-takala (𐎠 𐎡𐎢𐎣 𐎤𐎥𐎦𐎧 𐎨𐎩𐎪𐎫 𐎬𐎭𐎮𐎯𐎰𐎱𐎲𐎳𐎴𐎵𐎶𐎷𐎸𐎹𐎺𐎻𐎼𐎽𐎾𐎿), thy servant speaks. Seven and seven times to the feet of the Great King, my Lord, I fall. Save me from the mighty enemy (*Nakri dannu? ti*) from the hands of the strong? from the robber (*Khabati*), and the Bedouin (*Sute*), oh save me Great King, my Lord, and I say . . . and thou, oh Great King, my Lord, thou can’st save me. Even now to the Great King, my Lord (I ery).”

The last of the Palestine tablets to which I will refer is one of special interest, as it appears to be from the Baya referred to in the tablet discovered by Mr. F. J. Bliss, at Lachish.

“To the King, my Lord, my Sun-god, my God, thus Ba-ya-a, Thy servant in mind and body (speaks), seven times and seven times to the feet of the King, my Lord, my God, I fall. Now Yankhaman does not in this matter (right) . . . (*reverse*) at the hand of, and all the land from the enemy is free, and the land lives.”

There is one other tablet of a curious character; of this letter we do not know the writer, but it is illustrative of the work of the petty kings in Palestine.

“To the Kings of Canaan (𐎠𐎡𐎢𐎣 𐎤𐎥𐎦𐎧 𐎨𐎩𐎪𐎫 𐎬𐎭𐎮𐎯𐎰𐎱𐎲𐎳𐎴𐎵𐎶𐎷𐎸𐎹𐎺𐎻𐎼𐎽𐎾𐎿). (Ki-na-akh-na), thy servants, my brothers, thus O Great King. Adiya, my messenger to the presence of the King of Egypt, my brother, I send him, whatsoever you may entrust to him, carefully into the land of Egypt, (*as*) the tribute of the land of Egypt, with haste he will take.”

An additional importance is attached to these tablets by the valuable list of personal names which they give, and which, we may conclude, are typical of the various races of Canaan.

Of PHENICIAN names, the most important are:—

Abi-Milki (Abimilech); Abd-Asirta (servant of Ashbarath); Abdi-astate; Abdi-milki (servant of the King); Abdi-rama (servant of the High One); Azira (Ezer); Akiya; Ili-milk, Elimelech (Ruth i, 2), (God is King); Bel-ram, Baalram (Baal is high); Biti-ilu, Bethuel (Gen. xxii, 22); Milki-ilu, Rib-Adda, Rib-Hadad (a prince is Hadad); Sum-Adda.

There are, however, a valuable list of names which call for special comment. These are most probably AMORITE, and are therefore extremely interesting:—

Yatibri, Widiya, Yankhamu, Yapakhi, Arzawya, Wisuya, Wyasdata  
Pīya Bayawa, Biwari, Biridiwi, Biridaswi, Dasru, Zimrida,  
Zitadnā, Labaya, Namyawai, Sigata Sitwai, Tiwatti.

The consideration of Mitanian and Hittite and other names must be postponed for the present.

The examples which I have given here are only a few selected from this important find, but they prove how fine a diplomatic system the Egyptians had developed, and how perfect was the system of official correspondence. The discovery made by Mr. Bliss at Tell Hesi leads us to hope that the day is not far distant when we may be able to construct many chapters of pre-Israelite Palestine from contemporary records from Canaanite libraries.

In many cases here the translations, especially of the Palestine and Amorite letters, must be regarded as tentative, as the language, and especially the grammatical construction, is often very difficult; but I hope that in most cases I have attained to the general sense.

## NOTES ON THE CONTROVERSY REGARDING THE SITE OF CALVARY.

By the Rev. J. E. HANAUER.

For more than 1,100 years past intelligent visitors to Jerusalem have (as I hope to prove by quoting passages from several of the most important of their itineraries)<sup>1</sup> been puzzled to find that, though the Gospels and the Epistle to the Hebrews tell us distinctly that our Saviour was crucified outside the walls of the Holy City, ecclesiastical tradition locates Golgotha and Christ's Sepulchre in the very centre of the town. In order to explain this apparent divergence between Scripture and tradition, various theories were accordingly put forward.

The earliest of these is, in all probability, that of St. Willibald, and his statement is that Calvary "was formerly outside Jerusalem; but Helena, when she found the Cross, arranged that place so as to be within the City Jerusalem."<sup>2</sup>

The next explanation is Sawulf's. He was here in 1,102, and says:—"We know that our Lord suffered without the gate. But the Emperor Hadrian, who was also called Ælius, re-built the City of Jerusalem, and the Temple of the Lord, and added to the city as far as the Tower of David, which was previously a considerable distance from the city, for anyone may see from the Mount of Olives where the extreme western walls of the city stood originally, and how much it is since increased . . . . *Some, however, say*<sup>3</sup> that the city was re-built by the Emperor Justinian, and also the Temple of the Lord as it is now; but they say that according to supposition, and not according to truth."<sup>4</sup> This statement, made a few years after the first Crusaders had taken the

<sup>1</sup> Pilgrim Text Society's Translations.

<sup>2</sup> Pilgrim Text Society's Translations, "Iiodæpor," p. 19.

<sup>3</sup> The italics are mine.—J.E.H.

<sup>4</sup> "Early Travels in Palestine," p. 37.

Holy City, contains a distinctly defined theory, as well as an allusion and objection to others, and therefore proves that the statement one often hears to the effect that no difficulties were felt respecting the location of Calvary within the city till *Protestants chose to raise doubts regarding the authenticity of the site*, has no foundation.

The unknown author of "La Citez de Jherusalem," says :—

"Jerusalem [the glorious city] is no longer in the place where it stood when Jesus Christ [was on the earth], and was crucified, and was raised again from death to life. When Jesus Christ was on the earth the City of Jerusalem was on Mount Zion, but it is no longer there. Only an abbey of monks is there now, and in this abbey a church of Holy Mary," . . . "The Church of the Sepulchre as it is now, and Mount Calvary, were, when Jesus Christ was crucified, outside the wall. Now it is in the middle of the city, and the city is also on a slope which looks towards Mount Olivet on the east beyond the Valley of Jehoshaphat."<sup>1</sup>

John of Wurzburg (A.D. 1160-70) informs us that in our Lord's time "the Pretorium, or Judgment Hall of Pilate, was on Mount Zion, where also the finest and strongest part of the city was, but that afterwards, when the city which was there was destroyed, it was removed by the Emperor Ælius to another place, where it stands at this day."<sup>2</sup>

This notice, and that of Theodoric (A.D. 1170), who also locates the Pretorium on Zion, are curious and important, for earlier writers, the Bordeaux Pilgrim (A.D. 333), the author of the "Breviary of Jerusalem" (A.D. 530), and Antoninus Martyr (A.D. 560), place the Judgment Hall, the former near the site now occupied by the Suk al Kattanin, and the two latter on the site of Justinian's Basilica of St. Sophia, on the platform where the Dome of the Rock now stands, an identification most manifestly wrong.

We know that the present Via Dolorosa, with its various stations, is not alluded to by any writer before Marinus Sanutus (A.D. 1321), but Josephus tells us<sup>3</sup> not only that the Roman Governor, Gessius Florus, had his quarters in the old Palace of the Hasmoneans on Zion, but also how annoyed Festus and Agrippa were because the view from the dining-hall (or guest-chamber) of Agrippa, whence there was a most delightful prospect of the City and Temple courts, had been obstructed by a wall built by the Jews upon the uppermost building which belonged to the inner court of the Temple towards the west; and what trouble resulted therefrom. Now the civil (Roman) capital of the country, and the seat of the Roman Governors, at that time was at Cæsarea Stratonis, just as at present that of the Turkish Vali is at Damascus. The procurators used to visit Jerusalem at the great feasts, &c., and, as Gessius Florus and Festus seem to have resided on such occasions in the Palace on Zion, it has been suggested that Pilate may have done so too. To

<sup>1</sup> Pilgrim Text Society's Translations, pp. 1, 2, 3, 4.

<sup>2</sup> Pilgrim Text Society's Translations, p. 28.

<sup>3</sup> "Antiq.," XX, viii, 11; "Wars," II, xiv, 8.

show how easy it is to form theories regarding the topography of Jerusalem, I may mention that it is popularly supposed that the premises of the London Jews' Society, at Jerusalem, occupy part of the site of the Palace and palace grounds of the Hasmoneans, enlarged and beautified by Herod, and that there is therefore a grand opportunity, for anyone who chooses to waste time and labour on the task, to write a treatise proving that there is reason to suppose that Christ Church, Jerusalem, stands on the very spot where Pilate said to the Jews of his day: "Ecce Homo. Ecce rex vester."

But to proceed:—Jacob de Vitriaco (A.D. 1220), and William of Badensel (A.D. 1336), felt the same difficulty that had perplexed so many pious minds before them,<sup>1</sup> while Balthasar de Monconys (A.D. 1657) was not satisfied with the explanations given, and the Franciscan Quaresmius, at first a simple monk in the Latin Convent at Jerusalem, and later on the Reverendissimo, or Father Guardian of the Holy Sites (A.D. 1627-29), disposes of the objections as "nebulones occidentales hereticos" (Robinson, "Bib. Res.," i, 408), and it was, doubtless, the fear of being considered and treated as heretics that, up to the eighteenth century, deterred many from openly calling in question the identity of the so-called Holy Sites. The first to protest against the possibility of the Church of the Sepulchre being on the right spot was Jonas Korten,<sup>2</sup> the German bookseller who visited Jerusalem in 1738, and some years later wrote an interesting little work, which seems to have caused quite a sensation amongst the Protestants of his day. In this work he argues that the site on which the Church of the Holy Sepulchre now stands could not possibly have been outside the city in our Lord's time, because it is so near the site of the Jewish Temple. No other traveller or writer of the eighteenth century endorsed this view, but in the present century the identity of the traditional site has been both attacked and defended by various able writers, "the eloquent, though superficial, Chateaubriand" (A.D. 1811), leading the way in a very plausible defence, from which most of the later advocates of tradition have drawn their chief arguments; and Dr. Edward Daniel Clarke following in the same year with a violent attack. Unfortunately, Dr. Clarke (who did not spend more than seventeen days in Palestine from the date of his landing at Acre, June 29, 1801, and who wrote his book years afterwards) seriously compromised and brought discredit on the cause he advocated, by broaching theories which I must mention, not only because of their extravagance and absurdity, but because they illustrate one point to which I would take the liberty of calling the attention of all interested in Palestine exploration, namely, the necessity, if I may use such an expression, of Gamaliel-like caution in advancing any theory, and the imprudence of drawing hasty conclusions from *single*, though

<sup>1</sup> Robinson, "Biblical Researches," I, 408. Vitriaco, "Hist. Hieros.," c. 60. Badensel, ed. Canis, p. 348. Monconys, "Journal de Voyages," Paris, 1657, Tom. I, 307. "Quaresmius," Tom. II, p. 515.

<sup>2</sup> Robinson, "Biblical Researches," vol. i, p. 408, &c. Jonas Korten, "Reise Altona," 1741-8, pp. 210-212.

well-ascertained facts.<sup>1</sup> Happening to visit<sup>2</sup> the old Christian cemetery (the traditional Aceldama) in the Wad Er Rababeh, he noticed that over several sepulchre doors were the words, τῆς ἁγίας Σιών. "Of the Holy Sion," which inscriptions still exist, and on them he based the hypothesis that the Hill of Evil Counsel was Mount Zion, and that therefore the Wad Er Rababeh, the traditional Hinnom, was the Tyropeon; and further, that a certain tomb he visited hereabouts was possibly "the identical tomb of Jesus Christ." Since then inscriptions have been found at Aceldama, proving beyond doubt that the Christian cemetery there dates back to the ninth century,<sup>3</sup> and that the mention of Zion refers to the monastery situated on the hill-top on the other side of the valley, and known as "Holy Sion," or "St. Zion," in the same way that recently-discovered and analogous epitaphs of deacons buried close to St. Stephen's Church refer to the Resurrection (or to the Church of the Resurrection *i.e.*, the Church of the Holy Sepulchre), give us reason to suppose that the Christian cemetery (fifth to ninth, perhaps to thirteenth century) near St. Stephen's, was known (and the knowledge that a cemetery so named should have during the Middle Ages existed so close to the "Skull Hill" seems, at first sight, startlingly suggestive and significant) in mediæval times as that "of the Holy Resurrection (or Anastasis) of Christ."

Dr. Clarke seems to have been the first to attempt to identify the Saviour's sepulchre with another than that shown in the centre of the modern city. Since his time Fergusson maintained that the Church of the Sepulchre does not even stand on the site of Constantine's great Church of the Resurrection, but that the present "Dome of the Rock" was originally that church of Constantine's, and that the cave under the

<sup>1</sup> Another case in point is that of Dr. Wild, who "discovered in 1838 a cave containing a great number of skulls, which, according to his statement, were not those of Jews but of foreigners, by which circumstance the fact was" considered "established beyond doubt that this is the very field which was bought for thirty pieces of silver," &c., &c. (Rev. Dr. F. C. Ewald, "Journal," London, Wertheim, Aldine Chambers, Paternoster Row, 1841, p. 239). The facts that the cemetery was a ninth-century Christian one, and that close to Dr. Wild's cave the ruins of an old chancel-house exist (which, when first mentioned in the fourteenth century, belonged to the Knights Hospitallers), and that many of the bones may have come from this place, the fact further that though St. Jerome (A.D. 420) locates Aceldama hereabouts, yet that Eusebius, writing almost a century before him, places it *north* of the city, sheds quite a new light on the fact that Dr. Wild ascertained the skulls found at the traditional Potter's Field to be those, not of Jews, but of foreigners, and gives cause for the supposition that they were the crania of Christian pilgrims, who, during the Middle Ages, came, as they do now, to Jerusalem, from all parts of the world, died, and were buried here. The skulls, therefore, do not prove the traditional Aceldama to be the true one.

<sup>2</sup> "Travels in Holy Land," 4to, pp. 549, 551, 554.

<sup>3</sup> "Survey of Western Palestine." Jerusalem Volume, p. 418.

Sakkhra was the sepulchre of our Lord. Major Conder has, in his turn, pointed to a Herodian tomb 200 yards west of the knoll above Jeremiah's Grotto, and suggests that it may have been the true sepulchre;<sup>1</sup> and some time after this General Gordon gave his opinion in favour of a tomb (now known by his name) nearer the said knoll, and apparently one of a group belonging to the above-mentioned mediæval cemetery at St. Stephen's.

Others, again, have indicated the slopes of Olivet as having been in all probability the scene of the Crucifixion, Burial, and Resurrection, as well as of the Ascension<sup>2</sup>; whilst in our own day, certain residents in this holy city point tourists to the ash-heaps west of Bishop Blyth's present residence, and supposed by many to be the remains of the ashes from the ancient temple-sacrifices, and if so, the place where, in the sin-offering, "the bodies of those beasts whose blood is brought into the sanctuary by the high priest for sin, are burned without the camp."<sup>3</sup> Holding this view, those who consider that the type was burned at this spot are consistent in considering it identical with that where the Antitype "suffered without the gate." I cannot, however, understand the reasons which have led these same people (unless, as some state, they lay claim to having received a Divine revelation on the subject) to consider a rock-hewn sepulchre at the foot of Mount Scopus, and at a good distance from the said ash-heaps, to be the tomb in which our Lord's body lay.

Between the years 1840 and 1876, no fewer than *sixteen* different theories (each backed by a learnedly-written work), respecting the topography of Ancient Jerusalem, and more especially about the course of its second wall, outside of which our Lord suffered, were advanced. The late Professor Zimmermann, of Bâle, has arranged these sixteen different restorations of the Holy City of our Lord's day, side by side in chronological order, so that, at a glance, one can overlook all and compare each with the others; and when we do so we are struck with the discovery that twelve of these theories (those of Williams, Schulz, Krafft, Thrupp, Lewin, Sepp, De Vogüé, De Sauley, Menke, Caspari, Sir Charles Warren, and Farrer) were in favour of the traditional site. Of these twelve, however, no fewer than nine have been disproved, wholly or in part, by facts discovered since they were put forward. The authorities against the traditional site were, in 1876, Robinson, Fergusson, Tobler, and Mr. Schick, the latter of whom, however, some years ago changed his mind on the subject, and now maintains the genuineness of the site of the Church of the Holy Sepulchre, though to do so he is obliged to sacrifice the whole of the traditional Via Dolorosa. His present theory and restoration of the second wall, therefore, counts as the seventeenth, and Major Conder's,<sup>4</sup> which goes against the traditional site, is the eighteenth. Dr. Selah

<sup>1</sup> "Tent Work," 1882; "Good Words," April, 1892.

<sup>2</sup> Rev. S. Manning, "These Holy Fields," p. 107; and N. Hutchinson, M.D., in *Quarterly Statements*, 1870, June and September, and 1873, July.

<sup>3</sup> Hebrews xiii, 11, 12.

<sup>4</sup> Facing p. 365 in vol. i, of "Tent Work."

Merrill's restoration of Ancient Jerusalem, an autograph chart of which has for several months' past been exhibited in the saloon of the Grand New Hotel at Jerusalem, resembles Conder's in some respects. The literature on the subject being so extensive, it is impossible to mention all the arguments on either side of what we may now, with good reason, term the controversy respecting the site of Calvary, and in which we find a good many Protestants espousing the cause of ecclesiastical tradition; but, as far as I have been able to ascertain, only one Roman Catholic of note, Professor Scholz, of Bonn,<sup>1</sup> taking a stand against it. I must, therefore, restrict myself to the mention of the most salient points in the discussion which is carried on along two distinct lines of argument, one historico-traditional, the other topographical, and which we shall now briefly consider in their turn.

### I.—*The Historico-traditional Phase of the Controversy.*

The defenders of tradition, following Chateaubriand and Williams, state that<sup>2</sup> all the members of the first Christian Church, which was gathered immediately after the Resurrection and Ascension of Christ, must have known the holy places, and, as they doubtless erected churches on those sites, they must have honoured the Holy Sepulchre in like manner; and, at any rate, it is certain that the line of sixteen Jewish bishops of Jerusalem, from the days of St. James till those of Bar Cocheba's revolt (A.D. 135), must have known and handed on the Christian traditions, which could not have been lost when the Christians withdrew to Pella during the siege by Titus, at which time the holy places, being outside the city, could not have suffered much; and that it is also certain that Hadrian set up a statue of Venus upon Calvary, and one of Jupiter over the heap of rubbish that wicked men had purposely piled over the Holy Sepulchre, and thus the place was only made more conspicuous by the attempt to profane it. As from Hadrian's time till that of Constantine there was again a general succession of bishops of Jerusalem, the holy places could, of course, not have been forgotten, and the statement that when by Constantine's orders the earth was removed, the Sepulchre was discovered *contrary to all expectation*, is to be understood in the same sense in which, speaking now-a-days of the wonderful discovery by Dr. Schliemann of the ruins of Troy, &c., &c., one could say rightly that it was "contrary to all expectation." The modern archæologist knew where to look for the objects of his search and found them, though no one thought he would be likely to do so, and it was just the same in the case of the first Christian Emperor.<sup>3</sup>

<sup>1</sup> See Robinson, "Biblical Researches," vol. i, on this subject.

<sup>2</sup> Robinson, "Biblical Researches," vol. i, p. 411.

<sup>3</sup> Such was the answer given on this point in the lecture delivered by the Dominican Prior of St. Stephen's, at Jerusalem, as a counterblast to one given by the writer of this paper, on the subject of the Site of Calvary controversy, and of which latter these notes contain the substance, with some amplifications.



To this reasoning the anti-traditionists, following Dr. Robinson, reply that it is indeed certain that the first Christians knew the sites of the Crucifixion and Resurrection, yet that no evidence, either literary or documentary, exists to prove that they built churches on sites rendered sacred by miracles, or that those churches were situated outside the city; nor can it be proved that there was a regular succession of Jewish bishops of Jerusalem such as has been described. Eusebius, writing in the fourth century, is the first to mention these bishops, and he is careful to tell us that he could find no document in proof of what he reports from hearsay.

But further, though extant coins prove Adrian to have built temples at Jerusalem, there is no evidence in proof of their having been erected over Calvary or the Sepulchre. Eusebius, again the earliest witness, does not even mention Adrian in connection with the building of the Temple of Venus<sup>1</sup> on the mound of earth removed by Constantine. The first to mention Adrian in this connection is St. Jerome, who, writing more than sixty years after the destruction of the Temple of Venus, very strangely and inexplicably speaks of a Temple of Jupiter as standing where Eusebius, the *eye-witness* of the transaction, and *its historian*, states that the Temple of Venus stood, and says that the fane of Venus was on Calvary, where, as a plain matter of fact, it is more than doubtful that any heathen temple ever stood. What Eusebius says is, in short, this:—<sup>2</sup> “Ungodly men (or rather the whole race of demons by their means) set themselves to consign to darkness and oblivion that Divine monument of immortality’ . . . ‘the most blessed place of the Saviour’s resurrection’ . . . ‘They covered it with earth, paved the mound thus raised with stone, and then built a temple to Venus over it.’ . . . ‘Their machinations against the truth continued for a long time, till Constantine, inspired by the Divine Spirit and holy zeal, ordered that the Temple should be destroyed, and the mound of earth transported to a distance’ . . . ‘This was accomplished without delay. And, as one layer of earth after another was laid bare, the place which was beneath the earth appeared; then forthwith, *contrary to all expectation*, did the venerable and hallowed monument of our Saviour’s resurrection become visible.” This language does not seem to show that a well-defined tradition had pointed to the place as the site of the Sepulchre; and the following extracts from Constantine’s own letter on the subject also lead us to suppose an absence of all tradition.<sup>3</sup> “No power of language seems worthy to describe the present wonder. For that the token of that most Holy Passion, long

<sup>1</sup> “We have no single intimation in any known author of the time of Hadrian” to show that he built a temple to Venus at Jerusalem, “though several buildings of his are noticed by contemporary writers; the story of this temple of Venus is first mentioned by Eusebius two centuries later.”—“Tent Work,” vol. i, p. 363.

<sup>2</sup> Palestine Pilgrim’s Text Society’s “Churches of Constantine,” pp. 1, 2, 3, 4, 5.

<sup>3</sup> “Churches of Constantine.” See above.

ago buried under ground, should have remained unknown for so many cycles of years, until it should shine forth to His servants . . . 'truly transcends all marvel' . . . 'for the nature of the wonder as far transcends all capacity of man's reason as Divine things surpass in permanence those which are human.'" It must further be noticed that though Justin Martyr (second century), and Origen (third century), speak of Christ's birth-place at Bethlehem as a well-known spot, yet that neither Eusebius, nor Constantine, nor the Bordeaux Pilgrim (A.D. 333), nor St. Cyril, Patriarch of Jerusalem, twenty years later, who mentions the existence of what was in his time believed to be the wood of the true Cross, nor St. Silvia of Aquitaine (A.D. 385), nor indeed any writer of the fourth century, St. Jerome included, make mention of Helena in connection with the discovery of the Sepulchre and our Lord's Cross. The legends about her are first met with in writers of the fifth century. This fact (when we remember that it is certain she did build churches on Olivet and at Bethlehem), is very remarkable and significant, though indeed it does not prove conclusively that Helena had *nothing whatever* to do with the removal of the Temple of Venus and the discovery resulting therefrom.

We now come to the statement of—

## II.—*The Topographical Arguments For and Against the Traditional Site.*

From the New Testament we learn that Calvary was :—

1. Outside the gates of, though near to the city. Heb. xiii, 11, 12 ; John xix, 20.

2. Interments were permitted and actually did take place close by. John xix, 41, 42.

3. It was so near a road or roads leading to and from the country that the remarks of passers-by (Orientals, generally the peasants of Palestine, especially, speak loudly), could be understood, and it was also within sight and hearing of some place where priests and scribes could stand without fear of ceremonial pollution. Matt. xxvii, 32, 39 ; Mark xv, 21, 29, 31 ; Luke xxiii, 35.

4. It could be seen "afar off." Matt. xxvii, 55 ; Mark xv, 40, 41 ; Luke xxiv, 48, 49.

5. It was known "as the place of a skull," doubtless not, as some have supposed, because skulls were scattered about there, for this was contrary to all Jewish custom ; but most probably the place had something in its general appearance, or in its contours, suggestive of the shape of a skull. Matt. xxvii, 33 ; Mark xv, 22 ; Luke<sup>1</sup> xxiii, 33 ; John xix, 17.

6. Lastly, the language of the Evangelists seems to imply that on leaving the Judgment Hall the procession passed, not through the city, but outside it.<sup>2</sup>

<sup>1</sup> Calvaria, ae., f., a skull. Vineal calvata—Pliny. Calveo, -vere, -vi, to be bald, &c.,

<sup>2</sup> "Those Holy Fields," Rev. S. Manning, p. 105.

How do these indications suit the traditional site of Calvary? They can only be made to do so in part, and that with difficulty. The *second* wall, outside of which our Lord was crucified, ran, according to Josephus, from the Gate Gennath, near the Tower Hippicus, northwards, encompassing (*κυκλούμενον*) the northern part of the city, and ending at the Castle of Antonia. It had forty towers. The Pool of Hezekiah (then called "Amygdalon") was inside it, and to the north was a tract of land sufficiently extensive and level to enable Antiochus Sidetes (B.C. 130) to erect his 100 towers; and the distance of the third wall from the second was so great that at the siege by Titus (A.D. 70), the defenders being worn out, retired in despair to the latter. Several traces of the *third* wall were distinctly visible when the writer of these notes was a lad of from fourteen to sixteen.<sup>1</sup> They had been noticed and described by Dr. Robinson many years before, but now-a-days, in consequence of the erection of numerous buildings round the city, these vestiges, with one exception (in the north wall of a cistern, just east of the Damascus road, and north of the property of the Dominicans), at St. Stephen's, have disappeared, and people interested in the maintenance of the traditional view, deny that they ever existed, and point to the present north wall of the city as coinciding with the course of the third wall.

A portion of the *second* wall was discovered in 1885, when the foundations for the eastern wall of the present "Grand New Hotel" were dug. All modern authorities are agreed in its belonging to the second wall. It was traced northwards for about 120 feet, and the general anti-traditionist view is that it ran on towards the Franciscan Convent, and then bent eastward, perhaps following the same line as that of the present northern wall of Jerusalem, till it joined on to the undoubtedly ancient remains visible at the Damascus Gate. On the other hand, the latest theory (Mr. Schick's) of the traditionist party is that it bent eastward at the Greek Catholic Convent, then ran along the street leading past the Coptic Convent till it reached an archway and some old masonry (the stones of which have the very distinctive "diagonal dressing" of the mediæval period, but which this theory makes do duty as part of the "Eck thor" or corner-gate of the second wall), and then on past the Khan el Kubt, across Christian Street, past Jamia el Omary, and the Muristan, till it joins, at a right angle, the remarkable remains in the new Russian Hospice east of the Church of the Sepulchre. These remains are supposed (by this theory) to extend northward as far as the present traditional Porta Judiciaria, and from that point the second wall is supposed to have proceeded in an oblique direction towards the Austrian Hospice till it joined the well-known rock scarp in the Ecce-Homo Church.

The ruins at the Russian Hospice are very remarkable, the most striking portion of them being part of a massive wall, resting on a small rock scarp running east, built in part of levelled stones (which have, however, holes in their faces,<sup>2</sup> as if for metal clips to hold in position the slabs

<sup>1</sup> Robinson, "Biblical Researches," vol. i, 314, 315.

<sup>2</sup> *Quarterly Statement*, July, 1891, p. 214.

of a marble casing, like that a portion of which is seen in the ruins near the Skull Hill), facing east, and having a buttress or cross-wall of the same style at its southern end, immediately east of which, and, as it seems, *in situ*, is the well-worn threshold of an old gateway. This threshold is now protected by an iron railing.

Canon Williams, De Vogüé, and M. Guérin believed this piece of wall to have formed part of the second wall. Sir C. Wilson examined it very carefully in 1864, and "the general impression which resulted from this examination was that the corner in question was probably early Christian work, in imitation of the Haram masonry, and that the buttress marks the south-east angle of the Atrium of Constantine's Basilica, the pillars to the east being remains of the Propylea in front of the Atrium doorways."<sup>1</sup> Professor Hayter Lewis endorses this opinion<sup>2</sup>; but Mr. Schick<sup>3</sup> believes that in ancient times a castle stood here at right angles to the second wall, which joined it, as above described, at its south end, and then ran on towards the Antonia from its north end. He thinks, further, that the lowest courses of the massive wall we have been speaking of, served, at a later period, as a foundation for part of the Atrium of Constantine.

Now, though by taking a course such as that described the second wall would have left (though only just have left) the traditional site outside it, and though it seems to have in its favour the fact that there exists, east of the Church of Sepulchre, and between it and the supposed castle ruins I have referred to, a great *artificial* depression, or rock-cut trench, containing at present the so-called Chapel of Helena, and in line with, and north and south of the latter, several immense and remarkable cisterns (one of them 100 feet long, 35 feet wide, and 35 feet deep), and though the latest traditionalist theory (given above) supposes this trench to have been a moat outside the second wall, the following reasons for thinking that the second wall did not take the course the traditionalists suppose may perhaps merit attention.

1. The second wall did not run in a zigzag, but in a curve.
2. According to Mr. Schick's theory, the wall would, after passing the site of Calvary (traditional), have had to cross, before reaching the Antonia, a valley at a point where the ascertained rock-levels prove it to have been from eighty to one hundred feet deep.
3. It is scarcely possible to locate twenty towers along this proposed line (Mr. Schick scarcely manages to place eighteen), and certainly not forty.
4. The size of the stones, and the *diagonal dressing* on the remains north-west of the Pool of Hezekiah, mark them as belonging most probably to the Crusading period, and not to the "Corner-gate of Biblical times."

<sup>1</sup> "Survey of Western Palestine." Jerusalem Volume, pp. 252-254.

<sup>2</sup> Pilgrim Text Society's "Churches of Constantine," Introduction, p. xxv.

<sup>3</sup> "Z.D.P.V.," Bd. viii, Heft 4, "Das Stadtviertel der Grabes kirche, der Lauf der zweiten Mauer, und die Bauten Constantin's am heiligen Grabe."

5. The depression east of the Church of the Sepulchre may be satisfactorily accounted for, and in this manner: Dr. Robinson, Sir Charles Warren, Major Conder, and Mr. Schick agree (their views being confirmed by what is now known with certainty regarding the rock-levels and rock-site of Ancient Jerusalem)<sup>1</sup> in stating that there was a steep hill to the east and south-east of the said trench. The present platform-like top of this hill (which Sir C. Warren calls "Zion" or "Akra") shows the rock at a level of 2,477 feet above the sea,<sup>2</sup> whilst other levels show that north-east, east, and south of it are valleys with beds ascertained to be only from 2,360 to 2,400 feet above the sea, and therefore the hill-sides must have been very steep on the north-east, east, and south. Further, the level platform on the hill-top has been found to be bounded by a precipitous scarp, or cliff, which is continued northwards on the west of the street leading from the so-called Porta Judiciaria towards the Damascus Gate, and at the same general level (2,465 to 2,467 feet) as the northern edge of the platform.

Now, let it be granted (several undoubted authorities are in favour of the view) that a Castle, or Akra (of which the massive wall in the Russian property once formed part) topped the hill at some period of its history: what special and characteristic feature would we expect to find (a feature found in almost all ancient fortresses in this country, as at Bittir, Hamin, Baniyas, Tibnin, and Kalu'at Es Shukif, &c.) cut in the rock, and ineffaceable, even if not a single vestige of the masonry ramparts had been preserved? The obvious answer is, an artificial valley, rock-hewn trench, fosse, or moat dug along that part of the defences which, for want of a natural valley to protect it, would be most easily approached and exposed to attack. This consideration will, perhaps, make it clear that an artificial depression in the rock was to have been expected where indeed it exists, and that, without being forced to the conclusion that it belonged to the second wall, its being where it is need cause those holding anti-traditionist views less difficulty than another fact, namely: that it is certain that the site of the Church of the Sepulchre was, at some time or other during the Jewish period, a place where interments were allowed, although the Mishna states ("Baba Bathra," ii, 9) that "corpsees and tanneries were separated from the city fifty cubits."

It has been discovered<sup>3</sup> that the so-called tombs of Joseph of Arimathea and Nicodemus, supposed by Dr. Robinson to be forgeries, are genuine ancient Jewish tombs, that there are others underneath them, whilst others have been found under the Coptic Convent at the other side of the Church of the Sepulchre, and that thus the second condition required by the Gospel narrative is satisfied. In order to meet this fact Major Conder<sup>4</sup> supposes that these tombs were either those of the Davidic dynasty or of Huldah the Prophetess; for, these excepted,

<sup>1</sup> See Plate facing p. 33 in Sir C. Warren's "Temple and Tomb."

<sup>2</sup> Ordnance Survey.

<sup>3</sup> *Quarterly Statement*, April, 1877, pp. 76-85.

<sup>4</sup> "Survey of Western Palestine." Jerusalem Volume.

all sepulchres within the Holy City are stated (Tosiphtha "Baba Bathra," c. i.) to have been transferred without the walls. Attention is also called to a passage in the Mishna, which seems to show a way out of the difficulty by stating that "the buildings of Jerusalem were founded on the rock, with caves under them, because of the Kabe Ha Talitum (Sepulchre of the Abyss), *i.e.*, "hidden tombs of unknown depth" (Maimonides, "Nezir," ix. 2), to prevent defilement, from which the children, sent to fetch water from Siloam for the Red-Heifer Sacrifice, were mounted on bulls, in order to have their feet off the ground; and besides this, and for the same reason, the priest who had to sacrifice the heifer crossed the valley between the Temple and Olivet over a causeway of peculiar construction, consisting of one row of arches built over the other, and therefore the Jews knew that hidden tombs existed within the city,<sup>1</sup> and even near the sacred enclosure.

It does not seem as if the site of the Church of the Sepulchre, though, indeed, being the top of a ridge with a valley 100 feet deep (though now nearly filled up), and 800 feet wide, immediately south of it, it could be seen at a distance answers the rest of the conditions (*see* above) required by the Gospel narrative, and therefore I will now speak of the site outside the present Damascus Gate, and which, in the opinion of many of the present day, commends itself to notice as fulfilling *all* requirements of the Story of the Crucifixion. In our Lord's time it was doubtless outside the second wall, though not far from the northern gate of the city, traces of which are visible at the present Damascus Gate. Close by was a place where interments were made, for 200 yards to the west of it Major Conder discovered a Jewish tomb of the Herodian period, which he suggests might have been the sepulchre in which Joseph of Arimathea laid the body of Jesus, and, seeing the direction in which public opinion respecting the site of Calvary is now setting, this tomb and the property in which it is situated have been purchased and recently enclosed by the Franciscan monks. Besides this tomb, Mr. Schick<sup>2</sup> has recently pronounced the tomb, identified by General Gordon as that of our Lord, to have been "*originally* a rather small rock-cut *Jewish* tomb." (The italics are mine.)

It has further been shown by Dr. Merrill, in a pamphlet published in Jerusalem in 1886, that two great Roman roads led past the site in question, which is the knoll above Jeremiah's Grotto, now often called "Gordon's Calvary." One of these roads runs northwards along its western side, and is in all probability the same over which Saul of Tarsus travelled to Damascus as a persecutor of Jesus.<sup>3</sup> The other, on the east of the knoll, leads straight from the site of the Antonia, past the present "Herod's Gate," so-called, to Antipatris and Caesarea-on-the-Sea. It is the road along which Paul was carried prisoner by night,<sup>4</sup> and the spot

<sup>1</sup> Lightfoot, "Temple Service," chap. xvii, sec. 2.

<sup>2</sup> *Quarterly Statement*, April, 1892, p. 120.

<sup>3</sup> Acts ix.

<sup>4</sup> Acts xxiii.

where, close to the Tombs of the Kings, it crosses the other, forms one of the most important and interesting road-crossings known in history.

But, to proceed. The "new," or "Gordon's Calvary," is visible "afar off" from the west and north, as well as from the slopes of Olivet on the east, and, looking across the city, from the Hill of Evil Counsel to the south. It is within sight and hearing of many places where priests and scribes could have stood and looked on from positions where they were out of danger of ceremonial pollution. Nor is this all, for the cavern underneath the hill has for centuries been pointed out as the Grotto where Jeremiah wrote his Lamentations, and where, according to a venerable tradition [found in a Christian Apocryphal Book ("The Rest of the Words of Baruch") written about A.D. 136, and part of which is to this day read annually in the Orthodox (or Greek) Church, on November 4th, when the Greek Church commemorates the destruction of Jerusalem] the prophet Jeremiah was stoned. To this tradition, and to that relating to the martyrdom of Isaiah, who is said to have been sawn asunder by order of Manasseh, it has been supposed that St. Paul alludes in Heb. xi, 37, and possibly even our Lord Himself, Matt. xxiii, 37; Luke xiii, 34.<sup>1</sup>

Besides this early Christian tradition, it has been discovered<sup>2</sup> by Dr. Chaplin, and the fact has been confirmed by independent inquiry made by Major Conder, that the Jews consider the knoll above Jeremiah's Grotto to be identical with the "Beth-ha-Sekelah," or "House of Stoning," mentioned in the Mishna ("Sanhed" vi, 1-14), where criminals were put to death by being hurled over the cliff, and then, if the fall had not killed them, by being stoned. After death their corpses were, according to the same authority, suspended till sunset on a cross fixed on the summit of the hillock. I may perhaps be forgiven, in this connection, for remarking that according to the<sup>3</sup> "Hagadah of Shimeon Bar Kepha," a Jewish work of the eighth or ninth century, our Lord was first stoned and then crucified.

When in connection with all this we remember that Dr. Rufus Anderson and Otto Thenius in 1848, and Fisher Howe in 1871, were struck with the skull-like appearance of the rocks in the southern precipices of the hillock, and the late General Gordon with its skull-like contours, already indicated on the Ordnance Survey Plan of Jerusalem 1864-5, and that close by we have not only the ruins of the great church, dedicated in A.D. 460, to the proto-martyr Stephen, but also a mediæval<sup>4</sup> Christian cemetery known, whatever the reason may be, as that "Of the

<sup>1</sup> "The Rest of the Words of Baruch," a Christian Apocalypse of the year 136 A.D. The text revised, with an introduction, by J. Rendel Harris, formerly Fellow of Clare College, Cambridge, and now Professor of Biblical Languages in Haverford College, Pennsylvania. London, C. J. Clay and Sons, Cambridge University Press Warehouse, 1889, pp. 4, 21, 23, 24.

<sup>2</sup> "Tent Work," vol. i, p. 374.

<sup>3</sup> Edersheim's "Life and Times of Jesus the Messiah," appendix xviii.

<sup>4</sup> *Quarterly Statement*, 1890, p. 69.

Holy Resurrection (Anastasis) of Christ," we seem to possess, in favour of the identification of the hillock above Jeremiah's Grotto, with the Site of Calvary, a mass of cumulative evidence apparently overwhelming. I would, however, in conclusion, venture to suggest that the last word in favour of either this site or that within the city has not yet been spoken, and there is no knowing what discoveries, modifying or confirming the opinion of authorities on this subject, may yet be made.

List of Papers and Notes on the Site of Calvary, published in the *Quarterly Statements*, 1870-1892.

Date.	Page.	Heading.	Writer.
1873. July ...	...	Further Notes on Our Lord's Tomb ...	N. F. Hutchinson, M.D.
1877. July ...	138	The Holy Sepulchre ...	C. W. W.
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1883. April ...	...	The Holy Sepulchre ...	Captain Conder, R.E.
1887. April ...	...	Notices ...	Guy le Strange.
1888. July ...	...	Notes on Calvary ...	Ditto.
1888. July ...	...	Notes on Calvary ...	Captain Conder.
1889. October ...	...	Notes on the Holy Sepulchre ...	Major Conder.
1889. July ...	...	Recent Discoveries ...	Herr Baurath Conrad von Schick.
1889. April ...	...	Notes on the Plan ...	Ditto.
1889. January ...	...	Holy Sepulchre and Dome of Rock ...	William Simpson.
1890. April ...	...	Site of Calvary ...	Professor Hull.
1891. July ...	...	The Holy Sepulchre ...	Major Watson, R.E.
1891. April ...	...	Entrance to the Holy Sepulchre ...	William Simpson.
1891. January ...	...	On the Site of the Holy Sepulchre ...	Henry Gillman.
1892. July ...	...	On the Identification of Calvary ...	J. E. Hanauer.

ESSAYS ON THE SECTS AND NATIONALITIES OF SYRIA AND PALESTINE.

(Continued from July "Quarterly Statement," p. 218.)

THE MARONITES.

By FREDERICK JONES BLISS, B.A.

V.

THE CALENDAR.

The following Calendar has been compiled after a careful comparison between the full notices upon the Saints, Martyrs, Councils, &c., found in the *Sinksar*, with the abbreviated lists containing the important commemorations alone, printed in the smaller *Shîm* and in the *Book of the Mass*. The *Shîm* differs in some points from the other lists, naming



sometimes one of two days of commemoration while they mention the other; in other cases I suspect a fault in printing. When the *Slim* mentions feasts not contained in the *Sinksar*, I have inserted these in the *Calendar*, but in case of a difference in date I have followed the *Sinksar*. The parts italicised in the *Calendar* are those printed in the *Book of the Mass*. They coincide in date with the same parts in the *Sinksar*, but the list contains a few additions, such as *Francis of Sales*. The parts marked with an asterisk are those on which abstention from labour is required (abstention is also required on the great movable feasts). Two copies of the *Sinksar* which I have studied contain certain differences in the dates of commemoration of minor personages; while some names occur in one, and not in the other. The Maronites follow the new style. In the *Sinksar* the year begins with October. In the case of well-known names, such as the *Fathers*, &c., I have used the English equivalents. Some difficulty has been found in recognising the Synacized and Arabacized form of Greek and Latin names when the obscurity of the person gives no clue. Doubtful instances I have marked with an interrogation. I shall be grateful to any reader of the *Quarterly Statement* who will help to remove the question mark. The list will be found to contain a mixture of Eastern, Western, and local Maronite Saints:—

## JANUARY.

1. *Circumcision of Christ.\* Basil and Gregory.*
2. *Pope Silvester.*
3. *Malachi the Prophet. Gardius.*
4. *The Seventy Disciples. Zosimus. Pope Gaius.*
5. *Paul (Bala) the first Hermit.*
6. *Baptism of Christ.\**
7. *John the Baptist.*
8. *Cartadius.*
9. *Astratius.*
10. *Gregory of Nyssa. Francis of Sales.*
11. *Theodosius, the Abbot. Pope Eugenius.*
12. *Tatyani, the Martyr. Council of Trent.*
13. *Yaqûb en-Nasibini.*
14. *Hilarius.*
15. *John of the Hermitage.*
16. *Peter's release from prison. Pope Marcellus.*
17. *Antony Father of the monks.*
18. *Athanasius and Cyril. Founding of Roman See by Peter.*
19. *Mecarius, the Egyptian.*
20. *Aftimus the Great.*
21. *Sebastian.*
22. *Timothy.*
23. *Pope Sergius. Clement of Ancyra and his companion.*
24. *Aksania.*

25. *Conversion of Paul. Gregory, the Theologian.*
26. Agnes.
27. Paula, the beloved.
28. *Ephraem, the Syrian.*
29. Sherbel and his sister. Beladius. Barsîma, the Bishop.
30. *Maximus.*
31. Kîrus and Yuhanna. Triphania.

## FEBRUARY.

1. Phinnis (?) Amrausania. Pope Eutychianus.
2. *Purification of Christ.\**
3. *Simeon and Anna.*
4. *Isidaurus el-Fermy.*
5. *Agatha, the Martyr.*
6. *Procullus.* Fausta.
7. Bartamis. Pope Anterus.
8. Theodore, the Martyr. *Zachariah, the son of Jchoïda, the Priest.*
9. *Mar Marân.\**
10. Dorothea. Appollonia.
11. Phaliasius, the Bishop. Karalympius.
12. Malatius, of Antioch. Iskander, the collier.
13. Martin, the Hermit.
14. Valentinus Martyrus. Mar Marân (a second commemoration).
15. Eusebius, the Hermit. Faustinus. Eutinas.
16. Theodore, of Amasia.
17. Agapetus. Curadus.
18. *Pope Leo I.*
19. Philemon and Archippus.
20. Leon, Bishop of Catania. *Yaqûb, the Hermit, disciple of Mar Marân.*
21. *Austatius of Antioch.*
22. *Founding of See of Antioch by Peter.* Commemoration of the Patriarchs of Antioch.
23. Thomas, the Monk. *Poly carp of Smyrna.*
24. *Margharita.*
25. Iskander, the Martyr. Pope Felix III.
26. Porphyrius, the Bishop. Iskander, the Bishop.
27. Talalaus, the Monk. Anatîmus.
28. *Kara and Marana, the Hermits, disciples of Mar Marân.*

## MARCH.

1. *The Guardian King.* Ephdachia, the Martyr. *Domnana*
2. *Yuhanna Marân.\**
3. *Thomas Aquinas, the Theologian.*
4. *Paul and Juliani.* Gerasîmus.

5. Qunun el Bistani. *Albertus*.
6. Qunun, the Righteous.
7. *The seven youths of Ephesus*. Narcis.
8. Francisca.
9. *The forty Martyrs*.\*
10. Agathon, the Hermit. Aksansius.
11. *Sophronius, of Jerusalem*.
12. *Pope Gregory the Great*.
13. Aphrasia, the Virgin. Theophanes.
14. Euphrasia.
15. Bendiut.
16. Baba, the Martyr. II. General Council.
17. Mar Risha (Alexius).
18. *Cyril, of Jerusalem*. Joseph of Arimathea. Lazarus.
19. *Joseph*.\*
20. Photinus. Silvanus.
21. Benedict, father of the Monks.
22. Sergius. Pope Leo IX.
23. Nicon.
24. Ikon of the Virgin at Seydanaya.
25. *Annunciation of the Virgin*.\*
26. *The Archangel Gabriel*. The robber crucified on the right.
27. Matrona. Benbo, the Hermit.
28. Philitaus and Qusma of Aleppo.
29. Cyril, the Deacon. Murqus Arutuna.
30. *Yuhanna es-Sillumy*.
31. Lucianus. Pope Lucius.

## APRIL.

1. *Mary, the Egyptian*.
2. Theodosia, the Martyr. Amphianus and Dasius, the brothers.
3. Isodore.
4. Theodotus and Agathoboulos. Pope Anicetus. Epiphanius-  
ej-Jesh.
5. *Robertus*.
6. Antiphilus. *Patriarch Flavian, of Constantinople*.
7. Aparhat, the Monk. Abiunus.
8. *Barlam*. The VIII. Ecumenical Council.
9. *Hermas, the Apostle*. Epaphroditus. Pope Urban I.
10. *Agabus, the Prophet*. *Miracles worked by Ikon of Saviour, at  
Beirût*.
11. *Antipas*. Barsnophius (1)
12. Mena and Hermogenes.
13. Pope Martin. Zosima.
14. Aristochus. Armanijeldus of Spain.
15. Saba, the Persian. Pope Soterus I.

16. *Anasima*.
17. Simon, Bishop of Persia, and his companion martyrs. Antusa.
18. *Qasma el bar. Tasia*.
19. John, the Short. Simon, the Evangelist.
20. *Nathaniel, the Righteous*.
21. Georgius. Pope Pius I, Julia.
22. Theodore of Sicha.
23. *St. George, the Martyr*.
24. *Saba, the Centurion. Basicratus (?)*
25. *St. Mark*.
26. Basil. Pope Cletus.
27. *Simon, Bishop of Jerusalem*.
28. Yasûn and Susibutros.
29. *Katrîna*.
30. *James, the son of Zebedee*.

## MAY.

1. *Jeremiah, the Prophet*.
2. *Athanasius, of Alexandria*.
3. *Finding of Cross in Jerusalem. Timothy and Mura*.
4. Euphrasia and Monica.
5. Pelagia, the Martyr. Irene.
6. Job. Vitali. Byur.
7. *Antonius and Nastir*.
8. *John, the Evangelist. Arsenius*.
9. *Isaiah, the Prophet. V. Ecumenical Council*.
10. *Simon, the Apostle. Ihusius (?) Pope Alexander I*.
11. Fautius.
12. *Epiphanius, Bishop of Cyprus*.
13. Germanus, of Constantinople. Clevaria, the Martyr.
14. Boniface.
15. *Invocation of Virgin for a blessing on the crops. Bakhomius. Theodore*.
16. *'Abda, Persian Bishop, and his companions. Jenadius*.
17. Andronicus. Ennias. Serapion, the Hermit.
18. Theodote and Bisarion.
19. Philartus. Amûn el bar.
20. Talalaus, the Martyr, and his companions. Bernardinus.
21. *Helena, mother of Constantine*.
22. Basil. Gabriel, the Good.
23. Michael, Bishop of Sunada. Tobias, the Merciful.
24. *Simon Stylites*.
25. Bicarius and Basila, the Martyrs.
26. Philip, of Florence. Carpus, the Evangelist.
27. Pope John I. Theodore and Didimus.
28. The Martyr Aliconda. Constantine, the Hermit.

29. Theodosia, the Martyr.
30. Issac, the Righteous. Pope Felix I.
31. Jeremiah, the Martyr. Simon, the Hermit. *Petronelli, daughter of Peter.*

## JUNE.

1. *Justin Martyr.* Justius, the Martyr, under Claudius.
  2. *The four Evangelists.* Butrus and Margellin, the two Martyrs.
  3. Lucianus. Paula. *Otelus.*
  4. Arismus, the Martyr. Haria.
  5. Qunun the Martyr. Murqus, the Monk.
  6. *Michael, the Archangel.* Dorotheus.
  7. Theodote. Susannah.
  8. Cyrilla. The nails used in the Crucifixion.
  9. Julianus, the Monk. The two Martyrs, Antonina and Alexandros.
- Pelagia.
10. *Barnabas, the Apostle.*
  11. *Bartholomew, the Apostle.*
  12. Anofrius, the Egyptian.
  13. *Antony, of Padua.* Aqolina, the Martyr.
  14. *Elisha, the Prophet.*
  15. *Basil, the Great.*
  16. Hoshea, the Prophet. Matodeus.
  17. Amos, the Prophet. The finding of certain relics.
  18. Lawendius, the Martyr.
  19. *Judas, the Brother of James.*
  20. Silvarius and the Martyr Ausimus.
  21. Paulinus.
  22. Eusebius, Bishop of Smisat.
  23. Agrippina. Council of Ephesus.
  24. *Birth of John the Baptist.\**
  25. Zachariah and Elizabeth. Fabronia en-Nasibiya. Pope Hermezda (Hormisdas).
  26. Paul and John. Busidonius (?)
  27. Samson. Ur, the Hermit.
  28. Pope Leo II. Ortius, the Martyr.
  29. *St. Peter and St. Paul.\**
  30. *The twelve Apostles.*

## JULY.

1. *Pope Gregory X. Aaron, the High Priest.*
2. *Visit of the Virgin to Elizabeth.* Bishai, the Hermit.
3. Thomas, the Apostle. Abronianus.
4. Andrew, Archbishop of Crete. Theodore, Bishop of Corinth.
5. Mecarius, the Crusader.
6. Saswis, the Hermit.
7. Pope Celestine V. Thomas, the Hermit.

8. Procopius, the Martyr.
9. Pancratius. Qubre and Batramasius (?)
10. Felicitas and her seven children. Pelagius, the Martyr.
11. Euphemia.
12. Rufina. Secunda. Susanna.
13. Pope Innocent I. Joel, the Prophet.
14. Benevontura.
15. Quriakos and Yulity, his mother. Theophila, the Virgin.
16. Anesiphorus. *Society of the Scapular of our Lady of Mt. Carmel.* (*Taub-es-Sayyideh.*)
17. *Marina, the Righteous.*
18. Senephros and Milanos.
19. The father Arsenius. Margharita.
20. *Elijah, the Prophet.\** (*Mar Elyas.*)
21. Ezekiel the Prophet. Sim'an-es-Salûs and Yuhanna his companion.
22. *Mary Magdelene.* Lucius the Martyr.
23. Apollonarius. Fauqa the Martyr.
24. Christina the Martyr.
25. *Hannah the Mother of Mary.* Abraxia. Lampadia.
26. *Brigitta.*
27. *Bendilamân.* (Pantaleon).
28. Nicanor and Timou and Barmîna. *VI General Council.*
29. Martha, Sister of Mary. Ezekiel.
30. Abdun and Sanan. Pope Felix II.
31. *Ignatius Loyola. The 350 Martyr Monks of Mar Marân.\**

## AUGUST.

1. *The Maccabees.\**
2. *Finding of the body of Stephen.* Pope Stephen I.
3. Maraza and Kura. *Daniel, the Prophet.* 'Azar, the Scribe.
4. *Dominicus.* (*Abd-el-Ahad*)
5. Christophanes, and Yasûn, the Martyr.
6. *The Transfiguration.\**
7. *Dhumit, the Monk.*
8. Pope Sixtus II. Muron, Bishop of Crete.
9. *Matthias, the Prophet.* *Esther.*
10. Lorentius, the Martyr.
11. Bustus and Bustur. Adbus.
12. Phuta. Anacitus.
13. Clara.
14. Lorentius, the Martyr. Marcellus. Micah, the Prophet.
15. *Assumption of the Virgin.\**
16. *Ruquz.* Yasitus.
17. Mursun, the Martyr. Anastasidus.
18. King Abgar.
19. Andraus, leader of the Army. Kisbanus (?) the Martyr

20. *Bernard.*
21. *Samuel, the Prophet.* Qora, the Martyr. Thaddeus, the Apostle.
22. Antúsha. Symphorianus.
23. Isaac, the Syrian. The instruments with which Christ was tortured.
24. Gansius. Eutychus, Disciple of St. John.
25. *Louis the Great of France.* Titus.
26. Pope Severinus. Adrianus.
27. Pope Liberius. The father Bimín.
28. *Augustine.* Músa, the Abyssinian.
29. *Decapitation of St. John the Baptist.*
30. Milikus. Malatia, the Short.
31. Commemoration of the Virgin. Ijidius, the Hermit.

## SEPTEMBER.

1. Simon Stylites, the Less. The forty Virgins. Amún, the Deacon.
2. Mana, the Martyr. Joshua, son of Nun.
3. Theodore. Babila, of Antioch.
4. *Moses and Aaron.*
5. *Zeckariah, the Prophet.* Sherbel.
6. *Miracles of the Archangel Michael.*
7. Sarún.
8. *Birth of the Virgin Mary.\**
9. *Joachim and Hannah.* The Council of Chalcedon.
10. Minodora, Matrodora, and Niphodora. Blusharia, the Queen.
11. Theodora, of Alexandria.
12. Cornelius, the Centurion.
13. Christopher, the Hermit.
14. *Finding of the Cross.\**
15. Commemoration of the Ecumenical Councils. Nigita and Abramius. (*Shína*). Sasin.
16. Qubrianus (Cyprian) Euphemia.
17. Sophia and her children.
18. *Lucia, the Martyr.* The flight into Egypt.
19. Januarius, the Martyr.
20. Eustachius, the Martyr.
21. Qadratus, the Martyr.
22. *Mauritius.* Fuga.
23. *Announcement to Zachariah of birth of John.* Jonah, the Prophet.
24. *Tuqla* (Thecla)
25. Frusína. Baphnutius (?).
26. John, the Evangelist.
27. Castratus. Pope Pius I.
28. Carítón, the Righteous. Hieronímus, the Teacher.
29. *Ruhana.* Yehudít.
30. *Gregory, Bishop of Armenia.* Rabsima. *Betrothal of Virgin.*

## OCTOBER.

1. Beginning of the Syrian year. *Ananias*.
2. *Qubrianus and Justina*.
3. *Dionysius, the Bishop*.
4. *Francis, the Great. Teresa*.
5. Paul, the Simple. *Katrina*.
3. *Thomas, the Apostle. Bardinus*.
7. *Serkis and Bakhus. Pope Marcus, the Confessor*.
8. Pelagia, the Confessor.
9. *James, Brother of the Lord*.
10. Olympius, the Martyr.
11. *Philip, the Deacon. The first Ecumenical Council*.
12. Brophus (?) Tarchus. *Andronicus*.
13. Carpus. *Babilus*.
14. Grophasius and Protasius (?). *Pope Calixtus, the Martyr*.
15. Lucianus. *Raimundus, the Hermit*.
16. *Longinus, the Centurion*.
17. *Qusma and Damianus*.
18. *Luke, the Evangelist. Thaddeus*.
19. Pope Sixtus I. *Hara, Bishop of Antioch*.
20. Artemius, the Martyr. *Andraus*.
21. *Hilarion, Father of Monks. Malchus*.
22. *The seven Martyrs of Ephesus*.
23. *Ignatius*.
24. The Peasant and his companions. *Procullus. Abram, the Hermit. Sara, the Martyr*.
25. Christinus. *The Martyr Daria*.
26. Demetrius, the Martyr. *Pope Evaristus*.
27. Capitolina and Caruhitida (?) *Cassia*.
28. Tatinus and his 38 companions.
29. Anastasia, the Martyr. *Ibrahim, the Monk. Biajis*.
30. Zenúb and his sister Zenúba. *Quriakas. Serapion. Baruch, the Prophet*.
31. *Jardianus*.

## NOVEMBER.

1. *All Saints.\**
2. Ecnedius and his companions. *Commemoration of the death of Believers*.
3. Yusif el Qus. *Antilas, the Deacon*.
4. Vitali and Brophius.
5. Galaktion and companion. *Asia, the Miraculous. Pope Victor*.
6. *Paul, the Martyr. The father Isaac*.
7. Yarun and his 33 companions. *Leonardus the Righteous*.
8. *Michael, the Archangel*.
9. *Matrona*



10. Murt Mora. Tryphon and Martinus.
11. Mina, the Martyr. Bishop Martinus.
12. *John the Merciful*. Theodore. *Pope Martin I.*
13. *John Chrysostom*.
14. *Philip, the Apostle*.
15. Juriya. Shamûny. Habib. Auginus.
16. *Matthew, the Evangelist*.
17. *Gregory, the Wonderful*.
18. *Romanus, the Martyr*.
19. Barlam, the Martyr. Pope Pontianus. Elizabeth
20. Isaac, the Syrian. Gregory, of Baniyas.
21. *Purification of the Virgin*.\*
22. Cecilia. *Parents of the Virgin*.
23. Sasiu. Amphilukios.
24. Catherine, the Virgin.
25. Pope Clement I.
26. *Peter of Alexandria*. *Simon Metaphariste*.
27. *Barlun and Yuasaf*. James, the Persian (Yaquûb el Muqatta).
28. Ablinichus (?). Stephen the Jew.
29. Satronius. Sisius. The VIII. Ecumenical Council.
30. *Andrew, the Apostle*.

## DECEMBER.

1. Commemoration of the five major and of the four minor Prophet  
*Nahum, the Prophet*. *Francis Xavier*.
2. *Habbakuk, the Prophet*.
3. *Zephaniah, the Prophet, and Obadiah*.
4. *Barbara, the Virgin*. John, of Damascus.
5. Saba, the Monk.
6. *Nicholas, the Bishop*.
7. Ambrose, the Bishop.
8. *Conception of Hannah, mother of the Virgin*.\*
9. Francis Paul.
10. Mena and Hermogenes. Agraphus. Pope Malchiades.
11. Daniel Stylites. Pope Damasus.
12. *Spiridon, the Bishop*.
13. Lucia, the Martyr.
14. Apollonius and Philemon.
15. Eleutherius and Eusebius.
16. *Haggai, the Prophet*. *Teophana, the Queen*.
17. Ananias, Azarias, and Misael.
18. *Daniel, the Prophet*.
19. Andraus. Pope Pius V.
20. *Ignatius, of Antioch*.
21. Albanus and Juliana, the Martyrs.
22. Anastasia.
23. Eugenia.

24. Preparation for Christmas.
25. *Christmas.\**
26. *Commemoration of the Virgin.\**
27. *Stephen, the first Martyr. Council of Florence.*
28. Pope Cornelius. Marîna.
29. *Slaughter of the Innocents.*
30. Innocia (?) and Theodora.
31. Yarotaus (?) Zutichus.

According to the Sinksar, which quotes from the Tales of the Saints by one Theodoretus, Mar Marûn was first a priest and then dwelt as a hermit in a small hut (but chiefly in the open air) on Jebel Qurush, near Antioch. There he transformed a heathen temple into a Church of God. Many flocked to him for cure of diseases of mind and body. Chrysostom wrote him a letter (said to be the 36th of the collection, but I do not find it in his works) asking for his prayers. He died in the year 400. Dr Robinson<sup>1</sup> describes at length the remains of the convent at the source of the Orontes, which tradition says was founded on the site of the place where Marûn once lived, but he adds that this is merely legendary, as is, perhaps, the saint himself, and that there is nothing to identify him with the spot or region. There is a tradition among the common people of the other sects that Marûn was one-eyed, but a Maronite tells me that he has been confused with an emir of the same name who lived in a later century. A Greek of certain regions may insult a Maronite by simply closing one eye with his finger. As a Christian name, Marûn is peculiar to the Maronites.

The Maronite account of Yuhanna Marûn has already been given. In the prints he is represented as a Patriarch in full canonicals, treading under foot a half-naked man, representing Heresy, who grasps an open book, from which a serpent is crawling.

Saint George is a favourite patron. The spot where he killed the dragon is pointed out on a high rock above the sea near Juneh, a few miles north of Beirût. A poetical dialogue is preserved between Saint George and the King's daughter, whom he saved from the dragon.

Ephraem, the Syrian, is highly regarded, especially in the Kesrawan, and his name is given to children. He is the patron of the memory, and is said to have perfected a naturally poor memory by training. The Maronites themselves caricature their excessive veneration for him in the following story. Some peasants were once trying to move a huge millstone, and were calling out "God, help us! God, give us strength!" when a man passing by cried out to them, "Why don't you call on Mar Ephraem? God is all very well, but is He like Mar Ephraem?"

"The Book of Mar Qubrianus" is a leaflet which is folded up in a piece of leather and worn as a charm; it contains a prayer of Saint Cyprian to God to preserve all who read it, wear it, or put it in their houses or on their animals, from the evil eye, from shadows of the night,

<sup>1</sup> "Researches," vol. iii, p. 539.

from evil spirits lurking in things animate or inanimate, in food or in drink, and to fill them with streams of divine grace. The leaflet also contains part of the first Chapter of St. John's Gospel. It is put on a child who is afraid of ghosts.

Mar Tuqla is much venerated, and is said to work miracles.

At the convent of Mar Nohara (or Lugius) there is a well the water of which is said to be good for the eyes. Monks bearing water from the sacred well visit the villages and dispense it in return for money for the convent. I am told that a man may take water on contract, paying a round sum to the convent and getting what he can for it. Charms in the shape of a silver eye are also bought and placed on the heads of children with sore eyes, or to prevent eye disease.

The convent of Mar 'Abda el Mashummar is visited by barren women who desire children. They make various vows of money, candles, or altar cloths. One woman placed a stone in front of the altar, vowing that if the saint would send her a child she would offer the weight of the stone in gold. Some of the vows made by women in regard to children are singular. A well-dressed woman once came to our house begging; when she was asked to explain, she said that she had vowed that if God should send her a child that would live, she would go begging from door to door. In fulfilling this vow she met with some unkind treatment. Another woman vowed that if God should send her a boy she would dress him in black for six months. At the end of that time she visited the church where she had made the vow to certify to its fulfilment.

Vows to the patron of animals, Mar Shallita, are often made by the owners of sick mules, or of mares from whom foals are desired. Every year the wealthy convent dedicated to this saint sends monks to visit the villages to collect the money or offerings vowed during the year. Tracts or leaflets of Mar Shallita are fastened upon the neck of sick animals. He is often invoked if a horse stumbles. An amusing story is told of a man who called on Mar Shallita when his mule slipped on the edge of a precipice; the mule recovered its footing, but refused to go on, whereupon the man cried, "Mar Shallita, Mar Shallita! get out of the way!"

The Convent of Mar Dhunit stands near the sea shore, not far from Jebail. The long, smooth pebbles found near by are supposed to have been blessed by the saint for the cure of rheumatism. Monks collect money for the convent by visiting the villages and rubbing the limbs of rheumatic people with the charmed stones.

Hernia is supposed to be cured by Mar Ruhana.

Of the power inhering in Mar Antouius Qozhayya over evil spirits we have written in a former section. The convent of the name sells numerous silver necklets, made of twisted wire, which are worn by children as a protection against various evil influences. These necklets are finally returned to the convent, which has already received their price in money.

The saints who are supposed to effect miraculous cures are not confined to those who lived in the early ages. About thirty years ago there died a holy monk, Director in the Brotherhood, by the name of Na'mtallah-

el-Hardiny, who was buried in a vault of the convent at Kfêfan. When the vault was opened some two years later, it was found that his body had not decayed, but had dried up, and still preserved its form and features. This phenomenon being ascribed to his extreme holiness, he was at once proclaimed as a saint. The body was placed in a box and taken to a room in the convent. Its appearance has been described to me by an eye-witness. For the first few years the convent was visited by hundreds of sick people who sought cure from the new saint. A ledger was kept with record of the cures. The convent became rich. A man in Bsherreh told me that his sister was cured of fits by visiting Kfêfan. Sleeping in a church made holy by a saint is supposed to be effective.

Some extraordinary stories are told of the cures of Mar Na'mtallah. A priest told me that he saw a woman of the Metawileh, who was bent double, on her way to the convent, and that he saw her returning quite erect. He also spoke of a woman of the Nusairiyeh who vowed an offering to Na'mtallah if he would send her a child. When her boy was born she took him to Kfêfan, where he sickened and died. It is said that in her despair she threw the dead child upon the dried body of the saint, crying out in some such words as these, "Take back the child you sent me!" At once the child cried—contact with the holy man had restored him to life. It seems strange that the Mohammedans should have confidence in the powers of a Maronite Christian who was living within the memory of the present generation. It illustrates the strength of belief in genuine holiness.

These stories are undoubtedly believed by the body of the people. To illustrate, however, that there is a small section of men who discredit not only the stories but also the ecclesiastics responsible for them, I may mention a rumour, recently heard, that a new miracle-working saint may be shortly announced in the person of a Maronite Bishop, deceased within two or three years, in whose body chemicals were introduced to prevent natural decay; a story about as difficult to believe as a miracle itself.

One case was told me of a bishop who sprinkled with holy water a dead body, to which life was restored.

Stories of pictures sweating and statues moving their arms are told, but not very commonly. The churches are considered sacred, and one may observe the people kissing a corner of the edifice as they pass by. Skeins of yarn are sometimes fastened to the outside of the church by pegs or bound around it, to avert sickness. They are afterwards sold for the benefit of the church. On the day of the patron saint the people stop work; after mass they eat *harisy*, or wheat cooked with meat; bonfires are kindled in the evening, and the church is illuminated with lamps. On the feast of James the Persian (Yaqûb el Muqatta), November 27th, they boil wheat and eat it, with the hope that the planting may be favourable. On the feast of Saint Barbara, December 4th, they do the same as a sign that the time for planting is over, and also make macaroons. Cakes, fried in oil, are made on the feast of the Baptism; also delicious cakes, stuffed with sugar and nuts, at Easter-tide.

On the eve of the feast of Finding the True Cross, on September 14th, bonfires are lighted near every church and convent, and in the mountains, where villages and monasteries dot the slopes, the sight is very beautiful.

On the 15th of August occurs the feast of the Assumption of the Virgin. It is celebrated as one of the greatest feasts in the year. The convents dedicated to the Virgin are visited; for example, Deir el Mishmushy, near Jezzin, is thronged with hundreds, if not thousands of people, on this day, so that soldiers have to be present to keep the peace, as the people bring much *'arak* (the native brandy) to drink at the picnic. It is needless to dwell upon the Adoration of the Virgin, to whom many days are devoted during the year. The feast of Mar Elyas is celebrated in much the same way.

On Sunday the Church services are well attended. Ordinary work is stopped, but butcher's shops and other places where provisions are sold are kept open. The people do not hesitate to buy wheat, barley, or charcoal, brought in on Sunday by strange muleteers and camel drivers. Especial work like that of the wine-press, or the making of *dibs*, does not stop on Sunday. The people make it a holiday, using their time for visiting and making little excursions. I understand that in former times bread could not be made on Sundays or feast days.

The following are the Maronite Fasts:—During the twelve days before Christmas the people must abstain from meat, eggs, and milk. During the forty days of Lent these articles of food are forbidden, and nothing is taken till noon. There is also a fast during the four days before the Feast of St. Peter and St. Paul, June 29th; and for eight days before the Feast of the Virgin, August 15th. On Wednesdays and Fridays all through the year no meat, eggs, or milk should be taken, and those who are members of the "Taub es Sayyideh" abstain from meat on Saturdays in honour of the Virgin. Boys in school are not required to fast. Permission may be obtained from the priest to eat meat on fast days in case of sickness or delicate health. Fasting is not strictly observed by all.

It may be well to insert here the names of various religious societies. The members of the Brotherhood of the Heart of Christ pledge themselves to repeat a *Pater*, a *Salve*, the Nicene Creed, and a prayer to the Heart of Christ daily. The Brotherhood of the Immaculate Conception has a large membership. There are prayers and a number of *Paters* and *Salves* to be repeated every day. On Sunday there is a special Liturgy in the church led by the President, who may be a layman. When a brother dies each member should hear three masses for his soul, and the President walks in front of the bier.

The Society of the Rosary requires its members to repeat several *Paters* and *Salves* on Sundays, Wednesdays, and Fridays.

The members of the Taub-es-Sayyideh (Society of the Scapular of Our Lady of Mt. Carmel) wear upon the heart a small picture of the Virgin and Saviour in an embroidered case called the taub, as a charm. They

are to repeat seven *Paters* and *Salves* daily, and abstain from meat on Saturdays. These Catholic Guilds are very popular.

Each congregation of monks has formed an organization among the people, according to the rules of which the members agree to pay the price of masses (three, five, or seven, as the case may be) for every monk dying in a convent of the congregation ; while if a lay member dies every priest of the congregation is to say an equal number of masses for his soul. Every year monks are sent through the villages with a list of monks deceased to collect the dues. When a lay member dies word is sent to the Abbot-General, who commands the masses to be said in the convents.

I have found no traces of extra-Biblical stories in regard to the Patriarchs, or to Christ and the Apostles, except the ordinary tales of the Apochryphal Gospels. In regard to Anti-Christ it is believed by some that he is to be born of a Sidonian Jewess by a Greek ecclesiastic in Capernaum. He is to be received by the Jews, make headway, and will then be opposed by Enoch and Elijah, whom he will slay in Golgotha forty days before the Resurrection. He will be overthrown by Saint Michael.

Beirût, Syria, *December*, 1890.

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Since my article on the Maronites went to press I have obtained an authentic statement as to the number of Maronite monks.

Order of the Beladiéh	....	....	....	about	700
„ „ Halabieh	....	....	....	„	160
„ „ Mar Isha'ya	....	....	....	„	300
Total	....	....	....	„	1,160

The Beladiéh and the Halabieh were divided in 1768. I may mention that Mar Shallita, the patron of animals, is known in the Latin Church as St. Artemius.

F. J. BLISS.

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NARRATIVE OF A SECOND JOURNEY TO PALMYRA,  
including an exploration of the Alpine regions of Lebanon and Anti-Lebanon, and the southern half of the Nusairy Chain.

By Rev. GEORGE E. POST, M.A., M.D., F.L.S.

(*Continued from July "Quarterly Statement," p. 262.*)

A little distance to the west of the group is a round, half-buried shaft, a yard or so in length, with a fragmentary Greek inscription on it.

To the north of the plain in which these altars are situated is el-Jebel-el-Abiad, which we subsequently visited. It is dotted all over with dark spots, which we afterwards found to be trees of *Pistacia mutica*, C. A. M.

We sat down on the sand, in the blazing sunshine, with a thermometer of over 100° F. in the shade of our bodies, and ate our lunch, and drank the tepid water which we had brought in skins, and then rode forward toward Palmyra. Just before entering the street of tombs we encountered *Frankenia pulverulenta*, L.

The impression produced by the mausolea by sunlight is far less imposing than by moonlight. It would be well for a visitor, if he has not first entered by night (as we did in April) to make a point of riding out at night some distance into the western desert, in order to take in the view of the pass and the monuments, and then of Palmyra itself by moonlight.

We found the ground about the wells of Abul-Fawâris quite parched, and learned that the wells were choked by locusts, so that the water was undrinkable. We arrived in Palmyra at 2¼ p.m., just 5½ hours road time from el-Beïda. Our mules made the distance in 6½ hours. We encamped at our old station west of the triumphal arch. Barometer at 4 p.m., 28.72; height, 1,500 feet. At sunset we enjoyed a bath in the great fountain, and the weird swim into the heart of the mountain.

*Palmyra, Friday, July 25.*—The night was made uncomfortable by a furious wind, which almost blew our tent to tatters, and prevented us from enjoying any restful sleep. The temperature by 9 o'clock in the morning reached 100° F. in the shade. The same distracting wind, blowing sand into our tent, our provisions, and our eyes, made the day one of considerable discomfort. We spent the morning in overhauling and labelling our collections, and in photographing the group of five figures on the slab in front of the schoolhouse. In the October *Quarterly* I furnished you the notes of Professor Porter on the inscriptions. They may be compared with those of Rev. J. E. Hanauer in the April *Quarterly*.

In the afternoon we rode to the cave known as *Magharat-Mohammed-'Ali*, about two hours north of Palmyra. On our way we visited one of the ancient quarries, about an hour from the city. They cover a space of two or three acres. The impression produced by them is more startling because less familiar than that of the ruins. Here are immense blocks of stones all squared and ready for transportation. There are others half separated from the rock. Still others are marked out by grooves, but not as yet cut. There are columns large and small, and all just as left by the workmen perhaps fifteen hundred years ago. But for the grey lichens which cover them, we might fancy that the quarrymen would soon return, and the tumbrils would roll in and carry away the finished stones.

Near the centre of one of the quarries is a low hut, into which the workmen could crawl, but not stand erect. As we approached the door of this hut a covey of over thirty red-legged partridges whirred out of it, and flew away to the rocks around the quarries. A venomous looking snake glided in among the stones and disappeared.

Just beyond the quarries we came upon a gazelle. The graceful

creature ran away, not in a straight line, but on a sort of parabolic curve, and every hundred feet or so leaped into the air after the manner of a springbok.

We collected, on our way to the cave, *Euphorbia* sp., *Andrachne telephoides*, L., var. *rotundifolia*, Post, *Atriplex roseum*, L. The caves themselves are not specially interesting. They seem to have been worked somewhat for the efflorescent sulphur which encrusts their walls. Otherwise they contain no minerals of value. The rock in which they are hollowed out is calcium carbonate, with veins of impure calcium sulphate (whence the sulphur) and selenite.

From the caves we took a south-east course to the *Sabkha*, or salt marsh east of Palmyra. The soil of this marsh is so impregnated with salt that a trench or pit sunk in it becomes filled in a short time with concentrated brine, the water of which soon evaporates in the intense sunshine, and leaves an incrustation of excellent salt. The production of this staple is a government monopoly. A series of circular guard huts not ten feet in diameter surrounds the marsh, and in each of them lives a guard to prevent anyone coming to get salt. A Circassian officer, at a monthly salary of 260 piastres (about 2*l.*), which is considered there a good living, has the general oversight of these works. The soil, wherever dry, is covered with a thick efflorescence of salt. At the edge of the marsh are numerous Salsolaceæ, and *Statice Palmyrensis*, Post (a new species), giving quite a green aspect to the plain.

*Saturday, July 26.*—The continued heat and distracting wind kept us from doing much this day. We, however, engaged a Bedawi sheikh, Rusheid, to go with us as far as Hamath, and take an extra camel to carry water. We needed two, as one stage of our journey was to be 26 hours without any water.

In the evening Rusheid's wife came over with a present of lebben, and she and her husband and son, of about 13 years of age, passed the evening with us. We enjoyed their naïve conversation. The following are a few snatches of it :—

“ *We* : May God bless your evening, Im Asa'ad.

“ *She* : (Filling her stumpy pipe with tobacco from a dirty pouch) God bless your evening, Khowaja.

“ *We* : Are you not afraid to let your husband go with us to Hamath ?

“ *She* : If I had been, he would not go a step.

“ *We* : So, even among you Bedawin, the ladies rule ! We thought that it was only among the Franks that they had the upper hand.

“ *She* : (Picking up a red hot coal between her thumb and finger, and pressing it down with vigour into the bowl of her pipe with the ball of her thumb) of course we do. What did you think ?

“ *We* : What would you do if he would not obey your orders ?

“ *She* : I would leave him and go back to my father's tent.

“ *We* : But perhaps he might divorce you, and send you home.



"*She*: He knows better than that. Who would make his butter and semmen, and cook his dinner, and wait on him?"

"*We* (to Rusheid): Is it all as she says?"

"*He*: What can we do? That's a way they have.

"*We* (to Rusheid): Can your wife manage all your flocks and herds as well in your absence as when you are at home?"

"*He*: Yes. She does most of it when I am at home.

"*We*: And does she manage you as well?"

"*He* and *She* (laughing together): That is about it."

And so for half an hour, by the flickering light of our camp fire we kept up a pleasant badinage with this enterprising daughter of the desert, until her sense of propriety led her to make a move, and with dignity and grace she rose and bade us good night, and withdrew, followed by her obedient husband and son. I may here say that the relations of Bedawin women to their husbands are far more on a footing of equality than those of the Mohammedan women of the towns. Few men have more than one wife, and she is far more of a companion to her husband than are the more civilised women to theirs.

We enjoyed the services of the man and his camel for the round trip at five medjeedies, about 17s.

*Palmyra, Sunday, July 27.*—The air became somewhat cooled off in the night, and at 7 a.m. the thermometer stood at 76° F. It became hot, however, in the middle of the day, and cooled off again at night.

*Monday, July 28.*—We left Palmyra at 6¼ a.m., taking the road through Marbat-'Antar, el-Weshen, el-Bil'âs, Barri, and Salamyah to Hamath.

Our course lay first through the ruins to the northern spur of the hill on which is the mediæval castle. Just over the watershed of this spur we passed a large corral used in hunting the gazelle. These corrals are numerous in the desert, and may be seen for many miles away on the mountain sides. They consist of stone fences about 6 feet high, enclosing areas often of many acres in extent, and so arranged that they are open to one side of a great square or parallelogram, and closed on all the others. At the corner, and along the wall farthest from the entrance, are openings over pits 10 feet or more in depth, and too broad for a gazelle to leap over. The hunters form a great circle, enclosing a herd of these animals, and drive them into the corral. Although they might leap or climb over the walls if there were no other way of egress, yet, seeing the openings at the far end, they make for them and fall into the pits, where men await them with knives, and instantly cut their throats. Rusheid told me that as many as 50 are sometimes bagged at once in these wholesale battues.

An hour from Palmyra we came to *ed-Derajât* (the steps), which are another of the ancient quarries of the city, much more extensive than those which we had visited three days before. They are on the precipitous side of a rocky bluff which forms the first terrace of Jebel Antar.

Over the watershed of this bluff we came upon a round plain which opens out toward the west into the general expanse of the desert. In this plain we found *Carthamus flavescens*, W., *Centaurea balsamitoides*, Post (a new species), *Atriplex roseum*, L.

Mounting from this plain toward Marbat-'Antar we found *Verba cum Antari*, Post (a new species, near *V. ptychophyllum*, Boiss.), *Celsia glandulifera*, Post (a new species), *Thymus Syriacus*, Boiss., and *Avena* sp.

Marbat-'Antar is a cleft between two precipitous headlands about a mile apart, after the manner of the Rosstrappe in the Hartz. It is said that 'Antar's horse leaped this tremendous chasm. Marbat signifies a place where a horse is tied. In the centre of the space between the cliffs is a perennial spring of water, which would have been pleasant but for the large number of locusts which had fallen into it, and to which the Arabs were too indifferent to care to clean them out. They drank the water with a gusto which showed that it was in no way disagreeable to them.

After watering our animals we pursued our journey along the plateau which skirts the Jebel-el-Abiad, the range which takes its rise in the precipice *vis-à-vis* with Jebel 'Antar. We began to see along its sides to its very top numerous *Butm* trees (Terebinths), *Pistacia mutica*, F. et M., the only tree of this and the Bil'âs range.

We sat down on a sandy ledge in this plateau to lunch, while our train went forward to the wells of el-Weshen. While we were eating, some Arab horsemen armed with spears swooped down on our train, but, seeing that we were under the guidance of Rusheid, a man of their own tribe, they did not molest them or us, but rode on after their flocks and herds. After eight hours from Palmyra we reached the two wells of el-Weshen, in the heart of the Jebel-el-Abiad. Just before climbing the mountain we found in a meadow dried stalks and fruits of *Sameraria Armena*, L. (new for the desert).

Barometer at el-Weshen, at 4 p.m., 27; height, 3,375 feet.

After arranging where our tent was to be pitched we peered into the wells, and found that they were full of locusts. Notwithstanding the disgusting taste and odour, the Arabs were filling their water-skins to supply their camps, and likewise watering their flocks. We resolved to drink as little as possible of this tainted water, although it was all that we were to see for the next thirty-eight hours.

While our tent was being pitched and our dinner prepared we climbed the mountain. The southernmost peak is the highest. At this point the barometer at 3½ p.m. stood at 25·9; height, 4,600 feet. The view from this was fine. It took in Jebel-Bil'âs and el-Jebel-el-Abiad, and the green plain between, the great desert plain, and beyond it the range of el-Bâridi and Ain-el-Wu'ûl. Below us to the north was the plateau up which we had come from Marbat-'Antar, and far away to the east the castle of Palmyra.

We observed the following plants on this mountain side:—*Papaver Syriacum*, Boiss., *Isatis Aleppica*, Scop., *Silene coniflora*, Oth., *Alsine*

*Meyeri*, Boiss., *Pistacia nutica*, F. et M., *Rhamnus Palaestina*, Boiss., *Astragalus Bethlemiticus*, Boiss., *Argyrolobium crotolarionides*, J. et S., *Cerasus tortuosa*, Boiss. et Haussk., *Eryngium falcatum*, Labill., *Pterocephalus plumosus*, L., *Crucianella ciliata*, Lam., *Galium aureum*, Vis., *Anthemis montana*, L., *Achillea micrantha*, M.B., *Picnemon acarna*, Cass., *Jurinea Stehelinæ*, D.C., *Onopordon* sp., *Cousinia Wesheni*, Post (a new species), *Centaurea virgata*, Lam., *Echinops Syriacus*, Boiss., *Verbascum* sp., *Onosma flavum*, Lehm., *Micromeria mollis*, Bth. (or a new species), *Ballota saxatilis*, Sieb., *Salvia Libanotica*, Boiss., *Teucrium pruinatum*, Boiss., *T. Polium*, L., *Noea spinosissima*, L., *Vulpia brevis*, Boiss. et Ky., *Bromus tectorum*, L., var. *squamosus*, Boiss., *Poa bulbosa*, L.

About 500 feet below the summit, enclosed in a rocky amphitheatre fringed with Buṭm trees, we found a park-like glade about two miles in length by a few hundred yards in breadth. It was carpeted with dry grass of a rich golden colour, *Hordeum spontaneum*, P. Koch., and dotted with Buṭm trees loaded with their ripe pink berries. In the middle of this valley was a Bedawi encampment of two goats'-hair tents. We rode up and obtained from the Arabs a draught of lebben, which we vastly preferred to the locust-tainted water of the fountains below. Even in this lonely camp three sick folk claimed our care. They showed their gratitude for the prescriptions which they received by bringing us a pail of goats' milk, from which we made chocolate for our supper, and reserved a portion for our morning coffee. To make the water a little more potable we boiled it, and passed it through an extemporised filter of charcoal and then cooled it again. But nothing could free it from its disgusting smell and taste.

As our next stage was to be one of twenty-three hours, camel-time, we filled our water-skins over night and arranged for an early start.

*Tuesday, July 29.*—We were up at 3 a.m., and by 4½, as the day was breaking, filed down the valley, and turned off to the left towards the Jebel Bil'ās. All along our road for the first half-hour were dried stalks of *Hordeum spontaneum*, P. Koch. When this tall, coarse grass is still green it must give an appearance almost of fertility to this part of the desert.

Crossing a spur of el-Jebel-el-Abiad we descended to a broad plain, which is continuous with the great plain between Qaryetain and Palmyra. We passed over this plain parallel to the mountain as far as its western end. In a wadi we found *Silene swerturfolia*, Boiss., and *Salsola rigida*, Pall. Our course now lay to the north-west over a rolling upland to the base of Jebel Bil'ās. This mountain consists of two parallel, nearly north and south, ridges rising very gradually out of the plains to the east and west, and separated by a broad valley, which was covered at the time of our journey with parched vegetation. The whole of the mountain slopes and summits are covered with Buṭm trees, many of them of large size and fine shape. The scenery is altogether park-like, and in spring, when the vegetation is still green, must be very attractive. We collected *Capparis spinosa*, L., *Ankyropetalum Calesyriacum*, Boiss.,

*Ferula Bil'asi*, Post (a new species), *F. Barbeji*, Post (also new), *Johrenia fungosa*, Boiss., *Atriplex portulacoides*, L.

We saw many partridges, which were almost as tame as chickens, and several other species of birds. The Arabs assured us that there was no water within many hours of us. We were not able to imagine where these birds drank, or how they could live without water.

On the highest point of the western range, which slightly overtops the eastern, the barometer stood, at 5½ p.m., at 26.9; height, 3,500 feet. A little over the watershed, at 6 p.m., we threw off our loads for a couple of hours to bait and water our animals, and cook and eat our supper. The place where we stopped was a picturesque grove of Buṭm trees, the trees being about as near to one another as apple trees in an orchard. The scene did not at all suggest the idea of a desert.

(To be continued in January "Quarterly Statement.")

## IDENTIFICATIONS SUGGESTED IN MURRAY'S "HANDBOOK."

By the Rev. HASKETT SMITH.

IN the July *Quarterly Statement* Major Conder criticises the identifications which I have suggested in Murray's "Handbook," and which, according to my belief, were then proposed for the first time in print.

His objections appear to be of a threefold nature :

1. That in a third of the cases the proposals are not new.
2. That great confusion is introduced into the topography by them.
3. That many of them are philologically wrong.

1. As regards the charge contained in the first objection, I can only say that, so far as my personal knowledge went, after a diligent study of most of the principal works which have been written upon Syria and Palestine during the last fifty years, I was under the impression that the identifications proposed were then suggested for the first time. Nor am I greatly surprised to find that in some instances I appear to have been anticipated; for the very fact of an identification being probably correct, renders it more than likely that some previous authority should have conjectured it, and there is nothing remarkable in the fact of two or more independent investigators arriving at the same conclusion.

The five identifications which Major Conder traverses upon this score are, it appears, Ittah Kazin at Kefr Kenma, Remmon Methoar Neah at Rummâneh, Bethsaida at Mes'aidieh, Helkath at Yerka, and Mizpah Galeed at Sûf. The first was suggested to my mind by a remark of Père Aegidius, the Franciscan monk at Kefr Kenma, who informed me that that village was known in later Jewish days under the name of "*Izkanni*,"

a form which seemed a not unreasonable corruption of Ittah Kazin, or Kazin, for I was aware that Ittah simply meant "as far as." The position of Kefr Kenna seemed to me to agree exactly with that of Kazin, in Josh. xix, 13, for the border-line of Zebulun clearly followed the present road between El-Meshed and Kefr Kenna.

My point with regard to Remmon Methoar Neah, or, more correctly, Remmon ha-Methoar ha-Nah, is that the original Hebrew signifies "Remmon, which is designated Neah," and that the place was therefore probably known as "Remmon-Neah," of which Rummâneh is really the corruption, the modern name having nothing to do with *pomegranates*, as would naturally be implied. Of course, I was well aware that Remmon had been identified with Rummâneh, but, so far as I am aware, it has not been suggested by Major Conder or anyone else that the last syllable in the modern name is connected with the *Neah* of the Bible.

Mes'aidieh was selected by me as the probable site of Bethsaida Juliae, after I had made a careful inspection of the place. The word Mes'aidieh appeared to me a contraction of Umm S'aidieh, which is virtually identical in name with Bethsaida, the Arabic *Umm* being a common representative of the Hebrew Beth, as *e.g.*, Umm ej-Jamal = Beth-gamul. I certainly had no idea that Major Conder had suggested the identification until I read his statement to that effect in the July quarterly number. Nor was I aware that Helkath had been located at Yerka, the identification having been selected by me for topographical and philological reasons, as I shall presently show.

There remains merely the question of Mizpah Galeed at Sûf. With respect to this, I feel constrained to acknowledge, after much reflection and thought, that I must have unconsciously had this identification impressed upon my mind, inasmuch as I had read both Laurence Oliphant's "Land of Gilead" and Major Conder's "Heth and Moab," and now I find that in both these works the same suggestion is made. It occurs, also, as Major Conder has pointed out, in Mr. Armstrong's "Names and Places," but, strangely enough, I had never consulted this work, until my attention had been drawn to it by Major Conder's remarks. It is no uncommon thing for a student to reproduce in his writings the thoughts and sayings of someone else, under the honest impression that they are original, he having quite forgotten that they had been assimilated by him in the course of his reading. This, I presume, must have been my case in this instance, and I am glad to have the opportunity of apologising to Major Conder and to the memory of my late friend Laurence Oliphant, for having unconsciously appropriated the identification as my own.

So much for the strictures on my identifications on the ground of want of novelty, which I was bound to notice in order to vindicate my own honesty of purpose, but which otherwise are of little importance. The other two objections are more formidable; and, unless I could disprove them, would be fatal to my identifications.

2. As regards the *topographical* argument, I desire to show as clearly as I can that, so far from producing any confusion as to the geography of

the country, as Major Conder alleges, they are in every case calculated to clear up difficulties, and to establish a correct knowledge of the ancient topography.

Before entering into details, I desire to state that I have only presumed to offer suggestions with respect to those portions of the country with which I am especially and intimately acquainted, and upon which, after careful personal investigation, I have felt myself at liberty to speak with some authority. It will be observed that out of the fifteen suggested identifications, twelve occur in the district of Galilee, the other three being in the Land of Gilead. In the course of my five years' residence in the neighbourhood of Mount Carmel, I have made numerous and frequent excursions throughout the province of Galilee, with the special object of investigating the important question of identity of sites, and will therefore ask permission to enter into the question somewhat fully.

We will first take the series of identifications connected with the border line of the tribe of Zebulun, as described in Josh. xix, 10-15. It is there stated with regard to the children of Zebulun that "the border of their inheritance was unto Sarid; and their border went up towards the sea, and Maralah, and reached to Dabbasheth, and reached to the river that is before Jokneam; and turned from Sarid eastward towards the sun-rising unto the border of Chisloth-tabor, and then goeth out to Daberath, and goeth up to Japhia, and from thence passeth on along on the east to Gittah-hepher, to Ittah-Kazin, and goeth out to Remmon ha-Methoar ha-Neah; and the border compasseth it on the north side to Hannathon; and the out-goings thereof are in the valley of Jiptah-el, and Kattath, and Nahallal, and Shimron, and Idalah, and Bethlehem; twelve cities with their villages."

Now, let us take the map and trace these places as accurately as we can. I agree with Major Conder that our starting-point, Sarid, is probably identical with Tell Shadûd near Jebâta, in the Plain of Esdraelon. From this point, the border-line "towards the sea" clearly followed the base of the hilly district which lies to the north of the Plain of Esdraelon, until it reached the banks of the river Kishon, in front of Jokneam, which is undoubtedly Tell Keimûn, at the south-east base of Mount Carmel. This line would, therefore, roughly pass through Jebâta, Semûnieh, Jeida, and Sheikh Abreik, and close to M'aiûl and Zebdah. The only two places mentioned in Joshua as lying on this route are Maralah and Dabbasheth. Maralah has been, probably correctly, identified with M'aiûl, and Dabbasheth would coincide topographically with Zebdah, with which I have identified it. Major Conder says "Dabbasheth is probably the present Dabsheh." Now, the only place of that name in existence in Galilee is a ruined site, called Khurbet ed-Dabsheh, high up among the hills, close to Teirshîha, more than 2,000 feet above the level of the sea, and at least twenty miles north of any place which could possibly answer to Dabbasheth. I wonder that Major Conder could have thought of suggesting such an identification, which is most certainly calculated to "confuse topography." My proposition of

placing Dabbasheth at Jebdah is, on the other hand, exactly in conformity with the topographical requirements of the case.

Now, let us consider the border-line in the other direction, as indicated by the Bible. Returning, as in the book of Joshua, to Sarid or Tell Shadûd, we proceed naturally "toward the sun-rising," *i.e.*, in an easterly direction, following again the base of the hills of Lower Galilee, to Chisloth-tabor, which is of course Iksal, and thence to Daberath, or Debûrieh, at the foot of Mount Tabor. From this point the line turns to the north-west, and "goeth up to Japhia." And here there is a great topographical difficulty. Assuming, what is almost certain, that Japhia is the same as the modern Yâfa, the line would follow an almost impracticable direction. But if, as was probably the case, in the time of Joshua there was no village on the present site of Nazareth, and the whole of the land around belonged at that period to Japhia, we can trace the line of the natural road which leads from Debûrieh to Nazareth, and along which travellers pass when riding from Mount Tabor to the latter place. Thence it would follow the road from Nazareth to the plain through Reineh, and between el-Meshed (Gittah-hepher) and Kefr Kenna (Ittah-Kazin). On reaching the plain the line turns to the west, past Rummâneh (Remmon ha-Methoar ha-Neah); and skirting the northern base of the hill upon which stands Seffûrieh, it would enter the Wâdy el-Khalladîeh, and so on to the Wâdy el-Melek. Now Khalladîeh I have identified with Hannathon, and the Wâdy el-Melek with the Valley of Jiptah-el; both of which are exactly suitable topographically, if my proposed border-line is correct. I am well aware that the Valley of Jiptah-el is usually identified with the Wâdy Abellîn, the border-line of Zebulun being thus taken further to the north than I have suggested; but I see no reason, after a very careful survey, why my proposition should not be right. Passing out on to the maritime plain at the modern village of Mejdél, the line would turn southward along the base of the hills, until it joined the Kishon, near Harathîyeh.

This is my proposed delimitation of the tribe of Zebulun, about which there is no confusion whatever. The border follows the course of the natural features of the country, as was almost universally the case; and the tribe of Zebulun is included in the small, but rich and fertile hill district, bounded on the south by the Plain of Esdraelon, on the north by an arm of the Buttauf, on the west by the Plain of Acre, and on the east by the valleys between Mount Tabor and the Nazareth Hills. Of the five places mentioned in the Bible as standing within the tribe, Bethlehem is undoubtedly the modern Beit Lahm, Shimron is probably Semûniel, Idalah may possibly be Jeida, whilst Nahallah has not been identified. Khashâsh, at the foot of the pass from the Plain of Esdraelon up to Nazareth, evidently occupies an ancient site of some importance, and this I have suggested to have been, perhaps, Kattath. There is nothing in the least to be said against this proposal from a topographical point of view. I have now dealt with six of my suggestions, which I hope I have shown to be free, at least, from any topographical objection.

We now pass on to the border-line of the tribe of Asher, as indicated in Josh. xix, 25-30. I do not propose to enter so fully into this border-line, except so far as it bears upon the question at issue. Now there are four places mentioned in order, and from the context they appear to run from the south northwards. Their names are Helkath, Hali, Beten, and Achshaph. According to my belief, the tribe of Asher was bounded on the south by the northern slopes of Carmel, and included the maritime plains of Acre and Tyre with a portion of the hill country to the east of them, being bounded on the north by the River Litány, the Nahr el-Kasimieh. The eastern boundary which divided Asher from Naphtali, passed then through Helkath, Hali, Beten, Achshaph. There are four conspicuous places perched on hill-tops, and occupying the sites of ancient towns of importance, which lie almost in a straight line, and seem pointed out by nature as border marks. These are Yerka, 'Alia, Tibnin, and Kul'at esh Shukif. Of these Yerka, Alia, and Tibnin still bear philologically the traces of Helkath, Hali, and Beten. The other I identify with Achshaph, not on philological but topographical grounds.

Misheal, which is mentioned as a border town of Asher, I have identified with Rishmea, a ruin which stands on an elevated knoll of Carmel, about three miles south-east of Haifa, and on a very important ancient site. As I have pointed out in "Murray's Handbook," Rishmea is called Mishrea by William of Tyre, and Eusebius speaks of Misheal in the same locality. There is no objection whatever topographically, if, as I believe, the tribe of Asher reached to Mount Carmel on the south, and the philological history of the place is remarkably corroborative. I know that Major Conder does not agree with me in my delimitation of the tribe of Asher, but I feel very strongly that I am correct as to its reaching to Carmel.

I now come to Janoah, which I have identified with Hunîn. The only passage in which the ancient town is mentioned is 2 Kings xv, 29, where we are told that Tiglath-Pileser, King of Assyria, "took Ijon, and Abel-beth-Maachah, and Janoah, and Kedesh, and Hazor." Now a glance at the map will show the exact direction of the progress of the Assyrian conqueror. Ijon certainly is to be located in Merj Ayûn, between Lebanon and Hermon; Abel-beth-Maachah = Abil, a little to the north-east of Tell el-Kadi; Kedesh = Kades; and Hazor = Tell Harrah. Janoah, therefore, must have been situated between Abil and Kades; and on the direct line between these two places stands the grand old Crusading Castle of Hunîn, on a site which from time immemorial must have been of the greatest strength and importance. Thus, for topographical reasons, I have identified Janoah with Hunîn, and my suggestion is corroborated philologically. Of course, on the latter grounds Yanûh is more similar, but Yanûh, which is situated between Yerka and Teirshiha, is altogether out of the question, and by no possibility could Tiglath-Pileser have taken it on his way between Abel-beth-Maachah and Kedesh. In this instance, again, it is a matter of astonishment to me that Major Conder, who insists so strongly and rightly upon topographical accuracy, should have made such an untenable suggestion.



The only other places which I have to mention are Mahanaim and Ramoth-Gilead, and, as I have discussed my reasons for fixing the former at Salt and the latter at 'Ajlûn with the utmost fulness in "Murray's Handbook," I must refer Major Conder and others who may be interested in the matter to my arguments contained therein. Suffice it to say that, to my mind at least, they are sufficiently strong to warrant me in a very firm belief in their topographical accuracy. I am exceedingly sorry to differ from so distinguished and painstaking an authority as Major Conder; but I trust that, having now explained so thoroughly my reasons for fixing upon my suggested identifications, he will acquit me of having introduced "great confusion into the topography." On the contrary, I maintain that much confusion will have been removed, in every instance under consideration, if the suggestions which I have offered shall prove to be correct.

3. There remains only the philological aspect of the question. As I have already intimated, my suggested identifications have been made more upon topographical than philological grounds, though I have in no instance lost sight of the latter important point. Since Major Conder appears to doubt whether I am "familiar with the words in the original languages and characters," I feel obliged in self-justification to say that, though I do not pretend to be a thorough Hebrew or Arabic scholar, I have studied both languages with a considerable degree of care; and, moreover, before I put my suggestions into print, I submitted them to two accomplished Hebrew and Arabic scholars, both of whom assured me that my proposed identifications were philologically sound. These were Dr. Wortabet, of Beyrout, and the Rev. A. W. Schapira, of Haifa. Therefore, with all due respect to Major Conder, I have no hesitation in adhering to my identifications on these grounds.

In conclusion, I may say that I did not overlook Major Conder's suggestions of Mukhmah and Reimûn for Mahanaim and Ramoth-Gilead respectively; but, for reasons which I have stated at large in "Murray's Handbook," I prefer my identifications at Salt and 'Ajlûn.

P.S.—The following are the principal philological transformations bearing upon the places at issue:—

Misheal	....	رشميا رشميا	مشرام	مشرام	مشرام	Rishmea
Dabbasheth		زبدد	زبدد	زبدد	زبدد	Zebdah.
Hannathon or Khannathon	}	خلديه	خلديه	خلديه	خلديه	Khâllâdiyeh.
Beten		....	تبنين	تبنين	تبنين	Tibnin.
Helkath	....	يركا	يركا	يركا	يركا	Yerka.
Janoah	....	هونين	هونين	هونين	هونين	Humin.

Some of the above may appear a trifle far-fetched, but not a whit more so than many well-established identities; and, I believe, there is no

philological rule transgressed in any case. The change from the guttural consonant to its soft counterpart is sound and of frequent occurrence, whilst the interchange of the liquids is exceedingly common, as also is the mutation of syllables, as, *e.g.*, in the case of Debzah = Zebdah.

## NOTES ON THE "QUARTERLY STATEMENT."

P. 187. The Byzantine Greek Christian text from the Muristan is not a new discovery. I copied it and published it in the Jerusalem Volume of the "Survey Memoirs." It appears to be a tombstone which was built into one of the piers of the mediæval monastery.

P. 198. I carefully examined the coin to which Mr. Hanauer refers, but found no inscription on the obverse. The example was, however, somewhat worn, and the information now given is of much interest.

P. 199. As regards the site of Calvary, the following passage in "Felix Fabri" (vol. ii, p. 332, translation of Palestine Pilgrim's Text Society, written about 1483 A.D.) is curious: "Round about the dry-stone wall which encircles the base of the ancient Church of Sion there are certain places wherein the Saracens and Eastern Christians practice superstitious observances . . . beneath a fig-tree, where there is a great heap of stones, to which the Saracen women come every day and burn incense on a stone, and bury loaves of bread, for they declare that it is here, and not in Golgotha, where stands the Church of the Holy Sepulchre, that the sepulchre of Jesus is."

It seems, therefore, that Calvary was by some supposed to be on Sion (the south-west hill of Jerusalem), even as early as the 15th century, a theory which has been revived by some writers of the 19th century.

C. R. C.

## CORRECTIONS.

As I note two points in the *Quarterly Statement* which might mislead anyone who relied on them, I venture to send corrections.

Page 205. The "waste scraps of the cuneiform scribe," which I found at Tel el Amarna, are all unbaked, and were clearly mere trial scraps, with touches of the writing stylus; hence there is no question about the presence of the cuneiform scribe there, nor about the use of dictionaries on the spot. I may add that I have many little toys of mud as fresh as when first moulded before 2000 B.C.; and this perfect preservation of unbaked mud is a most familiar matter in Egypt.

Page 201. We are now well acquainted with the features of Kheunaten from the actual cast and the sculptures, which latter also give portraits of

his mother and wife. None of them in the remotest way show Hittite characteristics ; but Kheemater's is exactly like the man of Mitanni, on later monuments (*see* Sayce, "Races of the Old Testament," p. 123), and this was the country of his mother. It is impossible, therefore, to regard the family as Hittites, as is assumed on p. 201. The Hittites may have imposed their speech or their yoke upon the Mitanniians at some time, but the races were quite different.

WM. FLINDERS PETRIE.

### ERRATA.

April *Quarterly Statement*, List of Donations and Subscriptions—

*For* Rev. T. Baxter *read* Rev. J. T. Bastow.

July *Quarterly Statement*, Local List, Canada—

*For* Alex. Willis, Esq., *read* Alex. Wills, Esq.

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