

the Winchester gallon, we have the equation (x being the length of the cubit):—

$$\frac{1}{2} \times \frac{1}{2} \times \frac{1}{4} x^3 = \frac{272.25}{7854}$$

∴ $x = 17.692$ inches.

This differs by a small fraction only from the length of the cubit as otherwise determined.

In conclusion, I will give a *résumé* of the scale of Jewish liquid measures as calculated:—

1 log	....	....	....	....	....	.873 standard pint.
12 logs = 1 hin	....	....	....	....	....	1.309 standard gallons.
24 logs = 2 hins = 1 seah	....	....	....	....	....	2.618 " "
72 logs = 6 hins = 3 seahs = 1 bath	....	....	....	....	....	7.854 " "

THE PROSPECT FROM PISGAH.

By Rev. W. F. BIRCH, M.A.

THE panorama seen by Moses is thus described in Deut. xxxiv, 1-3:—
And Moses went up from the steppes of Moab unto Mount Nebo, to the top (or head) of Pisgah, that is fronting Jericho. And Jehovah showed him all the land, (even) Gilead, as far as Dan, and all Naphtali, and the land of Ephraim and Manasseh, and all the land of Judah as far as the hinder sea, and the South, and the Round, (even) the plain of Jericho, the city of palm-trees, as far as Zo'ar ("Crit. Comm. Deut.," Prof. Driver).

The Hebrew word (פג), so useful in locating the sepulchres of David (*Quarterly Statement*, 1883, p. 107; 1890, p. 206), and thrice translated in Deut. *unto*, Dr. Driver says "means distinctly *as far as*." It is needless, then, to prove it. Failure has apparently dogged all attempts to find a point on the east side of the Jordan or Dead Sea, from which all the tracts or spots named above may be seen in their respective positions. Accordingly, Professor Driver ("Deuteronomy," p. 419), observes:—"The panorama is superb, though the terms in Deut. xxxiv, 1-3, are hyperbolic, and must be taken as including points filled in by the imagination as well as those actually visible to the eye."

Let me lead a forlorn-hope to what I believe will prove to be the long-lost head of Pisgah.

To me it seems all but certain that the Biblical description is literally true; that imagination has no place in it, otherwise snowy Hermon or Lebanon, which Moses entreated to see (Deut. iii, 25), would surely have followed the mention of Gilead; and that the perplexity is due to taking

Josephus as a guide to Zoar and Dan, and letting later writers be personal conductors to the hinder sea.

I hope a friend for a day will leave Jerusalem in the cold, hurry down to the mouth of the Kidron, take the steamer $8\frac{1}{2}$ miles across the Dead Sea, and climb the $5\frac{1}{2}$ miles of the slopes of Moab to Talât el Benat. If this be done on the first day of the last month (the anniversary of the death of Moses, according to Josephus), he will probably, weather permitting, be able with a telescope to distinguish all the tracts and spots named above as being seen by Moses from the mountain of Nebo. It is essential to know beforehand the positions of the objects to be looked for. In the above list seekers have been baffled by the three limits given—Dan, the hinder sea, and Zoar. Josephus places Zoar at the southern end of the Dead Sea ("Wars," iv, 8, 4), Dan at the springs of the lesser Jordan (let him mean) at Tell el Kady, while recent writers identify the hinder sea with the Mediterranean. Here, I suspect, are three real mistakes, producing naturally disappointment. Let me try to fix these limits correctly.

ZOAR.

Happily investigation has already discovered the true approximate position, if not the very site, of Zoar, the little city near Sodom. From Gen. xiii, 10-12, we learn that Lot, from the mountain east of Bethel, "beheld all the plain (*Ciccar*) of Jordan (in which plain the five doomed cities were situate), that it was well watered everywhere . . . as thou comest unto Zoar." It is now admitted that the Dead Sea existed before the time of Abraham. Were the cities, then, in the plain at the northern or at the southern end of it? This is the question. Let it be admitted that either plain might be called *Ciccar*. Then it follows (1) If Sodom (and Zoar with it) be placed in the plain at the southern end, that this plain was the plain of Jordan. But the muddy Jordan is still 40 miles distant from it. How could a plain possibly be called the plain of the *Jordan* when it was so far from the Jordan? Such *lucus a non lucendo* nomenclature is impossible. In a small country like Palestine names cannot be hurled recklessly 40 miles. It must follow, therefore, that Sodom and Zoar were in the northern plain, the only district left. (2) Lot saw all the plain of Jordan. On the east side of the river the plain is distinctly in sight from the hill near Bethel, being 25 miles distant, while it is physically impossible for anyone to see the plain at the south, quite 50 miles distant, as intervening mountains intercept the view ("Bible and Modern Discoveries," p. 21). One witness after another testifies to this, while no one (so far as I can learn) comes forward to say he has ever seen the southern plain from that hill. Either of these points seems to me enough to kill the error, though nevertheless it still moves, galvanized by Josephus, Onomasticon, Crusaders, and Arabic writers, all of no value on this point. It is cruel even to put such witnesses into the box. It might also be urged that Gen. xiii, 14, 15, preclude Lot's Hill, near Bethel, from commanding a view of the country at the south-east end

of the Dead Sea, which part undoubtedly formed a portion of Moab's territory not to be possessed by Israel. After Lot's departure, Abram was bidden to survey the panorama (apparently from the same hill) and told, "All the land which thou seest, to thee will I give it, and to thy seed for ever." All that Abram then saw was to be his: but the south-east part was Moab's, and so could not be his. Therefore he did not see it, which was quite natural, as it was out of sight.

It is almost superfluous to add—

(a.) That a plain 25 miles distant might easily be seen to be well watered, but not so readily one 50 miles away.

(b.) That if Sodom had been at the south end of the sea the four Kings (Gen. xiv), after reaching Hazezon Tamar, must have *turned back* to reach Sodom, a foolish mode of proceeding. It is obvious, however, that, advancing along the west side of the Dead Sea, they would at last at the north end come opposite to Sodom, with the Jordan between it and them. Probably the five Kings prevented their crossing the river, until its depth and rapidity decreased north of the Aujah. Then quickly followed defeat in the Vale of Siddim, flight to the mountain, and the leap into a slime pit (bitumen shaft), by which act the King of Sodom saved his life. See Amama, *in loco*.

(c.) Zoar is associated with places in the northern part of Meab in Jerem. xlviii, 34; Isa. xv.

(d.) Abraham, from a spot near Hebron (Gen. xix, 28), looked towards Sodom and Gomorrhah and toward all the land of the plain. The Hebrew expression (עַל-פְּנֵי) requires, I believe, what follows to be within sight (*Quarterly Statement*, 1896, p. 262), and Mr. G. Armstrong informs me that from Beni Naim (the traditional spot) the eastern plain at the north of the Dead Sea is within sight.

Sir George Grove's arguments for placing the plain of the Jordan with Sodom, Zoar, &c., at the north end of the Dead Sea, seem to me insuperable.

In *Quarterly Statement*, 1879, p. 15, I placed Zoar at Tell esh Shaghur, near which is a spring. This suitable position was supported by the resemblance of the Arabic word Shaghur to the Hebrew Zoar (*little*). Mr. Merrill's identification of Zoar with Tell Ektanu, supported in turn by its resemblance to *Katan*, another Hebrew word for *little*, seems to me too far-fetched to have any weight. Such a change is most improbable. Is Littleton likely to be ever called Weeton, or Washington Lavington?

Let us now be thankful that the position of Zoar is fixed approximately, if not precisely. Be it observed it has been proved without regard to Josephus.

THE HINDER SEA.

From no mountain on the east side of the Dead Sea is it possible to see the Mediterranean near Judah. Higher mountains intervene. It is, therefore, self-evident that Moses could not from Pisgah see *as far as* the hinder sea, *if* we assume that this sea must here mean the Mediterranean.

Be it noted, however, that Deuteronomy does not say the *great* sea, but the *behind* sea. Behind what or whom? This is the question. The expression is also used in Joel ii, 20, and Zech. xiv, 8, but it is in contrast to another sea entitled the *before* or *Eastern* sea, while the mention of Zion and Jerusalem fixes the spectator between these two seas. In Deut. xi, 24, the identical phrase occurs, used by Moses, *unto the hinder sea*. Here the speaker is in the plain of Shittim, north-east of the Dead Sea (and facing east in oriental manner), he naturally defines Israel's western limit by the hinder sea, *i.e.*, the sea behind him. But I ask, is this one passage by itself sufficient to establish as an axiom the point that whenever in the Bible *the hinder* is joined to *the sea*, the Great Sea (*i.e.*, Mediterranean) must be referred to. I have pointed out (*Quarterly Statement* 1889, p. 38) that the rigid use of nouns (*emek, gai, nachal*) is the key to Jerusalem topography, but I hesitate to deal thus with adjectives. At any rate, as one swallow does not make a summer, why is one case (Deut. xi, 24) to make a rule, and hand over Deut. xxxiv, 2, to imagination? It is said that this book is of a composite character. Do all writers then necessarily use the same word with precisely the same meaning, or has the reviser planed down all their differences of usage? Let the calm mind of the wise decide.

Pisgah was on the east side of the Dead Sea. Moses, therefore, when he began his survey looking *eastward* (iii, 27), would have that sea *behind* him, then as he turned to the left about, tracing the scene and horizon, he sees at last the land of Judah ending near Masada, and so reaching *as far as* the apparent end of that sea, described as the hinder sea (as I believe) in Deut. xxxiv, because it was *behind* Moses when he began his survey. So Abraham was able to see the ram behind him, *i.e.*, which had been *behind him* before he turned round. Let judgment stand over till Dan is examined and prejudice abates. Patrick observes, "some take the hinder sea to be the Dead Sea." If Dan proves to be visible from Pisgah, the critics will perhaps incline to acquittal, and not oppose the sacred writer's claim to fidelity in Deut. xxxiv, by building a rule on one text.

DAN.

I admit that Josephus practically places Dan at Tell el Kadi. Does he never err? Do we not suffer to this day through his Jerusalem blunders (*Quarterly Statement*, 1886, p. 28)? Surely he must have known more of the Holy City than of Dan. Let him then stand down. I will listen to his tales, but I cannot always be guided by him.

Dr. Post (1888, p. 196) invites us to Jebel Osh'a for Pisgah, promising there the most comprehensive view of the Promised Land. Moses, however, died in the Land of *Moab*, and I do not see how to extend Moab so as to include Jebel Osh'a. Siaghah (first proposed by Professor Paine and supported by Colonel Conder), situated 10 miles due east of the mouth of the Jordan, in a part where several have been inclined to place Mount Nebo, at present enjoys the honour of being popularly identified

with the head of Pisgah. The fatal objection must nevertheless be admitted that Tell el Kadi (the popular Dan) is invisible from Siâghah (2,291 feet). There is no doubt here. Part, if not the summit (3,597 feet) of Jebel Osh'a, higher than Siâghah, intervening, excludes Tell el Kadi from our sight. With grief I realised that the objection was true. But was Dan really at Tell el Kadi? If so, in Judges why is not mention made of its spring, "the largest spring in Syria, and said to be the largest single spring in the world"? Has not Josephus misled us again? I go to the Bible for the truth, and so discover that Tell el Kadi was certainly not Dan—but most probably Baal-gad.

Tell el Kadi (505 feet) is, according to my measurement, 102 miles from Siâghah (2,291 feet). If, therefore, the line of vision lay along the depressed trough of the Jordan valley and nothing higher than the Sea of Galilee (—682 feet) intervened, then (according to calculations made for me by the Rev. Hector McNeile) 392 feet of Tell el Kadi would be visible from Siâghah. Unfortunately the line passes east of that sea.

DAN AND BAAL-GAD.

The northern limit of the country taken by Joshua was "Baal-gad in the valley (Bikah) of Lebanon under Mount Hermon" (Josh. xi 17); the northern limit at a later date was Dan (as is seen in the frequent phrase "From Dan to Beersheba"). Dan (Judges xviii, 28) was "in the valley (Emek) that lieth by Bethrehab." It is said of the spies (Numb. xiii, 21), they "searched the land from the wilderness of Zin (in the south) unto Rehob (in the north) as men come to Hamath." Beth-rehab and Rehob (here and 2 Sam. x, 6, 8) are apparently identical. Now *Bikah* denotes a larger valley than *Emek*: e.g., the *bikah* of Megiddo is the great plain through which the Kishon flows; while the *emek* of Jezreel is the valley running eastwards from Jezreel. One expects therefore to find Baal-gad in a larger valley than that in which Dan was situated. In eastern Palestine the land possessed reached *as far as* Mount Hermon (Josh. xii, 1); in western, *as far as* Baal-gad (xi, 17). One would expect the two limits to fairly correspond to one another. Further, there are only two large valleys (Bikah) in one of which Baal-gad must have been situated, either in the great valley between the Lebanon and Hermon ranges, or in the Huleh depression, about 16 miles long by 6 miles broad ("Survey of Western Palestine," T. Saunders, p. 144), *i.e.*, the head of the Jordan valley. I was (*Quarterly Statement*, 1881, p. 235) in favour of identifying Baal-gad with Baal-bec, because of the position of the latter in the great plain, el Buka'a; but I overlooked a fatal objection, *viz.*, that the land captured by Joshua must, in this case, have extended some 60 miles north of the admittedly approximate position of Dan, the later northern boundary. Even half the distance would involve the difficulty. One is therefore inevitably thrown back upon the Huleh plain as the only possible site of Baal-gad. Dr. Robinson located this place at Baniyas, the Tivoli of Hermon, on a terrace rising above the plain. I would rather

identify Baal-gad with Tell el Kadi, near which Colonel Conder (1882, p. 226) found some remarkable basaltic dolmens.

As to the name. Baal as a prefix to Biblical names of places is often dropped. It has also been proposed to accept *K* for *G* in identifying Gederoth, Gibbethon; thus Baal-gad might become *Kad*. The eminence would make it *Tell el Kad*, and *i* being added to give a meaning, the result is *Tell el Kadi*, or *the hill of the judge*. It must be owned, however, that *Kadi* occurs elsewhere on the map; but the coincidence of *Kadi* and *Dan* each meaning *judge* does not really help much to connect *Dan* with *Tell el Kadi*, as the Fellahin preserve the *sound*, not the *sense* (1882, p. 151, and Bonar's "Land of Promise," p. 457).

With the Huleh plain representing "the *bikah* of Lebanon under Mount Hermon," we are forced to search elsewhere in this district for a smaller plain to represent the *emek* in which *Dan* stood. On turning to "Memoirs," i, p. 84, I read: "This (division of the country) contains two plains, the Jordan Plain and the Merj Ayun, the latter of which is at a higher level, and is the mouth of the great valley which divides the northern country, the Lebanon, from the Anti-Lebanon. This plain is very fertile"

We may place *Dan* in this valley without misgivings, as there is no other rival *emek* hereabouts available, especially since Merj Ayun exactly answers the Biblical requirements, as follows:—

1. It is an *emek* six miles long and from one to three miles broad.
2. It is the mouth of the great valley leading to Hamath.
3. It is a very fertile and also a charming and picturesque plain, as described in Judges xviii, 10: "A place where there is no want of anything that is in the earth."

4. Laish, *i.e.*, *Dan*, was connected with Sidon (*id.* 7), and Dr. Thomson observes that the tombs hereabouts are exactly like those of Tyre and Sidon.

5. "Ijon and *Dan* and Abel-beth-maachah" are mentioned in 1 Kings xv, 20; 2 Chron. xvi, 4. If we place *Dan* about the middle of the plain (say) at Ain el Hosh, 1,768 feet above the sea, and Ijon at the north end of the plain at Tell Dibbin (Dr. Robinson), or at El Khiam (Colonel Conder), and Abel (as already identified), below the southern cascades, at Abil, then the three places are in topographical order from north to south.

6. Possibly in 'Ain el Hosh, written 'Ain el Losh, there may be a survival of *Leshem*, or *Laish*, the earlier name of *Dan*. Hosh, however, occurs elsewhere.

7. Kulat esh Shukif (2,345 feet), $2\frac{1}{2}$ miles due west of 'Ain el Hosh, would do quite as well as Hunin for the site of Beth-rehob.

The Merj slopes southwards, being 1,700 or 1,800 feet above the sea, and more than 1,200 feet above Tell el Kadi. This great gain in elevation encouraged the hope that 'Ain el Hosh would prove on examination to be visible from Siaghah. With *Dan* at 'Ain el Hosh (1,768 feet) and distant 107 miles from Siaghah (2,291 feet), and with nothing higher

than the Sea of Galilee (- 682 feet) intervening, Mr. McNeile reports that 1,520 feet of Dan would be visible from Siâghah (? Pisgah). Still, on referring to the reduced map and the raised map of Mr. Armstrong, I was forced to abandon in turn even this hopeful line, since it passes over but a small part of the said sea on its eastern side, while Jebel Osh'a seems to fatally obstruct the view of the Merj from Siâghah. A step, however, has been gained in fixing Dan in the Merj Ayun.

PISGAH.

Siâghah is apparently too easterly to command a view of the Merj. If it be otherwise, further search is needless. This hope, however, seems vain. One must, therefore, forsake Siâghah altogether, and seek among Moab's mountains for some point sufficiently high and westward to admit of a straight line being drawn to the Merj unobstructed by any intervening ground. On the map I find "a conspicuous knoll" ("Eastern Palestine," p. 228), the highest (id 10) point of the ridge hereabouts, called Talât el Benât (2,579 feet), which stands $6\frac{1}{2}$ miles to the south of Siâghah, and 3 miles to the west of it. From this point (by my measurement) it is $113\frac{1}{2}$ miles to 'Ain el Hosh. The line, after 26 miles, passes for some 35 miles over an unsurveyed district, which accordingly on the raised map has had to be filled in from imperfect *data*. Haze, too, has thwarted observers. Therefore, without telescope or theodolite, it is impossible to arrive at certainty. Still, I rely on hope and the accuracy of Biblical topography for final success.

Starting on an aerial journey from Talât el Benât to Dan we pass (as I make it) some three miles west of the summit of Jebel Osh'a. Mr. McNeile reports that "at this point (26 miles distant from Pisgah—Talât el Benât) the line of vision is 891·792 feet above the *great sea*, at 61 miles only 29·462 feet, and at the lowest point (62·165535 miles) about 28·5 feet." This shows that opposite the top of Jebel Osh'a the line is some 2,000 feet higher than the Jordan, and some 2,700 feet below that summit. In other words, if the western side of the said Jebel falls 900 feet on an average for three miles, the line of vision is not here intercepted. Colonel Conder ("Heth and Moab," p. 181) speaks of "the brink or cliff of Jebel Osh'a . . . Far below are the sandstones of the lower spurs which run out into the Jordan Valley beneath an almost precipitous slope." From a very high ridge (2,260 feet) called Mureijib Beni Atiyeh, four miles south-west of Talât el Benât, there is in less than four miles a fall of 3,552 feet to the Dead Sea (-1,292 feet), which is precisely 888 to each mile; so that a gradient of 900 feet per mile for three miles would not be unparalleled.

From 26 to 61 miles little is known precisely of the elevation of the valley on the east side of the Jordan. At 61 miles (as stated), or $10\frac{1}{2}$ miles south of the Sea of Galilee, we reach better known land. The line here is at 29·46 feet above the sea, while one mile to the east is an elevation near Mukhraba, marked in Schumacher's map of Northern Ajlun as 859 feet,

so that with a fall of 830 feet for one mile, our line would clear this dangerous point. Henceforth the curvature is in our favour, and soon we are gaily gliding over the blue waters of the Sea of Galilee, 700 or 800 feet above its surface. Then the line begins to climb the hills of Naphtali, and finally we reach *terra firma* at 'Ain el Hosh, 113½ miles from Pisgah, after a trip which for safety, I hope, any aeronaut may envy.

The data, I repeat, do not exist for one to demonstrate that Dan (at 'Ain el Hosh) is actually visible from Talât el Benât; but the probability appears to me so great that I fully expect that on trial both Zoar and Dan will prove to be in sight from Talât el Benât, thus marking it out as Pisgah, if no rival takes the field. A transparent atmosphere and a good telescope will, I hope, settle the question on some auspicious day, to my satisfaction, as elevations have not herein been knowingly pared down to help this theory.

Should Talât el Benât in turn be rejected, it still remains to settle matters with the formidable Mureijib, some two miles more to the west, and 116 miles from 'Ain el Hosh. Hence the line of vision appears at 61 miles to touch, in the Jordan depression, the lowest point at 282 feet below the sea, and passes some 500 feet above the Sea of Galilee. This line seems quite clear of any obstruction from Eastern Palestine.

If, however, Talât el Benât be the head of Pisgah, the matter briefly is thus. Here the venerable law-giver at last reaches his goal overlooking the Dead Sea. His view eastwards is limited to a few miles. He scans the horizon from the east northwards along the *nishor* of Reuben, till it culminates in the highest point of Jebel Osh'a, above the glades of Gad: thence the horizon dips to its lowest point in the far north, in the Merj Ayun, near 'Ain el Hosh. Thence westwards it rises to the still distant highlands of Naphtali, in Upper Galilee; then coming southwards the horizon undulates over the crested summits of the land of Ephraim and Manasseh, nearer still it passes over royal Judah, with which Benjamin is incorporated, until it dips down at Masada, above (or near) the apparent end of the Dead Sea. Here there opens a distant vista of the South in the depression to the left. Lastly, as he turns towards the Jordan, he beholds spread at his feet, yet quite 10 miles distant, the broad plain of Jericho, from the city of palm-trees as far as Zoar, at the foot of the eastern hills. Then casting one longing lingering look over the goodly tents of Jacob, as gardens by the river's side, Moses passes away with Lebanon (Hermon) yet to be seen (Matt. xvii, 1).

The mention of Dan places these details after the conquest. Gilead describes the whole eastern side (visible), as in 2 Sam. ii, 9; 1 Kings iv, 19. Possibly the term "all Naphtali" may cover any part of Zebulon within sight. The frequent combination of Ephraim and Manasseh (in this order) accounts for the variation in regard to their geographical order, which would singly have named Manasseh first. After the disruption, the land of Benjamin lost at times its individuality in the broader name of Judah (Psalm lxxviii, 68; 1 Kings xii, 20). The conclusions are as follows:—

1. The plain of Jordan was north-east of the Dead Sea, Zoar at Tell es Shaghur, Sodom at Tell er Râmech (1881, 101).

2. Dan was in the Merj Ayun, probably at 'Ain el Hosh.

3. If both the above are visible from any point on the eastern side, commanding a view of the Dead Sea, then the third limit "the hinder sea" means the Dead Sea in Deut. xxxiv.

4. The head of Pisgah was in all probability at Talât el Benât. If thorough investigation proves this to be impossible, then Mureijib apparently must be Pisgah. Haze frequently harasses observers in Eastern Palestine. Hence arise discrepancies between their reports. Professor Paine and Dr. Post report Hermon as visible from Jebel Osh'a, while Colonel Conder says Ajlun conceals it. The latter says "the Dead Sea is hidden by a projecting ridge," while Dr. Post gives it as in sight.

The difficulty as to Dan increases with the square of the distance ; so that it is necessary for Lynceus to report on this perplexing question. Till then the problem is open to the *mathematici*, and the *hinder sea* to the *grammatici*. If the writer of Deut. xxxiv, 1-3, could resist the fascination of Hermon and speak correctly about Dan, one should not hurriedly believe he stumbled over the hinder sea.

Addenda.

1. The advocates of Zoar at the *southern* end of the Dead Sea have such a bad case that they may be excused catching at any straw.

I see it is practically urged in support of the southern site that if Zoar had been in the Shittim plain at the north, Zoar would have been mentioned in the list of Israel's cities. The only lists in which Zoar could thus appear would be in Num. xxxii, 36, "Beth-nimrah and Beth-haran, fenced cities," and Josh. xiii, 27, "In the valley, Beth-haran, and Beth-nimrah, and Succoth, and Zaphon." The first two are distinctly described as "fenced cities," and Beth-haran is identified with Tell Rameh about one mile from Tell esh Shaghur (Zoar). It is not claimed that Zoar was a *fenced* city ; while such would be needless so near to Beth-haran. Therefore its not being named among *fenced* cities proves nothing against the northern site.

2. Again, an appeal is made to Ezek. xvi, 46, "Thine elder sister is Samaria, she and her daughters that dwell at thy left hand : and thy younger sister, that dwelleth at thy right hand, is Sodom and her daughters." I admit that in the Bible, *left* and *right* often stand for north and south. Does it therefore follow that when David's mighty men were on his right and on his left (2 Sam. xvi, 6), that they were south and north of him ; or that when Asahel turned not to the right hand nor to the left, it meant he turned neither south nor north ? Surely the expression may only mean, as in 2 Sam. xiv, 19, neither in one direction nor in another. I cheerfully admit that Samaria was north of Jerusalem, and that a Sodom, at the north end of the Dead Sea, would not be south of the

latitude of Jerusalem, but rather due east; yet to predicate the two points, that in Ezek. xvi *Sodom* must mean literally Lot's Sodom, and left and right must mean literally north and south, seems to me to be, towards settling a difficulty, too short a cut to be satisfactory and safe. If Sodom means merely Moab, then *right* may here well stand for south, but if Sodom is to be taken literally, surely it is easier to let the spectator look north-east or not to be too precise, than to transport the Jordan some 40 miles to the southern end of the Dead Sea, and to make Lot's sight penetrate through mountains. The above objection then does not seem to me to help the southern site. Professor Ganneau (1886, 21), the chief of the southerners, ignores distance, and places Gomorrha, which was in the *Plain of Jordan*, about 20 leagues from the south end of the Dead Sea, or 106 miles from the Jordan. Such a leap of Jordan would almost rival Dan's towards Bashan.

3. The relation of Pisgah to Nebo I have passed by, as it does not affect the site of the point of prospect. Siaghah "is fronting," or in sight of, Jericho (Deut. xxxiv), at 17 miles' distance; so is Talat el Benât, at 19 miles' distance. Further, the head of Pisgah (Num. xxi, 20), like that of Peor (xxiii, 28), is said to "look down upon" (R.V.) or project towards the Jeshimon or desert of Judah, on the west side of the Dead Sea. Herein Talat el Benât far excels Siaghah, being 288 feet higher, 6 miles further south, and 3 miles more to the west.

4. Examination will doubtless show that Tell es Shaghur is in sight from Talat el Benât.

5. Merj Ayun means (General Index) "the meadow or prairie of springs." Robinson ("Bibl. Res.") suggests that *Ayun* represents *Ijon*, and adds that the road through the Merj is "the most level of all the routes between Damascus and the coast" (Gen. xiv, 14, 15).

6. Jer. viii, 16: "The snorting of his horses was heard from Dan." An invader from the north would naturally traverse the Merj, while Tell el Kadi hardly seems to be in the way of the ordinary route.

7. The Huleh Plain is described in "Memoirs," I, 97, as "very fertile but malarious"; on the other hand, writers are unanimous as to the merits as well as beauty of the Merj. Thomson mentions "the pretty plain and noble fountain"; Porter "the beautiful plain and fields of corn and green meadows"; Bonar says ("Land of Promise," 462): "The region is mountainous in the extreme, but not bare. Wood, grass, and flowers meet us in all directions; the damp of the morning seems to bring out their odours, and as we passed along, the fragrance was refreshing—all the more because it was the smell of Lebanon."

With good reason, then, the five Danites passed by the swampy Huleh, and fixed their choice on the "very good land" of the breezy, fertile Merj, observant of the fact that the people of Laish were "quiet and secure," and might be attacked with impunity, being far from Zidon, having no friend to help them, *i.e.*, with "no deliverer" at hand (Judg. xviii, 28 and 7) to put the aggressors to shame, and having no dealings with (LXX) the Syrians of Rehob (Kulat esh Shukif (?)) from שקפה the *overlooking*

castle). Therefore with the wisdom of an adder and fury of a lion's whelp the Danites repeated Abram's attack at Dan "as men come to Hamath," acting as Simeon afterwards did in the south (1 Chron. iv, 39-43).

8. As to names. At Tell el Kadi both the fountain and stream bear the name of el-Leddân, possibly through a survival of early Christian belief that this was the site of Dan. It is said in "Heth and Moab," p. 236, that the mound near Tell el Kadi, called Tell el Ajjûl, or the "Hill of Calves," suggests a connection with Jeroboam's calf-worship. Ajjûl, however, occurs elsewhere.

Again, the city Nebo, on the Moab plateau, may have given its name to Jebel Neba, east of Siaghah. As the ascent to this part is called *Tal'at es Safa*, the field close to the cairn of Nebo is taken ("Heth and Moab," pp. 129, 130) to be the "Field of Zophim, top of Pisgah" (Num. xxiii, 14). Happily *Talât el Benât* also has its *Zophim* close at hand, in Wadi *Tulev'at es Safa* marked on the American map (Palestine Exploration Society, 1875, p. 32).

From Jebel Neba (2,643 feet) parts of Jerusalem are said to be in sight. The distance is 31 miles. It would seem there that a better view is to be gained of the Holy City from *Talât el Benât* (2,579 feet), as the distance is four miles less, and the decline of the Olivet ridge southwards admits an ampler view from the site of the *new* Pisgah, six miles south of Jebel Neba.

Moses asked (Deut. iii, 25, R.V.) to see "that goodly mountain," which (according to Poole) may mean Lebanon or Moriah or the mountainous region. If Moses meant *this mountain* of Psalm lxxviii, 54, examination may yet prove that it was from *Talât el Benât* that he beheld the desire of his eyes.

Remarks on Mr. Birch's Paper.

By COLONEL CONDER, R.E.

There is a drawing of Lot's view from near Bethel in my "Palestine" (Philip and Sons). The south end of the Dead Sea cannot be seen. The sketch was made on the spot with a view to this question.

I believe Baal Gad to have lain on the north slopes of Hermon, which seems to me to suit both Biblical and monumental notices. See *Quarterly Statement*, and ("Tell Amarna Tablets"). The probable site being *'Ain Jideideh*.

Tell el Kady is not visible from Siaghah, I believe. It was looked for through the 8-inch theodolite in 1881. *Kady* has not a letter in common with Gad, the *y* is a radical; it represents the Hebrew *Katzi*, "judge"; and is spelt with *dad* (*Tsade*) not with *daleth*. The view from *Siaghah* will be found, I believe (if the survey trigonometrical books are

examined), not to include Ijon, which, moreover, is concealed by higher ground in Galilee.

My remarks as to the view from Jebel Osh'a are from notes and sketches made on the spot. (See *Quarterly Statement*, 1882, and "Heth and Moab.")

ON THE PRESSURE OF THE ATMOSPHERE AT JERUSALEM.

By JAMES GLAISHER, F.R.S.

JERUSALEM is situated in latitude $31^{\circ} 46' 40''$ N. and longitude $35^{\circ} 13' 30''$ E., and is about 2,500 feet above the level of the Mediterranean Sea. The observations of atmospheric pressure were begun in the year 1861 by Dr. Chaplin, and continued by him till the end of the year 1881. The results of Dr. Chaplin's observations were published in the *Quarterly Statement* for January, 1883. From 1882 the observations have been under the superintendence of the Palestine Exploration Fund. They were forwarded at the end of each year to the Society, but remained unreduced for some years; recently they have been sent to me at the end of each year. The results from 1882 to 1896 have been published in the *Quarterly Statements* between July, 1893, and January, 1898. So far as I can learn, the barometer has never been moved since 1861. By extracting from these published results the highest barometer reading in each month the following table has been formed:—