IV. In the south were the chamber of wood—the chamber of the captivity—and the chamber of hewn stone. The chamber of wood—said Rabbi Eleazar the son of Jacob, "I forget for what it served." Abashaul said, "the chamber of the high priest was behind them both, and the roof of the three was even. In the chamber of the captivity was sunk the well with the wheel attached to it, and from thence water was supplied to the whole court. In the chamber of hewn stone the great sanhedrim of Israel sat, and judged the priesthood, and the priest in whom defilement was discovered clothed in black and vailed in black went out and departed; and when no defilement was found in him clothed in white and vailed in white he went in and served with his brethren the priests. And they made a feast-day because no defilement was found in the seed of Aaron the priest, and thus they said "Blessed be the place; blessed be he since no defilement is found in the seed of Aaron; and blessed be He who has chosen Aaron and his sons to stand and minister before the Lord in the house of the Holy of Holies."

OUR BEAUTY BE UPON THEE, WHOLE COURT; AND COMPLETION TO THEE, TRACT MEASUREMENTS.

NOTE.—The Committee are not responsible for the accuracy of the above translation, which is printed *verbatim* from the pamphlet presented by Captain Warren.

REMARKS ON THE CLIMATE OF JERUSALEM.*

FROM OBSERVATIONS MADE BY DR. THOMAS CHAPLIN, FOR THREE YEARS AND FOUR MONTHS, BEGINNING 1ST NOVEMBER, 1863, AND ENDING 28TH FEBRUARY, 1867.

Lat. 31° 46′ 45″ N.; Long. 35° 13′ 0″ E.; Height above the Sea, 2,500 feet. Hour of Observation, 9 a.m.

BY ALEXANDER BUCHAN, SECRETARY TO THE SCOTTISH METEOROLOGICAL SOCIETY.

WHILE on a tour through Palestine in the spring of 1863, Dr. Keith Johnston, the Society's honorary secretary, made arrangements with Dr. Thomas Chaplin for making meteorological observations at Jerusalem. The Board of Trade most cordially co-operated with the Society in the supply of instruments, and forwarded to Dr. Chaplin first two standard barometers, and then other two to replace the former ones, which had been broken, or otherwise rendered useless. All the instruments sent were verified. The thermometers have been kept in a louvre-boarded box of the pattern designed by Mr. Thomas Stevenson, C.E., and in extensive use among the Society's observers. Thus

* Reprinted by permission from the *Journal of the Scottish Meteorological Society*. A second *resumé* of Dr. Chaplin's observations for this society is in process of preparation, and has been also kindly promised for this journal.

every care was taken to procure observations of the most trustworthy description. The observations commenced in November, 1863, and have been uninterruptedly carried on since. They are made daily at 9 a.m. Abstracts of two years' observations accompany this paper, in Table I., in continuation of previous abstracts. And in Table II. are given, for each month and for the year, the means and extremes calculated on an average of the three and one-third years during which the observations have been carried on,—a space of time sufficient to furnish materials for a first and close approximation to the climate of that interesting country.

Atmospheric Pressure.

The mean annual pressure of the atmosphere, reduced to 32°·0, is 27·391 inches. There is one maximum and one minimum period in the year; the maximum occurring in January, when the mean pressure is 27·451; and the minimum in July, when it is 27·278. Thus the difference between the months of greatest and least mean pressure is 0·113 inches. At the level of the sea the difference between the months of extreme pressure would be much greater, because in summer the atmosphere is increased in volume by the higher temperature, and consequently a considerable part of it is thrust up above such elevated stations as Jerusalem (2,400 feet), thus increasing the summer pressure. Reducing the monthly averages to sea level, the annual mean pressure is 30·052 inches,—the maximum 30·211 in January, and the minimum 29·870 in July; thus giving a difference of 0·341 between the highest and lowest monthly pressures.

The highest mean pressure, reduced to 32°·0 only, of any of the forty months, was 27·507 in February 1867, and the lowest 27·267 in July 1867; or, reduced to sea-level, 30·296 and 29·860 respectively, thus giving, in the latter case, a difference of 0·436.

The highest single reading that has been observed was 27·680, and it occurred on the 13th January, 1866; and the lowest 26·914, occurring with a severe thunderstorm and heavy rainfall on the 3rd February, 1865. The difference between these extremes is 0·766. The highest reading during the two hottest months, July and August, was 27·395 in August 1865, and the lowest 27·167 in July 1865, the difference being 0·228.

The greatest monthly range occurs in February, being 0·482; in Scotland the greatest occurs also in February, but it is very much greater, being 1·557. The least monthly range occurs in July, when it is only 0·149; in Scotland in the same month it is 0·897. These figures represent very well the average state of the atmosphere in both countries—the disturbed condition of the atmosphere in the one being the accompaniment of fickle and capricious weather, while in the other the weather is comparatively constant and uniform, and the atmosphere is subject to little variation.

It will be observed that the relations between pressure and tem-

perature are very intimate. The pressure is highest during the coldest months; it thence continues to fall as the temperature rises to the lowest point in the warmest month, and then rises as the temperature falls till it again reaches the maximum in the coldest month. This points out clearly that the atmospheric pressure in Palestine is regulated principally by the annual march of the temperature of the air. The following are the mean pressures for January and July at several places in Asia, reduced only to 32°·0:—Beyrout, 29·897 and 29·535; Astrachan, 30·206 and 29·599; Barnaul, 29·816 and 29·117; Irkutsk, 28·774 and 28·187; Pekin, 30·244 and 29·470; Calcutta, 30·101 and 29·409; and Aden, 29·823 and 27·482. These low summer pressures are caused by the circumstance that the continent of Asia and eastern Europe is at this season heated to a degree much exceeding the temperature of all adjoining regions; consequently from it, as from a furnace, heated air ascends and flows over into neighbouring regions, and thus the pressure over the heated district is diminished. And as in winter the temperature of the same district is very low, the air, being condensed by the cold, settles there, or is stored up during these months, and the pressure is consequently very high. It follows that the nearer we approach the centre of this vast plain, the greater is the difference between the summer and winter pressures. It is the geographical position of Palestine, in reference to this region, with its extremes of temperature and pressure, which furnishes the key to its climate.

In Scotland, on the other hand, the maximum pressure happens in spring, when the polar current is passing over the country on its way to the south; and the pressure is depressed below the average, not during the warm months, but during the *rainy months* of the year. The two causes which bring about a diminution of atmospheric pressure are, 1st, An increase in the temperature of the air over an extensive region, so as to raise it considerably over that of surrounding districts; 2nd, Or an increase in the rainfall over an extensive space of the earth's surface; so that, by the heat disengaged from the vapour when condensed into rain, the temperature of the atmosphere is raised, and the pressure is still further diminished by the quantity of vapour present in the atmosphere. When both causes conspire, that is, when the highest temperature and the greatest rainfall occur in the same months, as in Hindostan and China, the difference between the summer and winter pressure is very great.

On the other hand, the rainfall in Palestine occurs during the winter months, or during the months of greatest pressure. It must not, however, be inferred from this coincidence that the height of the barometer is not influenced by the rainfall, the contrary being the case. I have carefully compared the rainfall during the forty months with the state of the barometer at the time, and find that the barometer fell before or during the rain in every case, except one or two, when the fall of rain happened to be slight. Not only so, but for some time at the com-

mencement and at the end of the dry season, when no rain falls, and the sky is seldom for any length of time perfectly free of clouds, it frequently occurs that the barometer falls more or less, when thundery-looking but rainless clouds appear, when cumulus clouds sail slowly past, and even when the delicate cirrus is pencilled on the deep blue sky. But during the rainless months, when no cloud is seen for many weeks, the variations of the barometer fall to a minimum.

In this country a fall of the barometer to the extent of two or three tenths of an inch below the average, does not necessarily imply any change of weather; but in Palestine a fall of two-tenths of an inch portends a storm of wind and rain, or a thunderstorm of some magnitude.

Temperature.

The mean annual temperature at Jerusalem is 63°·4. Hence, if 1°·0 be allowed for every 300 feet in elevation, the mean temperature near the level of the sea would be about 71°·7, which is about 1°·7 higher than is laid down in Dove's chart of the isothermals of the globe; but since the lines in that part of the earth are laid down from very meagre data, they probably require some slight alteration.

The highest mean monthly temperature is 76°·2 in August, and the lowest 47°·2 in January, which gives a difference of 29°·0 between the hottest month and the coldest month. The temperature of February is nearly as low as that of January; and that of July nearly as high as August. The temperature of March is 58°·4, and April, 59°·8, both months having thus nearly the same temperature; September 72°·2, and October 71°·8, are also nearly alike. Also, the temperature of December, 49°·9, comes near that of January and February, the two coldest months; and the temperature of June, 73°·0, near that of the two warmest months which follow. The great annual increase in the temperature takes place from February to March, 48°·8 to 54°·4; and from April to May, 59°·8 to 67°·8. And the great annual fall of the temperature from October to November, 71°·8 to 61°·0; and November to December, 61°·0 to 49°·9.

This singular distribution of the temperature through the months of the year, so different from what is observed in Great Britain, will no doubt be somewhat modified when the average is made for a greater number of years; but as in each successive year this remarkable partition of the temperature has been pretty constantly maintained, the presumption is, that any such modification will be slight.

The increase from February to March is chiefly brought about by the higher temperature of the day. Thus, while the temperature of the night only increases from 42°·3 to 49°·4, or 7°·2, that of the days increases from 55°·4 to 67°·5, or 12°·1. This increase is therefore caused by the greater strength of the sun's rays, which is still further increased by the gradual cessation of the rainfall, and the consequent clearing of the sky from clouds.

In May, when the sky may be considered as now cleared of clouds altogether, the next great increase of temperature takes place, which, as in the previous case, is mostly caused by the greater heat of the days: for the mean of the nights increases from 50°·0 to 56°·5, or 6°·5, whereas the mean of the days increases from 69°·6 to 79°·2, or 9°·4.

As compared with the three winter months, the wind in March, April, and May blows less frequently from the S.W. and W., and more frequently from N.W., N., N.E., and E. points of the compass, arising from the general flow southwards of the air which accumulates during the winter months in Central Asia and the Arctic regions. Thus, as in Great Britain, the prevalence of the dry polar current clears away the rain and clouds, and ushers in clear weather, strong sun-heat, and a rapidly augmenting temperature.

In the month of August there are three points of interest which are suggested by the figures in Table II.,—viz., the temperature is at the maximum, the atmospheric pressure on the continent of Asia and in eastern Europe is at the minimum, and the winds in Palestine are almost wholly from the N.W. (23 out of 31 days). Suppose a storm, with the usual barometric depression, to overspread Asia, then the wind in Palestine, in reference to this storm, would be N.W., if it corresponded with the direction of the wind in every storm I have hitherto examined. Now, observations prove that at this time atmospheric pressure is low over Asia, and much lower in the interior than in Palestine and Europe. May it not then be inferred that the N.W. wind of Palestine is the result of the low barometer in Asia, as the wind flows round and in upon that region of low pressure in a spirally in-moving course? However this may be, it is certain that the continued predominance of north-westerly and northerly winds in Palestine during the summer months is a principal cause of the rainless character of those months, since they must be well drained of their moisture in passing over the mountains of Asia Minor, and be still further dried in travelling southwards into warmer regions.

The high temperature of October is a marked feature of the climate of Jerusalem. This high temperature appears to be due to the prevailing winds. As already stated, the winds in summer are chiefly N.W. and N.; but in the winter months the S.W. and W. prevail to a very considerable extent. The change (see Table II.) occurs during October and November, and takes place through the E. and S.E. points of the compass. Thus during these months the winds arrive in Palestine from Arabia, and as they bring with them the higher temperature of that region, they may be considered as prolonging the summer of Palestine into October.

Since in winter atmospheric pressure is high in Asia, the winds in Palestine are not affected by it; consequently, the N.W. wind does not preponderate, and the S.W. frequently prevails. In other words, as there is no cause during winter to divert the winds from their normal course, the equatorial current, as well as the polar current, has free scope to run its course over Palestine.

The highest mean temperature of any of the forty months was 77°·0 in July 1866, and the lowest 42°·8 in January 1864, thus giving a difference of 34°·2 between the temperatures of the two extreme months. The mean monthly temperature of 42°·8 was exceptionally low; but the high mean temperature of 77°·0 has been nearly reached repeatedly during the summer months.

Extreme Temperatures.—The highest temperature recorded was 102°·5, on 27th June, 1865, and the lowest 25°·0, on 20th January, 1864, the difference being 77°·5.

High Temperatures.—On the 27th June, when the temperature in shade rose to 102°·5, the lowest during the night only fell to 76°·8, thus giving a mean temperature for the day of 89°·6. On the same day, at 9 a.m., the dry-bulb was 90°·1, and the wet 64°·0; hence, by calculation, the dew-point was 47°·8, and the humidity of the air 22, saturation being 100. This high temperature, therefore, occurred along with an excessive dryness of the atmosphere, when the amount of vapour being small, the sun's rays were little obstructed in their course. The wind was N.W., and a haze was spread round the horizon. On the 19th of the same month, the temperature rose to 101°·0, when the air was nearly as dry, a haze was in the horizon, and the wind N., but so light as to be regarded as a calm. Dr. Chaplin remarks that this great heat began at midnight, and the weather continued intolerably hot and oppressive all day; but a pleasant breeze from the N. sprung up in the afternoon.

A remarkable period of hot weather occurred from the 7th to the 24th October, 1865. What renders this period noteworthy is that, at the same time, *cholera prevailed very badly.* During the whole 18 days, the sky was cloudless, but overspread with thin haze; the wind was from the N.W., N., and E., but so light, except on the 15th and 16th, when it blew a light air from the E., as to be considered a calm. The highest temperature was 94°·0, and on 11 days it rose to at least 90°·0. During the period the mean of the maximum temperatures was 89°·1, and of the minimum temperatures 65°·8, thus giving a mean temperature for the 18 days of 77°·4, or a little higher than the temperature of the warmest month recorded. This high temperature, and calm, close, hazy atmosphere had, no doubt, some influence in promoting the spread of cholera at the time.

Another period of warm weather occurred from the 27th May to the 2nd June, 1866. This period is also remarkable for the plague of locusts which infested the country at the time, and "ate up everything green." During the week it lasted, the temperature rose, on the 29th, to 96°·0; the mean of the highest day temperatures was 90°·2, and of the lowest night temperatures 61°·6, thus giving a mean temperature of 75°·9, and an enormous daily range of 28°·6. The air during the first six days was excessively dry; the mean of the dry-bulb being 84°·3, and of the wet 61°·4, it follows that the mean dew-point was 46°·3, and the mean humidity 26. The wind was N.W. and light. A change took

place on the 1st June, when the wind shifted to S.W., still continuing light; three-fourths of the sky was covered with cirro-stratus clouds, and the air became close and oppressive. On the following morning, the 2nd, the barometer had fallen from 27·305 to 27·148, an unusual fall at this season; and the wind again shifted back to N.W., and blew with the strength of a gale (5 on the scale 0 to 6). At the same time the dew-point rose to 57°·0, and the humidity to 56; and during the day the temperature rose only to 74°·4; on the previous day it had risen to 91°·2.

Low Temperatures.—The coldest period occurred from the 16th January to the 5th February, 1864, and was the only time when the temperature fell so low as to *freeze* the ground, and cover pools of water and ponds with *ice*. On the 17th, ice appeared on the garden path; on the 18th and 19th the water in the cup of the hygrometer was frozen, and ice a quarter-inch thick was formed; on the 20th, the temperature fell to 25°·0, and on the following morning the ice was one inch thick; and on the 22nd, the ice remained all day. Ice was observed again on the 29th and 30th, and on the 3rd, 4th, and 5th February, after which the temperature rose.

On the 20th January, the temperature during the day did not rise above 37°·0, and the mean temperature of the day was only 31°·0. The dry-bulb was 32°·0, the wet 27°·2; and hence the dew-point was only 16°·1, and the humidity 45. During the three cold days of February (the 3rd, 4th, and 5th), the mean of the dry-bulb was 43°·2, of the wet 34°·3; and hence the dew-point was 23°·7, and the humidity 45. The wind was E. and N.E., the air nearly calm, and the sky clear. Thus the periods of greatest cold, as well as the times of greatest heat, were accompanied with a dry, calm atmosphere, which thus allowed free scope to the escape of heat from the earth by terrestrial radiation. During the winter of 1865, the temperature occasionally fell to 38°·0 and 39°·0 from the 13th January to the 3rd March, the lowest during the whole winter being 36°·0 on the 26th February. On that day the dew-point was 32°·6, the lowest for the season, during which no frost or ice appeared. In the winter of 1865-6, ice was found outside the city on the 14th December, 1865, when the temperature fell to 36°·8. From this date to the 2nd February, 1866, the temperature occasionally fell to from 37°·0 to 39°·0, and on New Year's Day to 35°·0, the lowest during the season. On the 20th February it fell to 37°·0; but, except on the 14th December, no frost occurred, and no ice was formed in the city during the winter. In the winter of 1866-7 the temperature fell occasionally from 37°·0 to 39°·0 from the 7th January to 26th February. The lowest temperature during the time was 35°·8 on the 8th January; on the previous morning the temperature was 37°·0; and hail fell during the night, and "perhaps" snow. Neither frost nor ice was observed this winter.

Range of Temperature.—The annual mean daily range of the temperature is 18°·7; the least is about 12°·5, in January and December; and the greatest about 22°·5, from May to October inclusive, that is,

during the dry season. The least in any month was 10°·9, in January 1866, which was also the month when the mean humidity was greatest, being 80. The greatest range was 24°·6, during October 1865. This is the month in which, as already remarked, cholera prevailed, and the meteorological elements were in a very abnormal condition. The nearest approach to this great range was 23°·6 in May 1866, and 23°·5 in August 1864. In these two months the humidity was at the monthly minimum, 39.

The Moisture of the Atmosphere.

To the cases of excessive drought already referred to, may be added other two. On the 2nd of April, 1864, the dry-bulb read 81°·0, the wet 56°·0; hence the dew-point was 39°·0, and the humidity 23. On the 29th May, 1864, at 2 p.m., the dry-bulb was 102°·2, the wet 70°·0; and hence the dew-point was 52°·0, and the humidity about 14. At 9 a.m. on the same day, the temperature of the air was 86°·7, of the dew-point 50°·7, and the humidity 29. Of the drying qualities of this desiccated atmosphere we, in this moist British climate, can form little conception.

On the other hand, during the rainy season, the air is sometimes surcharged with moisture to a degree which is not exceeded even in Ireland, or the west coast of Great Britain. Thus, on the 14th February, 1864, the dry-bulb was 50°·0, the wet 50°·0, and humidity therefore 100. On this occasion Dr. Chaplin remarks that "stones, furniture, and everything were damp." The range of temperature for the day was only 3°·5, and a good deal of rain fell. From the 13th the barometer fell on successive days as follows: 27·522, 27·422, 27·302, and to 27·112 on the 16th.

From the column of the elastic force of vapour, it is seen that there is most vapour dissolved in the atmosphere in July and the other summer months; but, owing to the high temperature as regards the quantity of vapour, it is not available for vegetation, except during night in the form of dew. The column of humidity shows, that during these months the fall of rain is impossible, the point of saturation being so far below that of the temperature; but during winter the humidity rises to an average of 72, and on particular days to 90, or even 100, when rain falls in copious abundance.

The Rainfall.

As regards the rainfall, the climate of Palestine is divided into a wet season and a dry season. The dry season includes the months of May, June, July, August, and September, during which no rain falls; or if any falls in the beginning or end of this period, it is only a few drops that cannot be measured with the gauge. The latter half of April, and the first half of October, may also be included in the dry season.

To the inhabitants of the country, rain is the most important element of the weather, inasmuch as the productiveness of the harvest is altogether dependent on the amount of the rain and the times of the year

when it falls. It accordingly held a prominent place among the promises made to Israel. In Deut. xi. 13, 14, they are promised that if they would love the Lord their God, and serve Him with all their heart and with all their soul, that He would give them the rain of the land in its due season, the first rain and the latter rain, that they might gather in their corn, and their wine, and their oil.

The time of the "first," "former," or "early" rain, so often referred to in Scripture, was usually some time in October, the seed-time of the year in Palestine. Its value, agriculturally, was therefore very great, since, owing to the parched state of the soil on which no rain had fallen for five months, the springing of the seed could not take place till rain fell.

The time of the "latter" rain was the latter half of March and the first half of April, or just before the maturing and ripening of the grain. In November, when all the seed is put into the soil, the mean temperature is still 61°·0; hence, with genial rains and this high temperature, which is higher than we in Scotland enjoy even in the warmest summer months, except on rare occasions, the grain springs luxuriantly. For the next three months the temperature is only as high as it is in this country from the middle of April to the middle of May,—that is, it is only sufficient for the growth of the plants, but quite inadequate for their flowering and ripening; and the same remark is applicable to the low plains of Palestine, except perhaps the plains of Jericho, which are below the level of the sea. Hence, if no rain falls after February, or if the latter rain fails, the crops are scorched up before flowering, and, producing nothing but straw and chaff, famine is the terrible consequence. But if frequent showers accompany the increasing heat in March and April, they attain their full maturity; and as they are gathered in after the dry season has commenced, the grain is stored past in the finest condition possible.

Rainy Season of 1863-4.—As the observations began in November 1863, we cannot go further back than the 1st of the month. In this month rain fell only on two days, 0·3 inch falling on the 10th; the rains began only on the 11th December, slight showers only having fallen previously. Rain fell copiously from the 3rd to the 5th March, and frequent showers, occasionally heavy, from the 13th to the 26th April, after which only a few drops fell. Amount of rain, 8·84 inches.

Rainy Season of 1864-5.—On 8th September 0·08 inch of rain fell; in October only a few drops; and the rainy season began on the 19th November, rain falling in torrents (2·28 inches) on the 25th and 26th. At the end of the first week in March, in the middle of April, and in the first week of May, seasonable showers fell. Amount of rainfall, 14·80. *Rainy Season of* 1865-6.—No rain fell, except a few drops, till 14th November, from which to the 23rd December genial but not heavy rains fell at intervals. From the latter date to the 12th January, 8·65 inches fell. Copious showers fell on the 1st and 2nd, and from the 16th to the 19th March; and refreshing showers on the 3rd and 4th, and 20th and 21st April. After this date the rain ceased. Total amount,

17·87 inches. *Rainy Season of* 1866-7 *to end of February.*—After a slight shower on the 4th October, the rainy season began on the 20th of that month, on which, and four following days, 1·51 inch fell. For the next eleven weeks moderate showers fell frequently; but from the 6th January to the end of February the fall of rain was excessive. Amount of rain 20·62 inches, of which 14¾ inches fell in the last seven weeks.

During the rainy season, from 1 to 1½ inches of rain not unfrequently fall in a day; but sometimes these large amounts are greatly exceeded. The largest fall on any day during the period over which the observations extend was 3·175 inches, on the 26th January, 1867. Also on the four days from the 7th to the 10th of the same month, 5·25 inches fell. It was probably in such great rains as these that the people of Israel sat trembling in the street of the house of God when Ezra stood up and rebuked them for their trespasses (Ezra x. 9). If it be remembered that this took place about the beginning of December, when the weather often resembles a cold blustering day of March, the scene, with the pathetic appeal of the people to be allowed to return to their houses, will be better appreciated.

After heavy rains, Bier Eyub, the well of En Rogel of Scripture, flows over in a copious stream to the Kedron. This happened on the following occasions: 9th January, 1864; 8th January, 1866; 9th and 26th January and 26th February, 1867,—five times in all.

All the instances of the rainfall have been carefully compared with the direction of the wind at the time. The result shows, with scarcely an exception, that rain falls uniformly with W. and S.W. winds. When the rain has cleared away, the wind has at the same time shifted to the N.W., N., or N.E., and the air becomes drier, which, by increasing evaporation, chills still further these chilling winds of the winter months; and hence the appropriateness of the proverb: "The north wind driveth away rain; so doth an angry countenance a backbiting tongue" (Prov. xxv. 23).

Hail fell on four occasions, viz.—15th April and 16th December, 1865, and 7th January and 9th February, 1867.

Thunderstorms occurred on 3rd February, 14th and 15th April, 3rd and 8th May, 1st and 3rd November, and 24th December, 1865; 11th April and 10th November, 1866; and 9th February, 1867,—in all eleven thunderstorms. On the last occasion 1·30 inch of rain (and melted hail) fell, the wind blew with the violence of a hurricane, and the barometer fell from 27·564 to 27·327, about the largest fall in twenty-four hours that occurred during the period of observation.

The *Sirocco* occurred twice. On the 20th March, 1864, it advanced from the south, and prevailed all night till the morning of the 21st; maximum temperature, 78°·2; minimum, 58°·6; mean, 68°·4; dew-point, 40°·6; and humidity, 32. A sirocco from the south-east, characterised by Dr. Chaplin as very bad, occurred on the 1st October, 1864, when the temperature rose to 94°·1; the dew-point at 9 a.m. being 49°·8, and the humidity 27. It was succeeded by a slight shower.

ABSTRACT OF METEOROLOGICAL OBSERVATIONS made at JERUSALEM, in Syria, from 1st March, 1865, to 28th February, 1867; and MONTHLY AVERAGES and EXTREMES on a Mean of three years and four months, ending 28th February, 1867. Observations made by Dr. THOMAS CHAPLIN. Lat. 31° 46′ 45″ N.; long. 35° 13′ 0″ E. Height above the sea, 2,500 feet.

TABLE I.—Monthly MEANS and EXTREMES from March 1865, to February 1867.

Months.	BAROMETER.			SELF-REGISTERING THERMOMETERS. In AIR, AND PROTECTED.							HYGROMETER.		DEDUCTIONS. Glaisher's Tables, 2nd Edition.			WINDS. Number of Days it blew in certain Directions.									RAIN.	
	Mean at Station corrected, and at 32°.	Mean reduced to 32°, and Sea level.	Monthly Range.	Highest in Month.	Lowest in Month.	Monthly Range.	Mean of all the Highest.	Mean of all the Lowest.	Mean Daily Range.	Mean Temperature.	Dry Bulb.	Wet Bulb.	Dew-point.	Elastic Force of Vapour.	Humidity, Sat. = 100.	N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.	Calm or Variable.	Mean Pressure on square foot.	Number of Days it fell.	Amount.
1865	In.	In.	In.	Deg.	Deg.	Deg	Deg.	Deg.	Deg.	Deg.	Deg.	Deg.	Deg.	In.											lbs.	Days	In.
March	27·393	30·101	0·228	88·0	39·0	49·0	68·9	50·1	18·8	59·5	61·6	52·6	45·1	·297	55	1	3	6	3	4	3	3	8	0	0·55	5	0·40
April	27·412	30·121	0·262	83·0	42·0	41·0	69·1	48·7	20·4	58·9	62·3	52·3	43·8	·284	50	1	2	4	4	1	3	1	13	0	0·64	2	0·72
May	27·353	30·041	0·344	89·8	43·5	46·3	76·3	55·0	21·3	65·6	69·4	56·0	45·7	·306	43	3	4	2	0	1	7	6	8	0	0·45	3	0·35
June	27.466	30·075	0·261	102·5	56·5	46·0	86·3	63·7	22·6	75·0	79·3	63·1	52·0	·388	39	3	2	2	3	1	3	6	10	0	0·72	0	0·00
July	27·289	29·914	0·150	92·0	57·5	34·5	85·2	63·6	21·6	74·4	79·0	70·0	63·8	·592	59	1	2	0	1	1	4	7	15	0	0·37	0	0·00
August	27·277	29·900	0·187	92·4	61·0	31·4	87·6	65·7	21·9	76·6	79·4	64·8	54·8	·430	42	1	1	0	0	1	2	8	18	0	0·40	0	0·00
Sept.	27·388	30 049	0·227	91·0	54·0	37·0	80·4	59·3	21·1	69·8	70·8	62·4	56·4	·449	59	8	0	0	1	0	0	8	12	0	0·25	0	0·00
October	27·486	30·126	0·248	94·0	54·9	39·1	84·6	60·0	24·6	72·3	75·6	62·6	53·7	·408	46	10	2	3	0	0	0	2	14	0	0·02	0	0·00
Nov.	27·435	30·138	0·208	89·0	46·2	42·8	68·0	52·7	15·3	60·4	60·8	54·9	49·8	·357	67	1	7	6	1	0	2	4	9	0	0·34	11	1·48
Dec.	27·444	30·217	0·306	66·1	36·8	29·3	56·0	42·2	13·8	49·1	49·1	44·1	38·7	·236	67	3	10	3	0	0	5	3	7	0	0·14	11	5·15
1866																											
Jan.	27·435	30·234	0·548	58·2	35·0	23·2	51·2	40·3	10·9	45·8	45·8	43·0	39·8	·246	80	2	6	3	1	4	9	2	4	0	0·49	14	4·78
Feb.	27·437	30·212	0·454	65·0	37·0	28·0	56·2	43·1	13·1	49·6	51·1	47·0	42·7	·276	74	0	5	4	2	2	2	6	7	0	0·81	9	3·02
March	27·400	30·126	0·344	78·6	36·0	42·6	64·4	48·1	16·3	56·2	58·2	51·1	44·7	·296	61	2	5	3	0	0	3	4	14	0	1·49	9	3·17
April	27·357	30·060	0·288	81·9	43·0	38·9	70·2	51·0	19·2	60·6	64·2	54·0	45·6	·305	50	5	2	3	3	2	8	3	4	0	0·59	4	0·27
May	27·374	30·026	0·160	96·0	49·0	47·0	81·5	57·9	23·6	69·7	75·2	59·4	48·2	·332	39	3	5	1	4	1	1	3	13	0	0·61	0	0·00
June	27·317	29·969	0·275	91·2	54·2	37·0	80·4	59·6	20·8	70·0	73·8	62·0	53·4	·410	49	2	0	0	2	0	8	3	15	0	1·32	3	0·00
July	27·267	29·860	0·176	95·3	59·8	35·5	88·4	65·6	22·8	77·0	81·3	65·9	55·3	·440	40	1	0	0	1	0	1	5	23	0	0·66	0	0·00
August	27·281	29·899	0·102	95·2	61·3	33·9	87·2	64·9	22·3	76·0	79·4	65·5	56·0	·449	44	1	0	0	0	1	2	2	25	0	0·53	0	0·00
Sept.	27·351	29·982	0·176	100·0	59·8	40·2	85·8	62·7	23·1	74·2	76·7	65·0	56·8	·462	50	7	0	0	1	0	1	1	20	0	0·14	0	0·00
October	27·437	30·100	0·190	92·8	46·8	46·0	77·4	58·7	18·7	68·0	70·5	59·1	50·3	·366	49	1	3	10	2	1	8	1	5	0	0·34	5	1·57
Nov.	27·427	30·158	0·326	84·0	30·0	45·0	64·2	49·1	15·1	56·6	57·4	50·5	44·2	·290	61	0	5	10	1	0	6	2	6	0	0·61	8	1·66
Dec.	27·468	30·230	0·285	71·2	40 5	30·7	57·5	44·9	12·6	51·2	51·4	44·5	37·4	·224	59	0	4	4	3	1	11	2	6	0	0·37	13	2·51
1867																											
Jan.	27·466	30·244	0·420	65·1	35·8	29·3	55·5	41·3	13·7	48·6	50·1	45·3	40·2	·253	69	1	9	6	1	1	9	1	3	0	0·53	11	9·02
Feb.	27·507	30·296	0·330	60·5	36·5	24·0	52·7	40·7	12·0	46·7	47·9	44·0	39·7	·244	74	1	4	0	1	2	2	8	4	0	1·56	12	5·86

TABLE II.—Monthly MEANS and EXTREMES on a mean of Three Years and Four Months, ending February 1867.

Months.	BAROMETER.			SELF-REGISTERING THERMOMETERS. IN AIR, AND PROTECTED.							HYGROMETER.		DEDUCTIONS, Glaisher's Tables, 2nd Edition.			WINDS.										RAIN.	
	Mean at Station corrected, and at 32°.	Mean reduced to 32°, and Sea level.	Monthly Range.	Highest in Month.	Lowest in Month.	Monthly Range.	Mean of all the Highest.	Mean of all the Lowest.	Mean Daily Range.	Mean Temperature.	Dry Bulb.	Wet Bulb.	Dew-point.	Elastic Force of Vapour.	Humidity, Sat.=100.	Number of Days it blew in certain Directions									Mean Pressure on square foot.	Number of Days it fell.	Amount.
																N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.	Calm or Variable.			
	In.	In.	In.	Deg.	Deg.	Deg.	Deg.	Deg.	Deg.	Deg.	Deg.	Deg.	Deg.	In.											lbs.	Days	In.
Jan.	27·451	30·211	0·420	71·1	25·0	46·1	53·4	40·9	12·5	47·2	47·2	43·2	38·7	·235	73	1	6	6	1	2	8	4	3	0	0·59	10	5·18
Feb.	27·426	30·177	0·482	69·5	30·9	38·6	55·4	42·3	13·1	48·8	49·6	45·3	40·7	·255	72	1	3	5	1	2	4	6	6	0	0·89	8	3·57
March	27·401	30·095	0·289	88·0	36·0	52·0	67·5	49·4	18·1	58·4	60·5	52·1	44·8	·298	56	2	4	7	2	2	3	4	7	0	0·88	6	1·53
April	27·359	30·045	0·321	85·6	42·0	43·6	69·6	50·0	19·6	59·8	62·6	52·8	44·5	·292	51	2	1	3	4	2	6	4	7	0	0·67	4	0·86
May	27·398	30·036	0·258	100·0	43·5	56·5	79·2	56·5	22·7	67·8	70·7	57·7	47·8	·333	45	3	3	3	4	1	3	6	8	0	0·76	1	0·12
June	27·370	29·970	0·257	102·5	54·2	48·3	83·0	63·0	20·0	73·0	75·9	62·8	53·5	·411	47	3	1	2	2	0	4	8	10	0	1·40	1	0·00
July	27·278	29·870	0·149	95·3	57·1	38·2	86·0	63·6	22·4	74·8	78·9	67·5	59·7	·512	52	2	1	0	1	0	2	8	18	0	0·70	0	0·00
August	27·286	29·874	0·184	101·0	56·8	44·2	87·5	65·0	22·5	76·2	79·4	64·6	54·5	·425	42	1	0	1	0	1	1	4	23	0	0·59	0	0·00
Sept.	27·374	29·987	0·210	100·0	54·0	46·0	83·6	60·9	22·7	72·2	73·9	63·7	56·2	·456	54	8	1	0	1	0	1	6	13	0	0·53	0	0·00
Oct.	27·459	30·065	0·196	94·9	46·8	48·1	83·1	60·6	22·5	71·8	73·8	60·7	51·1	·376	46	5	3	7	3	0	3	1	9	0	0·35	3	0·52
Nov.	27·448	30·126	0·276	89·0	39·0	50·0	63·9	53·1	15·8	61·0	61·1	53·6	47·1	·324	60	1	6	10	2	0	3	4	4	0	0·52	6	1·50
Dec.	27·443	30·176	0·351	71·2	35·1	36·1	56·2	43·5	12·7	49·9	50·9	46·4	41·7	·265	72	1	4	5	2	1	8	4	6	0	0·58	11	3·00
	27·391	30·052	0·283	102·5	25·0	77·5	72·8	54·1	18·7	63·4	65·4	55·9	48·1	·336	53	30	33	49	23	11	46	59	114	0	0·70	50	16·28