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des Königsberger Theosophen Johann Heinrich Schönherr. Grundzüge der Erkenntniss der Wahrheit, Leipzig, 1852. *Die Philosophie der heiligen Urkunde des Christenthums*, Stuttgart, 1854-1856. *Compas de route pour les amis de la vérité dans un temps de confusion des idées offert par des amis de la vérité*, Königsberg, 1859.

Works in vindication of Ebel besides the exhaustive and unanswerable *Aufklärung* by Count Kanitz, are two condensed statements of the large work, and *Ein Mahnwort zu Gunsten der Nachwelt an die historische Literatur der Gegenwart*, by the same author. *Ein Blick auf die einstige Stellung der Oberpräsidenten Auerswald und Schön*, etc., by E. E. von Bardeleben, Stuttgart, 1844. *Die Liebe zur Wahrheit*, by Ida, Countess von der Gröben, Stuttgart, 1850. *Die religiöse Bewegung zu Königsberg*, etc., by E. von Halnenfeld, Braunsberg, 1858.

ARTICLE IV.

MOUNT LEBANON.

BY REV. T. LAURIE, D.D., FORMERLY MISSIONARY THERE.

(Continued from page 471).

THE GEOLOGY OF LEBANON.

THIS has never been thoroughly explored. Dr. Henry J. Anderson, who was with Lieut. Lynch in his expedition to the Dead Sea, is the only writer on this subject, and his examination of the mountain was only partial. He commences his "Geological reconnoissance of part of the Holy Land" as follows:

"To the geologist Syria appears as a much disturbed, mountainous mass of secondary and later limestones with basaltic and tertiary interruptions. The calcareous deposits form the basis and body of the work. The Plutonic rocks are subsequent intrusions. Still later embankments of looser texture have lodged themselves irregularly in the cavities of

the re-excavated surface, and these again have been swept away by denuding processes of the order of our time.”¹

On the same page he says: “There must have been a time when the summits of Libanus and Hermon, with all the vast calcarean block from which they have been cut, lay at least ten thousand feet below their present level, under the waters of the Great Jurassic ocean. Since the epoch of the early Jurassic limestone the orographical relief of the whole land has been repeatedly obliterated and reformed. Long before the deposit of the chalk the land has been excavated or broken up by the prevailing agencies of the time into hills and valleys of the same order of dimensions as those which give its surface its present configuration. In this respect, as well as in the palaeontological character of its formations, the resemblance between the Syrian and the neo-Alpine geology is continually noticeable. The mountains may now be a few feet higher or lower than they were; the valleys and ravines may be engraved a little deeper, or cut back a little farther; the rivers may have gained or lost a few inches of mean depth; but the main landmarks and the great lines of Aram and Canaan are still there, and the last deposit of the chalk, so immeasurably old at the birth of its successor, seems scarcely older now for all the centuries that have elapsed.”²

“The mass of the main Libanus is a limestone much older than the calcareous accumulations upon its flanks; and these must have preceded by a very long interval the sandstones which occupy the lateral excavations, and are seldom found interstratified with the contiguous rocks. A careful examination of the strikes of the sub-Libanine chalk makes it almost impossible to admit the usual hypothesis of an elevatory movement along the axis of the chain, rupturing and rising above the superincumbent beds. The phenomena indicate rather the gradual emergence of a submarine mountainous

¹ Official Report of the United States Expedition to explore the Dead Sea and the River Jordan, by Lieut. W. F. Lynch, U. S. N. (Baltimore, 1852), p. 79.

² *Ibid.* pp. 80, 81, 82.

district from the deep waters of a cretaceous sea, the bearings of the chalky deposits being determined by the pre-existing slopes on which the sediments have been quietly deposited.”¹

The main body of Lebanon and Anti-Lebanon is Jura limestone, hard, partially crystalized, and containing few fossils. Over this are more recent deposits of all degrees of hardness, and of different colors, sometimes a reddish brown, sometimes grey of different shades, and again pure white. It is also of all degrees of consistency, from the loose conglomerate of broken shells on the shore to the solid interior mass of the mountain. The surface limestone abounds with fossils in many places, and some are distinguished by fossils peculiar to their vicinity. Thus Hakil, three hours east of Jebail, and the rocks near the convent of Bkerky above the bay of Juneh, are noted for their beautiful specimens of Ichthyolites. So perfect are these that the writer once detected a Yankee knife trying an unusually perfect specimen to see if it was not manufactured; the inquirer was satisfied, but the Ichthyolite was sadly defaced. The Jurassic fossils of Syria are chiefly casts. Among these are Echinodermata, such as *Echinus Syriacus*, *Holaster Syriacus*, and many spines of *Cidaris*, which the people regard as petrified olives. The Testacean bivalves are represented by several varieties of *Ostraea*, *Nucula*, *Trigonia*, *Astarte*, *Arca*, *Cardium*, *Mactra*, *Venus*, *Lucina*, and *Tellina*, with an *Exogyra*, *Pecten Isocardia*, *Corbula*, *Pholadomya*, *Cytherea*, and *Orbicula*, and Testacean Univalves by several varieties of *Chenopus*, *Natica*, *Turritella*, *Nerinea*, and *Ammonites*. Some of these last are very large, and susceptible of a fine polish, which brings out the beautiful structure of the shell very finely. Some of the Strombi also are very large, and so are some of the Hippurites. Fine specimens of *Nerinea* may be picked up in the road as one goes up through the lower Ghurb to Abeih; and Bhamdûn is noted for the variety and abundance of its petri-

¹ Official Report of the United States Expedition, etc. p. 84.

factions.¹ Very fine geodes of quartz, chalcedony, and other crystals occur at Baabda and at Jezzín, and differ from those on Mount Carmel, called by the natives "petrified melons," in being jagged and deeply pitted on the external surface. Lebanon has made many valuable contributions to our geological cabinets, and is capable of making many more.

Broad sandstone strata run along the western slopes of Lebanon, and are readily distinguished by the more rounded form of the surface, and the dark growth of the pine (*Pinus Halepensis*) that finds its favorite soil in that formation, contrasting finely with the bright green of the ilex on the sharper ledges of the limestone. This sandstone is largely impregnated with iron, alumina, and lime. Some strata yield ninety per cent of iron ore. The colors are as various as those of the "bunter sandstein," red and yellow predominating, with all the intermediate shades of orange, and occasionally with patches of green.²

There is a sand in the plain of Beirût that is thrown up as a basis for the cactus hedges that line the roads, and is so impregnated with lime that it stands at a very acute angle, and retains its smooth surface for a long time after it has been smoothed by the spade.

The limestone strata dip at all angles in all directions, and in some places are almost perpendicular. Trap dykes intrude here and there, and greatly distort and displace them.

Dr. W. M. Thomson³ explains the scarcity of water in the Kesrawan, by the fact that for more than twenty miles the strata near the sea dip towards it at all angles from 90° downwards, thus carrying the springs so deep that they can find an exit only where the strata terminate under the sea. These strata are a striking peculiarity of lower Lebanon. They are frequently one thousand feet in perpen-

¹ These fossils are accurately figured in the plates of Lieut. Lynch's Official Report.

² Lynch's Official Report of the United States Expedition, p. 88; see also his "Narrative" (Philadelphia, 1849), p. 505.

³ Bibliotheca Sacra (1848), Vol. v. p. 4.

dicular height, and much more than that in thickness, and always indicate a scarcity of water.

Along the shore south of Jebail indurated white marl alternates with a fossiliferous limestone, sometimes interlaced so regularly with seams of dark chert as to seem like the layers of brick and mortar in a wall.¹ North of Nahr Ibrahim the surface along the shore is covered with black sand and pebbles, often cemented into a conglomerate. Here also is an old coast line, marked by a thick conglomerate of sand and recent shells, overlying the limestone unconformably, about twenty-five feet above the sea.

Ras esh-Shukâh is composed of chalky marl easily disintegrated;² but east of Arca this marl and the limestone are tilted up in all directions by dykes of trap, which, sometimes driven up from beneath like a wedge, have burst and broken the superincumbent strata. Many villages here are built of basalt, and the soil is unusually fertile and verdant, even in very dry seasons.³

Volcanic rocks are found in abundance around the base of Hermon, especially on the southeast, toward the basaltic plains of the Hauran. From the earliest ages earthquakes have been frequent and destructive in Lebanon. Dr. W. M. Thomson gives a thrilling account of the sufferings thus occasioned in 1837, when the shocks were felt from Beirût to Nazareth, but were most destructive at Safed, where six thousand perished out of a population of ten thousand.⁴

Ibrahim Pasha opened a coal mine near Cornayil in the Metn, but the veins were thin, and the coal of so poor a quality that it has since been abandoned.⁵ Iron is smelted in several places, but only two are worthy of notice; one an hour from Akura, and the other near Shiweir.⁶ Three miles west of Hasbeiya are wells of bitumen, one of them a hundred and sixteen feet deep. The stratum of bitumen varies from five to fifteen feet in thickness, and the quality also

¹ *Bibliotheca Sacra* (1848), Vol. v. p. 6. ² *Ibid.* (1848), Vol. v. p. 9.

³ *Ibid.* (1848), Vol. v. p. 17.

⁴ *Missionary Herald*, 1847, pp. 443-440.

⁵ Col. Churchill's *Lebanon*, i. p. 29.

⁶ *Ibid.* i. p. 94.

varies from a brown earthy, unctuous mass, to a pure black jet. The wells, though they have been wrought from remote ages, still yield an abundant supply.¹

The rock of Lebanon is sometimes worn into the most picturesque forms. Rev. J. L. Porter² describes this near the head of Nahr el-Kelb, where many lateral ravines come into the main glen, so that its sides are dotted with sharp peaks. These sometimes rise alone like obelisks, but more often are connected together by narrow ledges, like arched viaducts. In one cliff the horizontal strata are worn at the edges so as to resemble a large pile of cushions. Here and there are tall pillars supporting broad tops like centre tables, and in many places the cliffs are ribbed like the pipes of an organ.

Land slides sometimes occur in Lebanon. One took place a hundred and five years ago among the argillaceous cliffs in the Wady of Ain Zehalteh. A piece of land near Kefr Nebrakh with a hamlet on it, slid down fifteen hundred feet into the stream below, carrying houses, gardens, and trees pell mell to the bottom. It arrested the flow of the stream for seven days, and one man who was carried down on it, though uninjured in body, was ever after a raving maniac.³

SCENERY OF LEBANON.

If these natural curiosities are interesting, the mountain scenery amply repays the visitor who climbs to see it.

A magnificent view of Lebanon may be seen from el-Mutteiar, literally "the place of flying," the name of the peak behind Abeih, marked on the English Admiralty chart two thousand nine hundred and seventy-seven feet. Up toward Bhamdûn, the deep gorge of the western branch of the Damûr is dark with pines. Further to the right the glen of the larger branch extends up toward el-Kineeseh, and on the triangular plateau between them are forests, fields, and vineyards. The houses of that village on its nearest edge

¹ The Land and the Book, i. p. 335; Bib. Sac. (1846), Vol. iii. p. 186.

² Five Years in Damascus. ii. p. 289; Dr. Alexander's Kitto, ii. p. 802

³ The Land and the Book, i. p. 82.

look like white shells dotting the line of the cliff. In the distance rising smoke marks the location of the hamlets whence it comes. That seemingly tangled thread hanging down the precipice is the path to the regions beyond, and, far above the whole the serrated crest of Lebanon reposes against the sky. Further to the south the opposite cliff gives place to terraces that, laying seige to its base, raise their scaling ladders towards its summit. They wind round the heads of the small side valleys like the seats of an ancient amphitheatre. The scene is grand, but hushed. No sound is heard save the deep monotone of the river, thundering over the rocks more than two thousand feet below. It varies only as the breeze bears it swifter or more slowly to the listening ear. It seems as though we could shout to those horsemen midway up the steep ascent, but long hours would be needed to reach the place. Beyond the ridge which they climb, that narrow strip of plain along the shore is old Phoenicia; that nearest object, like a little castle on the sands, is Sidon. Further on, where the hills come down to the sea, is Surafend the old Sarepta, and those white walls in the sea are all that is left of Tyre.

Now turn to the west, and look over the flat roofs of Abeih, with its terraced olive groves and gardens, down that succession of pine clad eminences, each crowned with its convent or its castle, rising out of sombre woods and green fields, varied by rugged rock and terraced valley, to the sea. That is like a mirror, here gleaming like silver, there less bright, as the breeze ripples the surface. The ships sit motionless, like white birds, on the water. Nearer we might discern the forms of old Homeric ships, such as bore the Grecian hosts to Troy, and other shapes, from the tall Polacca, with tall masts of one tapering spar, down to the Felucca and Arab Shukhtoor, with its lateen sails and comfortless accommodations. The steamship, with pennon of smoke, moves among them like the monarch of the sea. At first we search in vain for the horizon, and for a moment it seems as if the sea folded back above us in one continuous surface, till the eye learns

to distinguish the blue sea from the blue sky. The view is beautiful when the sea is covered with clouds; then their upper surface seems like a sea of snowy foam. It is seldom continuous; openings here and there give glimpses of the water below, beautifully diversified by the light and shade of overhanging clouds. These constantly assume new forms, uncovering a part of the sea to hide it again, and open new vistas elsewhere, like the changes of a kaleidoscope or of a dream.

And this recalls a morning scene in August, high up on Sunnîn, at the base of the highest precipice that seems to wall out the east. We stepped out of the tent in the morning into a shroud of mist, apparently composed of the dust of gold, and full of a strange unearthly glory. Behind us the mass surged against the cliff like huge billows of cloud, sometimes laying bare a part of it so suddenly and so near that it seemed falling on our heads, and again hiding and revealing it, till the rock seemed as unstable as its misty covering.

Toward the sea at first we could discern nothing save the illumined misty chaos; then we caught glimpses here and there of jagged cliff and woody vale below us. At one place a long thread of silver glittering in the heart of the vapor seemed inexplicable, so near, so bright, and well defined, till the mist moving there also, disclosed a neighboring ridge with a little brook flashing in the morning light, and far below white-walled convents and green terraces, villages and olive groves, dotting the lower ridges, till, beyond them all, the broad bosom of the sea reflected back the light.

Looking from beneath, one sees only the limestone reflecting the rays of the sun. The terrace walls hide the verdure of their upper surface, so that the mountain seems made up of immense masses of naked rock, severed by deep ravines, plunging to the plain; but viewed from above one sees the terraces green with growing grain or spreading vines or the glossy leaves of the mulberry. The uncultivated surface has its patches of pine or oak, while village and

convent are set in irregular green frames of the foliage of the olive.¹

Each district has its own peculiarities, and every eminence gives its special grouping of the beauty all about it. Few words may suffice to describe the different objects in each landscape, but they are clothed in such a variety of forms and present such a diversity of grouping that no description can do them justice. Even the same scene appears in such varied aspects, as it is viewed in sunshine or under clouds, at morning or at evening, in summer or in winter, that its beauties never weary. One always finds something to admire which he never noticed before.

CLIMATE OF LEBANON.

Arab poets say that Lebanon bears winter on his head, spring upon his shoulders, and autumn in his bosom, while summer lies sleeping at his feet.² In Beirût there is neither snow nor frost in winter, though very thin ice may sometimes be seen on the flat housetop in the early morning after a cold rain followed by wind during the night, but nothing of the kind is ever seen on the ground, and yet on the highest peak of Lebanon the snow never melts. The cedars are inaccessible seven or eight months out of the twelve, but at Tripoli, which is in sight from them, the leaf of the orange never fades. At the sources of the Jordan the heat and vegetation are almost tropical. The mercury stood there at 98° in the shade, though on the day previous it did not rise above 32° on the top of Hermon.³ On September 1st Rev. J. L. Porter found the temperature 41° at sunrise and 52° at sunset, the evening previous on that mountain.⁴ Snow rarely appears on Lebanon lower than two thousand feet. In the Bukâ'a it falls every winter, and renders the roads over the higher parts of the mountain impassable for weeks together.

¹ Robinson's Biblical Researches, ii. p. 493; Dr. Alexander's Kitto, ii. p. 802.

² W. K. Kelley's Syria and the Holy Land, p. 86.

³ J. L. Porter in Dr. Alexander's Kitto, ii. p. 805.

⁴ Five Years in Damascus, i. p. 296; query: is the 32° in Dr. Alexander's Kitto a mistake of the printer for this 52°?

Fresh snow covers Sunnîn in November, and disappears usually in April, though in the sheltered nooks near the summit it remains all the year round. At Homs in July the mercury ranges from 70° to 93°, with an average of 80°. June and August are more cool. In September it goes from 68° up to 82°, and in winter the ground is usually frozen under several inches of snow. At Blûdân, on Anti-Lebanon,¹ in the hottest days of summer the thermometer seldom rises above 80°, and the nights are almost always cool and pleasant. Dr. Kerns found the temperature at Beirût to average in January 54° in the morning, 63° at noon, and 58° in the evening, highest 70°. In August 83°, 89°, 84°, at the same hours, highest 97°, while at Bhamdûn² in the same August it averaged 65°, 71°, and 70°, at the same hours, highest 84°.³ The evaporation from the sea at Beirût, and other points along the shore, renders the same degree of heat more uncomfortable than it would be in the dryer air of the interior.

Dr. King, in the *Missionary Herald* for 1825, gives a record of the temperature at Beirût for January, February, and March, at nine o'clock A.M. and three P.M.

	9 A.M.			3 P.M.		
	Lowest point.	Highest.	Mean.	Lowest point.	Highest.	Mean.
In Jan.	49° (13th)	59° (29th)	54°	51° (13th)	64° (29th)	56°
In Feb.	35° (19th)	59° (9th)	48°	37° (19th)	63° (9th)	51°
In March,	48° (25th)	62° (19th)	56°	50° (25th)	64° (19th)	58°

On one half of the ninety days there fell more or less rain, and on two days there was snow and hail. The general course of the wind was southwest, and less frequently northeast, but the rain always came with the wind southwest.

Dr. H. A. De Forest⁴ gives the average temperature of

¹ According to Rev. J. L. Porter, in *Robinson's Biblical Researches* (1856) p. 487, four thousand eight hundred and forty-two feet high, but given in his *Five Years in Damascus*, i. p. 280, four thousand five hundred and twenty-four feet.

² Three thousand five hundred feet according to Dr. De Forest, and three thousand seven hundred and ninety-two according to V. Wildenbruch, in *V. de Velde's Memoir*, p. 171.

³ W. K. Kelley's *Syria and the Holy Land*, p. 87.

⁴ *Bibliotheca Sacra* (1844), Vol. i. pp. 221, 222.

December 1842 at Beirût 60° 13', though the coldest day that season was March 23d, 1843, when the mercury stood at sunrise 50°, at two P.M. 57°, and at sunset 53°. The warmest month in the summer of 1842 was July, which averaged 83°, though the hottest day was August 7th, which was 77° at sunrise, 95° at two P.M., and 83° at sunset. The difference of the extremes observed that year was 45°. The temperature at Bhamdûn from July 20th to October 15th, averaged 12° lower than Beirût. During the year ending April 30th 1843, rain had fallen at Beirût on seventy-three days, December and January twelve days each, and February and April nine days each. From June 2d till September 21st there was no rain, and only four slight showers till November 1st.

During the summer, sea winds rise and go down with the sun, and five sixths of the time they blow from the west or southwest. About eight or nine o'clock P.M. cool breezes begin to come down from the mountain, and make the nights comfortable.

At Beirût the almond tree, the Syrian harbinger of Spring, blossoms in February, and sometimes even in January. The palm tree not only flourishes on the adjoining plain, but even one thousand feet up the mountain side its feathery branches may be seen waving in the breeze. It is strange to look out on orange trees laden with flowers and fruit in the summer air, and take in at the same glance the snow on the crest of Sunnûn. Here, seasons are separated by many degrees of latitude; there, by a few hours walk up or down the mountain side. In Lebanon a gentleman of leisure may almost choose his own climate. He may chase the spring as she leaps from cliff to cliff, and pitch his tent among her crocuses on the edge of the retreating snow, or he may abide with summer on the sunny shore. The Sirocco (which the Arabs call *esh-Shlook*) blows occasionally in March and April.¹ Rev.

¹ Robinson's *Biblical Researches* (1856), p. 35; for a lively description of its effects, and the varieties of it, see *The Land and the Book*, i. p. 454; ii. pp. 311, 312.

J. L. Porter¹ says that it is severely felt in Lebanon, but not so much in Anti-Lebanon. But Dr. W. M. Thomson, a resident of Lebanon experienced its greatest power near Aleppo and in the wadies near Hasbeiya.² The barley harvest begins on the plain of Phoenicia in the end of April; high up on Lebanon it begins in July, and is finished before the end of August.³ From the beginning of April till June the climate of Beirût is delightful. In summer the foreign residents retire to the nearer ranges of the mountain. The hot season lasts from the end of May till the end of October, and with the exception of an occasional shower in July, and a day or two of rain near the close of September, the summer sky is almost cloudless.⁴ In the middle portion of the mountain snow seldom remains on the ground long at a time, even in exceptional seasons not more than ten days; and generally geraniums, dahlias, and all kinds of vegetables remain unsheltered in winter without injury. In its highest villages the mercury rarely falls to 30°; in winter and in summer it stands from 65° to 75°.⁵ Dr. Robinson⁶ speaks of snow at Hasbeiya in March as an unusual occurrence.

With the exception of fever and ague and other fevers during the hot months in unfavorable localities, the climate of Lebanon is healthful, much more so than other parts of Syria. The cholera has never yet entered the mountain, though it has raged very fatally at Damascus and other places in the vicinity.⁷ Dew is almost unknown along the ridges of Lebanon.

The natives are a healthy, robust race, and some of them have great physical strength. It is not uncommon to see a porter on the marina (wharf) at Beirût walk away with

¹ Dr. Alexander's Kitto, ii. p. 805.

² The Land and the Book, i. p. 454.

³ J. L. Porter in Dr. Alexander's Kitto, ii. p. 805, and Col. Churchill's Lebanon, i. 31.

⁴ J. L. Porter in Dr. Alexander's Kitto, ii. p. 805 says that from June 1st, to September 20th, rain never falls; but see Col. Churchill's Lebanon, i. p. 31.

⁵ Col. Churchill's Lebanon, i. p. 30.

⁶ Biblical Researches (1856), p. 9.

⁷ Col. Churchill's Lebanon, i. p. 32.

a bale of cotton manufacture weighing six hundred pounds on his back.¹

PRODUCTIONS.

Almost all the cultivated land in Lebanon is in the form of terraces. These are of all sizes according to the nature of the surface, generally long and narrow, and rising successively above each other, like the steps of a stair. More than a hundred have been counted in one continuous ascent.² Emerging from some rocky gorge one enters a secluded valley, a little paradise of verdure in an amphitheatre of hills. Dr. Anderson says: "The valley of Fureidis (Little Paradise) is one of the most attractive combinations of trees, green fields, and running water in this or any other part of Syria, and abounds in little pictures which make its name a pardonable exaggeration."³ On all sides of such a vale are green flights of steps, as if leading up to some great temple. The flat-roofed houses of the village cling like swallow's nests on the face of the cliff, the roof of one serving as street or courtyard for the next above. In the district of Kesrawan this economy of space is most complete. One wonders how man could ever think of cultivating such steep rocky cliffs. Precipices originally accessible only to goats are hewn into terraces with almost the regularity of the seats in the Coliseum, and are resplendent with foliage. There are miniature fields of grain where it would seem that only the eagles could have sown the seed. Fig trees cling to the bare rock, vines are trained along narrow ledges. One writer says they are planted in the valley of the Kadisha, wherever a lodgement could be found for a basketful of earth on the face of the precipice. A single perch of clear soil can scarcely be found, but every portion, however small, is carefully cultivated. In more than one place in the valley of the Nahr el-Kelb, Rev. J. L. Porter⁴ found wheat growing in grottos and under natural arches. Col. Churchill says⁵ that "the

¹ W. K. Kelly's *Syria and the Holy Land*, p. 88.

² *Ibid.* p. 77.

³ Lieutenant Lynch's *Official Report*, p. 98.

⁴ *Five Years in Damascus*, ii. p. 289.

⁵ *Mount Lebanon*, i. p. 19.

idea of manuring the soil (for grain crops) is unthought of," but every device that ingenuity can devise or patient toil accomplish, has been employed to lead the waters of the upper brooks to the highest point they can be made to reach, and the result is everywhere an astonishing fertility. The limit of cultivation runs along at the height of about six thousand feet.¹ Above this the mountain is mostly bare. In one place it is appropriately named el-Jûrd, which means "anything scraped clean," and near the summit it is exactly so. Not a bush nor a plant is to be seen, and the constant action of snow and frost has splintered the rock into pieces so small that the highest summits have a rounded outline unlike the sharp peaks of some of the lower ranges.

Silk is the staple production of Lebanon. The wild mulberry has been grafted with the Persian variety, which has a larger and darker leaf, but a few trees in every plantation are left ungrafted for the nourishment of the young silk-worms. About the end of April the mulberry terraces are thoroughly ploughed and weeded, while the women spend fifteen or twenty days attending to the hatching of the eggs of the silk-worm. The men then cut off the new mulberry twigs, and carry them home to the women, who pick off the leaves and spread them over the worms, renewing the supply at first every six hours, and oftener as the worm grows older. At the end of fifty days it begins to form cocoons, and a week after, these are all removed and sorted. The silk of Lebanon is excellent, and used to be manufactured in Venice, Damascus, and Egypt; now it is exported mostly to France and England.²

Next to this the vine furnishes the most important crop in Lebanon. It is sometimes planted with the mulberry, so as to be supported by it, but it is oftener left to lie on the ground especially in the higher parts of the mountain so as to ripen earlier. After the April ploughing, both vines and mulberry trees are ploughed at least three times during the

¹ Smith's Dictionary of the Bible, ii. p. 86.

² Col. Churchill's Mount Lebanon, i. pp. 24, 41.

summer, and watered by turning the streams at certain intervals on the terraces. And as water is generally scarce, and each man must take his turn, village arrangements in this respect are not always carried out without some friction. The vines are pruned annually in March, though the time varies with the altitude of the vineyard above the sea.

The grape harvest, beginning in some places in July, and continuing in others into September, is a very busy season. Grapes sell at about thirty paras per rotol, or half a cent a pound, and they are most excellent. They form a very important part of the food of the people for three months. A large quantity is made into raisins, and also into wine.¹

The grapes in ancient times were trodden in excavations in the solid rock. Dr. Robinson describes one eight feet square and fifteen inches deep, its bottom sloping gently toward another, lower down, four feet square by three feet deep; a hole in the lower part of the rocky partition between them allowed the "must" to flow from the press above into the wine vat below.² Constructions of solid masonry sometimes take the place of these rock-hewn arrangements. The juice is stored away after it has been properly fermented, and then only is it called wine. The molasses made by boiling down the juice before fermentation to twenty-five per cent of the original weight of the grapes is never called wine, or even classed among drinks, but is regarded in all respects as our molasses. Indeed in many parts of Lebanon they know no other. It is called dibs, Hebrew דִּבְסָ, while the wine is called Hhamar, Hebrew חֲמָר, and also Nebeed.

Every peasant raises his own tobacco for smoking only or snuff-taking; chewing is unknown; Jebail and el-Koora produce the best.

The olive is cultivated extensively in the lower part of Lebanon, but does not flourish so high as three thousand

¹ For a detailed and accurate account of the different processes of wine making on Mount Lebanon, see Dr. E. Smith in *Bibliotheca Sacra* (1846), Vol. iii. pp. 385-389.

² *Biblical Researches* (1856), iii. pp. 137, 603.

feet. It prefers a limestone soil to the sandstone. In that respect it is the opposite of the pine. Of Asher, whose lot fell in the southern border of Lebanon it was said that "he should dip his foot in oil" (Deut. xxxiii. 24). The tree is of slow growth, but lives to a great age. It does not bear till the seventh year, nor is the crop worth much till it is ten or fifteen years old.¹ In the plain of Beirût is an olive grove covering a surface of about twenty square miles.² It is owned by a large number of proprietors, most of whom belong to the aristocracy, and depend on it for much of their revenues.

Olive groves are rented in two ways. The renter receives one third of the oil he makes for the labor of ploughing and manuring the ground and gathering and manufacturing the fruit into oil. But if at the beginning of his lease he pays one fourth of the value of the trees, then he has one half of the oil produced. Dr. W. M. Thomson gives a very graphic picture of the gathering of the olives.³ This harvest takes place only once in two years.

In renting ground on Mount Lebanon the tenant pays one fourth of the estimated value of the trees and vines it contains, performs all the labor, and receives one half of the silk, fruit, wine, raisins, and molasses, and then receives back one fourth of the estimated value of the trees and vines at the time he leaves it.

His house, built of stone, usually consists of one room, fifteen yards long and eight yards wide. This is rent free, and is kept in repair by the landlord. In it the silk-worms are generally reared, though sometimes they have booths built on purpose for this.⁴ These houses have flat roofs of earth, and as the winter is what may be called the rainy season, these are sometimes covered with a luxuriant crop of grass, which, when summer begins, "withereth afore it grow-

¹ The Land and the Book, i. p. 73.

² Col. Churchill's Mount Lebanon, i. p. 123.

³ The Land and the Book, i. p. 74-76.

⁴ Robinson's Biblical Researches (1856), p. 595.

eth up" (Ps. cxxix. 6). So also "in a very rainy day" "their continual dropping" on beds, family stores, and family also, twice furnish Solomon with an illustration of a contentious woman¹ (Prov. xix. 13; xxvii. 15). As the floor is of the same material, much trodden and seldom swept, one can easily see why a woman on missing a piece of money, instead of ransacking her bureau drawers should "sweep diligently till she find it" (Luke xv. 8). As such a thing as a chimney is unknown in ordinary houses, one has frequent opportunities during the winter of feeling the force of the wise man's comparison of the effect produced by a slothful messenger on the man that sends him, to the effect of smoke on the eyes (Prov. x. 26).

The houses of the nobility are much better than those of the common people, though there is not so great a difference as between the castles and ordinary dwellings of Europe in the ages of Feudalism. They are extensive structures of hewn stone, with walls of immense thickness, and built with more or less of pretension to elegance.

The palace, erected by the Emir Beshir at Beit ed-Din² near Deir el-Kamr, with its courts paved with tessellated marble, and spacious Maidan, is the largest and most costly in Lebanon. It is furnished with luxurious oriental baths. The walls of some of the apartments are covered with elaborate mosaics of trees, flowers, animals, and birds. Forty years were spent in building it; artisans were employed from Aleppo and Damascus. The stables had accommodations for five hundred horses, and the water that sparkled in its "Jets d'eau" and irrigated the extensive olive yards on the neighboring terraces was brought from Ain el-Maaser, near Kefr Nebrakh, in an aqueduct constructed by the combined efforts of the mountaineers, who were summoned to the work just as they are summoned to the field in time of war.

¹ See *Missionary Herald*, 1842, p. 55 for a vivid picture of such a flood.

² Col. Churchill's *Mount Lebanon*, iii. 262-272; *Syria and the Holy Land*, xiii. p. 155.

If during a lease any terrace needs rebuilding, the expense is divided equally between the tenant and the landlord. If new ones are to be made the landlord pays three fourths of the cost. Labor about 1850 was worth four piastres a day; now it is valued at seven piastres, or fourteen pence sterling. The ordinary food of the people is bread and olives. The writer has often seen laboring men carry this with them to their distant fields for dinner, illustrating the faith that could say: "Though the labor of the olive shall fail, and the fields shall yield no meat, yet I will rejoice in the Lord" Besides this there is a very extensive use of olive oil at home. Lebben, or sour milk, is another article universally used. Then, besides fruits in their season—and among these must not be omitted that of the prickly pear (*Cactus Indicus*) which the Arabs call "Subbeir" and eat with great relish,—lentiles (*Gen. xxv. 24*), onions, and bourghul, or cracked wheat, form the common articles of food. In addition the laboring classes have a little meat on rare occasions, as at Christmas and Easter.¹ Dr. Robinson's host at Rûm "said he was able to get about a pound and a half of flesh in a year."²

It is difficult to give a complete list of the trees of Lebanon. In the forests grow the pine (*Pinus Halepensis*), the cedar, Arabic جيد , identical with the Hebrew $\text{צדרי$ (*Cedrus Conifera*). Oaks of many varieties, as *Quercus pseudo coccifera*, and *Quercus aegilops*, or Valonia oak, and the evergreen oak, *Quercus ilex*; these abound more especially on the eastern side of the mountain and in Anti-Lebanon. Then there is the terebinth, the juniper, from which pitch is made by the mountaineers, the plane, the poplar, the willow, the hawthorn, the arbutus, the maple, and the laurel, especially the bay tree. The Pride of India grows in the gardens near Beirût. Of fruit trees there are many varieties. The date palm, the banana, the orange, and lemon tree grow at the foot of Lebanon, on the shore, also the low pineapple.

¹ Col. Churchill's *Mount Lebanon*, i. pp. 36-40, 123.

² *Biblical Researches*, 1856, p. 40.

The pistachio (Arabic, *fistuc*), and sycamore (*Ficus Sycomorus*), are well described in the Land and the Book.¹ The carob tree (*Ceratonia siliqua*) produces the "husks that the swine did eat" (Luke xv. 16). The fruit is in the form of pods, sometimes eight or ten inches long, resembling that of our honey locust tree, but thicker and more solid; the sweetish pulp about the seeds is a common article of food, and is much used in connection with the juice of the grape in making *dibs* and the sweetmeat called *Hullawi*. The plum, apricot, peach, pomegranate, quince, fig, almond, English walnut, black walnut, the pear, and the apple, flourish at different altitudes on Lebanon.

THE CEDARS.

At the upper end of the valley of the Kadisha, on a plateau that seems created on purpose for their home, stands the celebrated Cedar grove (lat. 34° 13' 45"; long. 36° 1' 25"). The highest part of Lebanon lies behind about three thousand feet above them, and throws out immense ridges on either side of them nearly as high, as if stretching out its arms to protect them from injury. The trees stand alone in the centre of this vast amphitheatre, occupying a space about two hundred and ten yards in diameter. As one looks up from below, the eye rests on no other living thing, nothing but immense rounded masses of rock above, and a sloping mass of bare detritus at their base, while in the midst of all they enjoy a perpetual Sabbath. The river is called Kadisha (The Holy) according to Father Dandini A.D. 1600,² "for that it takes its source from the mountain whereon grow the cedar saints."³ This is not the only spot in Lebanon where they are found,⁴ but this is the home of the patriarchs.

¹ The Land and the Book, i. pp. 22-25.

² Voyage du Mont Liban, Paris, 1685, pp. 83, 84.

³ Syria and the Holy Land, p. 111 note; compare Robinson's Biblical Researches (1856), p. 590.

⁴ Rev. G. E. Post, M.D. (Hackett's Edition of Smith's Dictionary of the Bible, p. 1624) has found an extensive grove of cedars near el-Hadet of several thousand small trees, and another large one of about ten thousand very small trees

Three centuries ago Belon counted twenty-eight; a century later D'Arvieux reported only twenty-three; Pococke, a hundred years ago, found them reduced to fifteen; Burckhardt, in 1800, counted eleven or twelve, which is all that now remain of the larger ones. Rauwolf, himself a botanist, seems to have sought for younger trees in the sixteenth century, and found none,¹ but now nearly four hundred trees have grown up around them. Rev. S. H. Calhoun counted three hundred and ninety-three in 1856, and in a letter to the writer, dated July 21st, 1868, says: "Here I am, writing on an extempore table of cedar board, under the shade of the grand old cedars. We have been measuring the larger trees again, and find them still forty-two feet in circumference. That these large ones were here in the days of David I cannot doubt. Nor can I doubt the literal truth of the statement that the Lord planted them:² "The cedars of Lebanon which he hath planted." He gives their height above the sea, at six thousand seven hundred feet; V. de Velde,³ six thousand three hundred and fifteen, on the authority of Major Scott, and Russegger has it six thousand four hundred. This last writer thinks that the smaller trees may be two centuries old, but that the age of the twelve larger ones is incalculable. He is inclined to admit that they may have seen two thousand years.⁴ Lord Lindsay on entering the grove found the air perfumed with their odor — "The smell of Lebanon" (Cant. iv. 11). The graceful repose of the young trees is in marked contrast with the frantic attitude of the patriarchs. Flinging

east of Ain-Zehalta. Above Baruk, and extending southward several miles, he found still another grove, vying with that at Besherreh in magnitude and beauty, and numbering, large with small, from twenty thousand to thirty thousand trees. The southern end of this is a grand collection of two hundred and fifty trees, from twenty-seven feet in circumference down. Most of these groves have been very much injured by wood-cutters and pitch-burners, but they show that Lebanon might, under favorable circumstances, again become famous, as of old, for her cedars.

¹ Robinson's Biblical Researches (1856), p. 589.

² Ps. civ. 16.

³ Memoir, p. 171.

⁴ Syria and the Holy Land, pp. 112, 113; see also Letter of Rev. S. H. Calhoun, Bibliotheca Sacra (1857), Vol. xiv. p. 201.

abroad their knotted limbs like Laocoon, they look as if they had been struggling for life with evil spirits, and God had granted them deliverance that they might testify to a scoffing age of the ancient glory of Lebanon. On this spot one feels the force of the description of the cedar "with fair branches, and of a shadowing shroud — his top was among the thick boughs" (Ezek. xxxi. 3) though as to "high stature" their congeners in California far exceed them. Rev. J. L. Porter writes: "As I sat there alone, the Psalmist's magnificent picture of a storm seemed more vivid than ever before. A huge branch of one of the oldest trees had recently been broken by a tempest, and in its fall had partly destroyed a younger tree. There it lay amid the ruin it had caused, as if to illustrate the words: 'The voice of Jehovah breaketh the cedars; Jehovah breaketh the cedars of Lebanon'; and as I read them, I looked out upon those great waters whence the voice of the storm came (v. 3), and upon those mountain sides up which it rolled."¹

Rev. S. H. Calhoun² found two trees of great size standing about twelve feet apart, and high up a large branch of one had become so firmly united to the other that the bark had grown over the point of junction. What is more remarkable the taller of the two would fall, owing to an extensive defect near the ground, were it not thus sustained by its stronger companion.

In 1845 the writer found a small unfinished chapel then erecting by the Maronites in the grove, and a priest to guard the trees from injury, too late, however, to save the larger ones from the wanton mutilation of travellers, who have stripped the bark from large places in nearly all of them, in order to inscribe their names. The oldest which Dr. Robinson saw was dated 1791.³ Rev. C. G. Young⁴ read the date 1745, and Irby and Mangles noticed the date of 1640. Such names as Lamartine appear among the *ignotum vulgus* who thus seek for fame.

¹ Giant Cities of Bashan, p. 290. ² Bibliotheca Sacra (1857), Vol. xiv. p. 201.

³ Biblical Reserches, 1856, p. 528.

⁴ Wayfarer's Notes on the Shores of the Levant, p. 105.

The cedar of Lebanon is an evergreen. The wood is "almost as hard as oak, with a grain as close as box."¹ It takes a high polish, and the color is richer and deeper than pine. It long retains its fragrance, and is so bitter that no insect will touch it. The cone is blunt at the end, very compact and symmetrical in structure. It comes to maturity only once in two years. The branches shoot out horizontally, and rise above each other like successive shelves of foliage.²

As to other productions of Lebanon, Col. Churchill³ says that the same piece of ground produces three crops of potatoes within the year, and the rot is there unknown. Peas grow both summer and winter. Okra (*Hibiscus esculentus*), Arabic, "*Barmia*," — the egg plant (*Solanum esculentum*), Arabic, "*Badinjan*," — Tomatoes, known among the Arabs by the name of "*Banadora*," — a large variety of cucumbers, musk and water melons, and kindred plants are found; among them the *Ecbalium elaterium*, or *Momordica elaterium*, which yields a powerful drastic purgative. Squills abound on the sandy plain of Beirût. Lupines are cultivated by the acre as food.

The tangled thickets of shrubs, flowers, creepers, mosses, and lichens that cover every uncultivated foot of soil in the lower parts of Lebanon, would furnish a paradise to the botanist. Only a few of the more common can here be mentioned. It is the home of the rose, the myrtle, and the jessamine. The name of this last we get from the Arabic "*Yasmeen*." Tulips, anemones, both scarlet and purple, sweet-peas, mignonette, hyacinths, and jonquils (*Narcissus*) abound.⁴ The eye can follow the line of the brooks in the deep valleys by the thickets of oleanders that adorn their banks. Rhododendrons crown the peaks higher up, with the rock rose, ivy, barberry, and honeysuckle. A blue convolvulus is common, and beautiful cyclamens. One of these the Arabs call

¹ Giant Cities of Bashan, p. 291.

² For a good general account of the cedars see Robinson's *Biblical Researches*, iii. (1856), pp. 588-594.

³ Mount Lebanon, i. p. 26.

⁴ Col. Churchill's *Mount Lebanon*, i. p. 27.

Douwacket el-Jebel (Little Cock of the Mountain). Poppies, pinks, geraniums, lilies,—among them a green lily,—the star of Bethlehem, blue bells, and an immense variety of thistles are common. In spring the whole mountain is covered with flowers, and the early rains of autumn call them forth a second time from their hiding places. The althea and snapdragon flourish in the damp gorge of the Litany, the latter on the mountain as well. Lieut. Lynch saw the pink valerian, the broom, Arabic "*Betem*," with its fragrant straw-colored flowers, and several kinds of heath and ferns on Mount Hermon. The two last grow on Lebanon also, and the same may be said of the vine resembling the morning-glory he saw in Wady Barada, and the pink larkspur and yellow honeysuckle he found near Baalbek.¹

A lady long resident in Beirût adds the following to those already mentioned: Several varieties of amaranth, clover of various kinds, the iris or fleur-de-lis, chrysanthemum, jack in the pulpit, fragrant violets, like those of England, marshmallows, orchis, ambrosia, gilly-flowers of several kinds, thyme and lavender, mustard, ranunculus, acacia, snowdrops, crocuses, daisies, red and blue forget-me-not (*Myostis arvensis*), ricinus communis, taraxacum, and a large yellow bean which the Arabs call *Târmûs*.

ZOOLOGY.

The zoölogy of Lebanon has not received the attention it deserves. Its wild animals are not yet extinct. The large Syrian bear still ranges the upper parts of the mountain, and lays waste the vineyards now and then. Dr. De Forest, when visiting the highest part of Lebanon above the cedars,² on going down toward a large bank of snow, started up one from a nook beneath him. Bruin rose sluggishly and moved slowly away, and while looking at him, the Doctor heard a heavy fall from beneath the crag on which he stood, among the loose stones below, and soon saw a second bear limping

¹ Narrative, pp. 482, 494, 501.

² Journal of American Oriental Society, iii. p. 356.

slowly after his mate. The panther, rather than leopard, as some call it (Hebrew פנתר, Arabic نمر), is confined to the more inaccessible solitudes, where he is seldom seen and less frequently destroyed. The hyena and jackal still prowl around deserted ruins and rocky dens; foxes have not forgotten their cunning; wild boars root up the more remote fields, and wolves wage war on the flocks, after their manner. As Anti-Lebanon is more thinly peopled than Lebanon, wild beasts there are proportionately more abundant. Vast herds of gazelles may be seen there leaping across the plains.

Among birds, eagles are numerous, as we would expect in a region abounding with inaccessible cliffs. Some of them have no feathers on the head and upper part of the neck, illustrating Mich. i. 16: "Enlarge thy baldness as the eagle."¹ Rev. J. L. Porter,² high up on Anti-Lebanon, was once roused from sleep by the rushing sound of wings, and looking up saw twenty-four large eagles wheeling around him, most of them coming within pistol shot. Vultures are numerous, and hawks in endless variety. A species of daw frequents the higher districts. Snipes and woodcocks abound wherever there is water. The swallows know their appointed time for a visit to Lebanon (Jer. viii. 7), and so do the turtle-doves and cranes. Dr. W. M. Thomson³ tells an interesting story of a stork caught at Safed, bearing a letter from a German countess in a silver casket. The sparrow is caught in large numbers with bird-lime by the boys, and is still sold in the markets of Beirût as cheap as the price mentioned Matt. x. 29; Luke xii. 6. The katta, or Syrian quail, is seen in large flocks in the spring, going north, and is hunted by falcons, as is also the large Syrian partridge. The Emir Beshir, in the months of January and February, used to go with his officers and retainers to the mountains, and while more than fifteen hundred men beat the woods in every direction, as soon as the game was raised, he loosed his

¹ The Land and the Book, ii. p. 491.

² Five Years in Damascus, ii. p. 315.

³ The Land and the Book, i. p. 503.

falcon, and fifty horsemen followed it with their dogs to secure the prey. A large number of falcons were used on such occasions, and the amount of game secured was large. The throat of the bird is cut as soon as caught, and the head and blood given to the falcon. So David prayed (1 Sam. xxvi. 20): "Let not my blood fall to the earth, as when one doth hunt a partridge on the mountains."¹

ROADS.

Quite recently the French have constructed a carriage road from Beirût to Damascus, and the huge lumbering diligence now plies between those cities; but previously wheel carriages were unknown in Lebanon, and the roads were bridle-paths that barely allowed two loaded animals to pass.

One generation has literally followed the footsteps of another, till the path is often worn deep into the solid rock. The road from Beirût to southern Lebanon passes through the range of hills that lies south of the city, and there horse's hoofs and winter rains have worn the chalk so deep that now the head of a man on horseback does not come up so high as the original surface. Farther on, the road passes between hedges of cactus, whose dropsical, distorted joints, full of spines, defy intrusion. But not till it begins to climb the mountain can its peculiarities be appreciated. As viaducts across the deep side valleys are out of the question, it winds round the head of each, ascending as it goes, and it is beautiful to stop in the centre of such a detour and survey the verdant terraces, which above, below, and on either side, rise, tier on tier, to the top. The noisy stream plunges down the centre like the cutwater of a ship, only it is shaded by trees and fringed by flowering shrubs. Such is the near view; but far below, beyond the olive grove that flows out of the valley, widening as it goes, and filling the plain to the base of the mountain on either side, the blue Mediterranean forms fitting background to the whole. Sometimes the road

¹ Col. Churchill's *Mount Lebanon*, i. pp. 180, 200; the *Land and the Book*, i. 310.

climbs obliquely up the face of a beetling cliff, the horse carefully planting his feet in the holes worn by his predecessors in the polished surface of the rock. Again it is literally a stair for a long distance up the mountain. In ascending, it is easy for the rider to fix his eye on the step above, but not so easy in returning to look down from the unsteady saddle and twisting horse on the giddy view below. In such places the horse lowers his head, and cautiously scans the rock before he moves; then gathering his four feet together on the edge of the first step, he drops down his fore feet to the next; this feat accomplished, he brings down his hind feet one at a time, and again gathers all together for the second plunge, and so on to the end. While the writer was in Beirût he met the commander of one of our national ships descending this road. He had started for Abeih; but, appalled by the difficulties of the ascent, returned ere he had got half way to his destination; and an Armenian from Constantinople, who thought to cut off one of the zigzags of the ascent, slid, horse and all, down the smooth surface of the rock, only when his steed stopped somewhat abruptly at the bottom, he kept on ingloriously to the ground.

V. de Velde describes the road from Afka to Ajeltoon as "in the fullest sense of the word, execrable."¹ Rev. J. L. Porter thus describes the path up the northern side of the Kadisha: "It was no child's play to climb that mountain. The road is a mere goat track, now in a rocky torrent bed, now on the brink of a fearful ravine, now over a slippery crown of naked limestone, and now up rude stairs that seemed let down from heaven itself. Sometimes one stirrup rang against the overhanging cliff, while the other was suspended over a fathomless abyss."² Dr. Robinson, however, caps the climax³ by telling how the horse of his guide in clambering up the steep road to Rûm in Jebel Rîhan (southern Lebanon) fell over backwards! It ought to be added, however, to the credit of our missionary ladies, that they think nothing of

¹ *Memoir*, p. 192.

² *Giant Cities of Bashan*, p. 287.

³ *Biblical Researches* (1856), p. 39.

riding up and down the same road that made the commodore strike his flag, and do so continually.

POPULATION.

Dr. W. M. Thomson says: "Lebanon has about four hundred thousand inhabitants, in more than six hundred towns, villages, and hamlets."¹ Col. Churchill² puts the population, in round numbers, at four hundred thousand, and estimates the Maronites at two hundred thousand,³ of whom thirty thousand were capable of bearing arms,—in this agreeing with Dr. Thomson; but while the latter says that the Druzes in all Syria number one hundred thousand,⁴ Col. Churchill⁵ says they number only sixty thousand souls, and counts in Lebanon only fourteen thousand males, out of whom they can muster six thousand warriors, as fearless and as obedient to orders as ever took the field. J. L. Porter, in Smith's Dictionary of the Bible, estimates the Druzes in Lebanon at twenty thousand fighting men. The lists for the poll-tax paid to the Emir Beshir by all males between fifteen and sixty in 1839 and 1840 give seventy-seven thousand five hundred and eighty-nine Maronites, and eighteen thousand three hundred and twenty-one Druzes, eight thousand and twenty-nine adherents of Greek and papal Greek churches, two thousand nine hundred and seventeen Moslems, and two thousand three hundred and eleven Metawalies, with some other smaller sects, making a total of one hundred and ten thousand three hundred and thirteen poll-taxes in Lebanon. The sheikhs and clergy are not included in the enumeration.⁶

The following statements are simply condensed from an elaborate Article on "The Maronites" in the *Missionary Herald*,⁷ without any attempt to reconcile them with what has just been written. The Article was prepared by missionaries in Beirut familiar with the subjects of which they treat.

¹ The Land and the Book, i. p. 24.

² Mount Lebanon, i. p. 54.

³ Mount Lebanon, iii. p. 99.

⁴ The Land and the Book, i. p. 246.

⁵ Mount Lebanon, iii. p. 100.

⁶ Syria and the Holy Land, p. 91.

⁷ *Missionary Herald*, 1845, pp. 314-319.

The Maronites in Lebanon number one hundred and eighty thousand souls. They are of Syrian origin, as appears from their liturgy, which is still Syriac, though they now speak Arabic. They write the Arabic in Syriac letters, which style is called *Karshûny*. They have two ranks of nobility, sheikhs and emirs. The former belong to the families of *Khâzin*, *Habeish*, and *Dehdah*. The latter to the families of *Shehab* and *Abi el-Lem'a*.

Their patriarch resides at the convent of *Kanobin* in summer and that of *Bkerky* in the winter. He styles himself "Patriarch of Antioch and all the East."

They have thirteen bishops. The diocese of *Sidon* extends from *Akka* to the *Damûr*, and as far east as *Anti-Lebanon*. It contains four convents and one nunnery. That of *Beirût* from the *Damûr* to *Antelias*, contains ten convents. That of *Cyprus*, including, besides that island, *Lebanon* from *Antelias* to *Nahr el-Kelb*, contains eight convents. That of *Damascus* including, besides that city, from *Nahr el-Kelb* one half of *Kesrawan*, contains four convents and eight nunneries. The diocese of *Baalbek* reaches from the middle of *Kesrawan* to *Jebeil*, and contains five convents and seven nunneries. That of *Jebeil*, from the district of *Futûh* to near *Tripoli*, contains nine convents and one nunnery, and that of *Tripoli* extends thence to *Akkar*. *Ehden* constitutes a diocese of its own, and so does *Aleppo*.

Their priests numbered at that time from seven hundred to a thousand. In the forty convents enumerated above, were one thousand one hundred and two monks, and in the seventeen nunneries five hundred and seven nuns. Of the monks about six hundred were in priests orders.

The patriarch is elected by the bishops from their own number, and is confirmed by the pope. The bishops are elected by the people of the diocese, and approved by the patriarch who consecrates them, assisted in the imposition of hands by the other bishops. There are some bishops without dioceses, acting as superiors of convents, and vicars or agents of the patriarch. The priests are usually married,

but never after ordination ; second marriages are not allowed. They are elected by the people of the parish from among themselves, and no candidate can be forced on them without their consent. If a parish becomes dissatisfied with its priest they can accuse him to the bishop, who has power to suspend him from office for canonical cause. Every priest must pass an examination in Arabic and Syriac, at least so far as to be able to read it, if he cannot interpret it, and also in casuistry, besides giving evidence of good character. He receives ordination either from the patriarchs or from a bishop, and his duties are to baptize, ratify espousals and marry, visit the sick and administer extreme unction, say mass daily, read prayers in church, at least on Saturday and Sunday afternoons, hear confessions, give the communion, and once a week read over by himself the book of offices according to the Rubric. Their income is a stipulated portion of the produce of the parish, such as grain, olive-oil, silk, etc., paid at the harvest season of each article, and two piastres each for masses, baptisms, espousals, marriages, and burials. The whole varies from two thousand to nine thousand piastres. They are not allowed to trade, labor as mechanics, or pursue any other profession. The income of the bishops is derived from glebes, presents when they officiate at baptisms, marriages, funerals, etc., and for permission to marry within the prohibited degrees of affinity ; also four piastres for each mass, and varies from ten thousand to twenty-four thousand piastres. The patriarch has an income of two piastres from each adult Maronite, minus the percentage of the bishops for collecting it ; of five piastres from each priest, of six piastres for every mass he celebrates, and one hundred thousand piastres from his convents, amounting to two hundred thousand piastres in all.

There is a school in every large village or town, parents paying a stipulated sum for each book a child learns to read. In some places school funds aid in the support of the teacher, and sometimes the bishop pays for the tuition of the poor. The income of teachers is from six hundred to one thousand,

and even as high as five thousand, piastres per annum. Nothing is taught but reading. About one third of the men learn to read, but none of the women except perhaps a few of noble birth. There were in 1845 three general colleges situated at Ain Warkah, Rûmieh, and Mar Abdah Herberfya, with incomes varying from thirty thousand to two hundred thousand piastres, three diocesan colleges at Mar Yohanna Maron, Mishmûsheh, and Kurnet Shehwan; also two schools for monks at Bir Suneih and Kefifan. No mathematics, not even arithmetic, is taught at any of them, only reading and casuistry at the monkish colleges, and Syriac, Arabic grammar, logic, moral theology, and preaching at the others; at Ain Warkah, Latin, Italian, rhetoric, physics, and philosophy are taught, and doctrinal theology was once introduced, but discontinued because it tended to Protestantism. During his whole course the charity student—for each diocese may send two—is not allowed to leave the premises, nor to converse with any outside the school, nor with the servants, and with each other only in the time appropriated to recreation. When at the age of sixteen he must take an oath of obedience to the patriarchs, and be subject to his orders. No regard is had to rank or wealth in admission or treatment afterwards, and those found incapable of enduring the regulations of the school are sent away. The course of study is from five to eight years, according to the proficiency of the student on entering.

The population of some of the large towns is as follows: ¹

Beirût (lat. 33° 54' 55"; long. 35° 27' 35", at castle on northeast of city) which Dr. Robinson in 1838 gave at fifteen thousand, he counted thirty thousand in 1856.² Dr. W. M. Thomson³ puts it at from forty to fifty thousand in 1858, and Mr. G. C. Hurter now (1869) assures me it is as high as eighty-five thousand. The commercial advantages of Beirût as the great entrepot for Syria, and the large acces-

¹ Dr. W. M. Thomson gives the statistics of the chief cities and towns in Syria in the *Missionary Herald*, 1842, p. 19.

² *Biblical Researches* (1859), iii. 9.

³ *The Land and the Book*.

sion of fugitives from the massacres of 1860, who never returned to their homes, account for this very marked increase.

Tripoli (lat. $34^{\circ} 27' 0''$; long. $35^{\circ} 47' 50''$) Rev. J. L. Porter¹ puts at thirteen thousand, probably counting the city alone. Dr. W. M. Thomson,² including the mina or seaport a mile and a half from the city, estimates it to be eighteen thousand.

Zahleh, the largest town on the mountain, Dr. Thomson puts down at eleven thousand, and Mr. Hurter thinks that its population is not much diminished by the massacre. Previous to that Dr. Thomson estimated Deir el-Kamr (lat. $33^{\circ} 43' 25''$; long. $35^{\circ} 35'$) at seven thousand. Col. Churchill³ says "some eight thousand," but that has been a good deal diminished, for it suffered more than any other place in Lebanon at that time. Rev. S. H. Calhoun says (April 1869): "Deir el-Kamr, which had a population of six thousand or seven thousand, has not more than three thousand now."

Hasbeiya (lat. $33^{\circ} 25' 13''$; long. $35^{\circ} 41''$), which previous to 1860 contained six thousand inhabitants, has not diminished so much.

Sidon (lat. $33^{\circ} 34' 0''$; long. $35^{\circ} 21' 30''$), according to Dr. W. M. Thomson, who resided there, numbered ten thousand a few years since, and the population there is on the increase.

Damascus (lat. $33^{\circ} 32' 28''$; long. $36^{\circ} 15' 30''$), Lieut. Lynch, on the authority of Dr. Meshakah,⁴ reckons at one hundred and fifteen thousand; Dr. W. M. Thomson says one hundred and twenty thousand. I have no means of ascertaining its present population, but it is a city so favorably situated by nature, that even after the greatest calamities it soon recovers its accustomed prosperity.

Rev. C. G. Young⁵ says that the Maronites have eighty-two monasteries in Lebanon, of which sixty-seven are for

¹ Giant Cities of Bashan, p. 286.

² The Land and the Book, i. p. 24.

³ Mount Lebanon, i. p. 193.

⁴ Narrative, p. 489.

⁵ A Wayfarer's Notes on the Shores of the Levant, pp. 143, 172.

monks, with one thousand four hundred and ten inmates, and fifteen for nuns, with three hundred and thirty; besides these are three hundred and fifty-six churches, served by one thousand two hundred and five priests. He says the papal Greeks have ten convents, the Catholic Armenians three, and the Syrian Catholics one.

Col. Churchill¹ says there are upwards of one hundred monasteries and ten thousand monks in Lebanon, more than half of whom are Maronites, who hold in possession "nearly one fourth of the entire surface of the mountain." W. K. Kelley says: "Besides a numerous secular clergy, Lebanon has more than ten thousand monks in two hundred convents, more than two thirds of whom are Maronites."²

The districts of Mount Lebanon are political and not geographical divisions, and have no settled boundaries. They date from the year 1713, when after the famous battle of Aindara, which destroyed the powerful faction of the Yemeni, the Christian emirs and Druze sheikhs who had enabled the Emir Heider Shehaab to gain that decisive victory, obtained his consent that the mountain should be divided into districts, the leading chief in each becoming responsible for the payment of the taxes due to government. The amount to be raised by each was settled, and the Emir Heider gave to each feudal chief a mukataa, or contract, to that effect.³ Yet the word **مقاطعة** means also a section, a district, a province, from the root **قطر**, to cut, to sever. Many of these districts are small, and are constantly changing, according to the exigencies or favoritism of the government. Even in the largest of them great changes are made almost every year. Dr. Robinson gives a list of nineteen;⁴ viz. el-Tuffah, el-Kharnub, Jézzin, esh-Shûf, el-Arkûb, el-Manasif, es-Sahhar, es-Sahil, el-Ghurb, el-Jûrd, el-Metn, el-Kesrawan, el-Fetuh, Jebail, el-Betrûn, ez-Zawieh, el-Muneiterah, el-Kûrah, and Besherreh; but he should have included ed-Dunniyeh⁵ and

¹ Mount Lebanon, iii. pp. 89, 93.

² Syria and the Holy Land, p. 94.

³ Col. Churchill's Mount Lebanon, ii. 972; iii. 30.

⁴ Biblical Researches, iii. (1841); Appendix, 187-196.

⁵ Ibid. p. 186.

esh-Shukff¹ in the list, which would have made twenty-one. E. G. Schultz obtained a list of twenty from the Emir Beshir Haidar, thirteen of them Druze districts, and seven Maronites. Col. Churchill mentions only eighteen, omitting es-Sahil, el-Muneitirah, and ed-Dunniyeh, and adding another, Rihan.

The English admiralty map, besides those mentioned by Robinson, gives Tarabulus, Ard Tannurin, Ard Akluk, Akurah, Ibbet, and el-Haity, but omits es-Sahhar and el-Batrîn, showing how unsatisfactory and unreliable these political divisions are.²

Rev. S. H. Calhoun writes (April 3d, 1869) of the effect of the massacre of 1860 on the population of Lebanon: "The Maronites were greatly weakened by the slaughter of so many of their principal men, and of its male population generally. Still it is coming up again, and after the lapse of nine years one would not note the difference without particular inquiry, except in particular places, as at Deir el-Kamr. The victorious Druzes, on the other hand, are at present the losers. Their numbers are diminishing on Lebanon by the emigration of many families to the Hauran, and their influence is on the wane through the many deaths that have occurred among their sheikhs. This latter fact is a singular one. The heads of the Jimblat, Amad, Abdul Melik, and Telhûk families have gone."

ANTIQUITIES.

The first object that strikes one on landing at Sidon, Beirut, Jebail, or Tripoli, is the number of granite columns, from ten to twenty feet long, and one to two in diameter, that form a floor to the shallow harbors, are piled up like cord wood to form piers, or are built into the walls of more modern structures. The style is Grecian, and the material is from Egypt; for, though Lieut. Lynch speaks of granite "in situ," in Anti-Lebanon, and at Baalbek,³ there is none in Pal-

¹ Biblical Researches, iii. (1841), p. 136.

² See letter of Dr. Thomson, V. de Velde's Memoir p. 26.

³ Narrative, pp. 483, 501.

estine or Lebanon except what has been imported. Granite is found on the eastern slopes of Mount Casius.¹ These pillars must have been brought into the country very early, for they are built into structures that date from the time of the elder Ptolemies, and of course must have belonged to ruins then.² They are found among the ruins of Baalbek three thousand feet above the sea, and at Afka on the western face of the mountain, four thousand five hundred and sixty feet high.³ We can easily see how they were transported from the quarries at Syene to the sea, and thence to Phoenicia; but how they were raised so high on Lebanon without anything deserving the name of a road, is certainly a mystery.

The cities along the coast contain such numbers of old foundations, cisterns, tombs, sarcophagi, and ruined structures that even strangers soon cease to notice them. Whenever excavations are made for the foundation of new buildings, fresh objects of interest are brought to the light. In 1854 several copper pots full of beautiful gold coins of Philip of Macedon and his son Alexander were dug up in a garden at Sidon, and deposits of smaller coins have more recently been found in the same vicinity. In Mugharet Tubloon, an ancient Phoenician cemetery there, the sarcophagus of King Ashmunazer or Ashmunyyer, son of Tabnith, son of Ashmunazer king of Sidon, was discovered January 20th, 1855, and on it the longest Phoenician inscription that has yet come to light, and in most perfect preservation. It was found twelve feet below the surface. The lid, a very hard and finely polished piece of marble, eight feet by four, contains twenty-two lines closely written, and scholars have found little difficulty in reading them, from their close resemblance to the Hebrew. The sarcophagus was carried to Paris for a translation of the inscription,⁴ and copies of the original with transcriptions

¹ W. M. Thomson, in *Missionary Herald*, 1841, p. 234.

² W. M. Thomson, in *Bibliotheca Sacra* (1848), Vol. v. p. 7.

³ Allen's *Dead Sea*, etc., ii. p. 154, quoted by V. de Velde, *Memoir*, p. 171.

⁴ See *The Land and the Book*, i. p. 199.

in Hebrew and critical dissertations on the text have been published by Professor E. E. Salisbury and W. W. Turner.¹

The ruins at Jebail (Gebal) resemble in the size of the stones and the style of finish the substructures of the temple at Jerusalem. Some of the stones are twenty feet square, and as the word rendered "stone squarers" in 1 Kings v. 18 is in the Hebrew (v. 32) גִּבְלִיִּים, Giblites, or men of Gebal, it looks as if they had copied the models of their native town in their work for the Jewish king. At any rate the men of Gebal were intelligent and enterprising mechanics, for as we have seen they were also the naval architects of ancient Tyre (Ezek. xxvii. 9).

At the mouth of Nahr el-Kelb the road on the south side of the stream is a terrace hewn out of the face of the cliff, about a hundred feet above the sea, for nearly half a mile² (the writer would say, from his recollection, not half so long); a more ancient road runs parallel with this on a higher terrace, and on the inside of this higher pass are nine tablets or panels cut in the face of the rock. Three of these are Egyptian, in which Professor Lepsius finds the cartouche of Rameses II., the Sesostris of Herodotus; and six are Assyrian, which Mr. Layard regards as the work of Sennacherib. They are all much defaced, and hardly legible. The lower road was made by the emperor Marcus Aurelius Antoninus, in the latter part of the second century, according to the following inscription at the north end of the pass:

IMP. CAES. M. AVRELIVS ANTONINVS PIVS FELIX AVGVSTVS
PART. MAX. BRIT. MAX. GERM. MAXIMVS PONTIFEX
MAXIMVS MONTIBVS INMINENTIBVS LICO FLVMINI
CAESIS VIAM DILATAVIT³ PERM.
ANTONINIANAM SVAM.⁴

Antiquities are found in all parts of Lebanon, but there is

¹ See *Journal of American Oriental Society*, v. p. 227-259.

² W. M. Thomson in *Bibliotheca Sacra* (1848), Vol. v. p. 2.

³ Dilatavit is Delatavit in the inscription.

⁴ Robinson's *Biblical Researches*, 1856, pp. 618-624; *The Land and the Book*, i. p. 57, 59; *Giant Cities of Bashan*, p. 283; Ritter's *Erdkunde*, xvii. pp. 531-546; Layard's *Nineveh and Babylon*, p. 210.

no one ruin of very large extent. The best specimen of a Roman bridge to be found in Syria is at Maameltein at the northeast corner of the bay of Juneh.¹ Its span is thirty-eight feet four inches, width thirty-three feet nine inches, and height twenty-six feet.

The aqueduct that supplied ancient Berytus with water crossed the Magoras on a two story tier of arches; it then passed through a tunnel in the western cliff, with numerous shafts rising to the surface, and was carried across the plain on masonry so massive that it has long served the purposes of a quarry.² Sarcophagi abound in many parts of Lebanon and the Bukâ'a. South of Beirût one stumbles on them sometimes alone and sometimes in groups in the most unexpected places. The "remarkable ancient sarcophagi," mentioned by Dr. Robinson,³ were found accidentally by the writer in 1845, while spending the summer at Beshamon, and others may have found them before that.

There are many ruined temples on and around Lebanon. There is a small one at Bisry on the Auwaly. V. de Velde⁴ mentions another at Amiyûn, and a third at Bezîza. The temple at Fakhrâh near the natural bridge on the Nahr el-Kelb faces the east, and measures one hundred and ten feet by fifty-five. The walls are partly standing, but the rose-colored limestone columns, four feet in diameter, with Corinthian capitals are all prostrate.⁵ Dr. Robinson⁶ calls them three feet nine inches in diameter, and says that the outside is blue from long exposure. Not far from this is a square tower called "the castle," which Dr. Robinson is disposed to regard as a tomb. An inscription records its erection in A.D. 43.

At Afka (Apheca) the walls of the celebrated temple of Venus have fallen inward, and the destruction is so complete

¹ Bibliotheca Sacra (1848), Vol. v. p. 2.

² Robinson's Biblical Researches (1856), pp. 14, 22.

³ Later Researches, p. 18.

⁴ Memoir, p. 31.

⁵ Five Years in Damascus, ii. p. 291; Bibliotheca Sacra (1848), Vol. v. p. 3

⁶ Later Researches, p. 613.

that it is difficult to make out either its plan or its size. It was destroyed, as already mentioned, by the emperor Constantine, on account of the abominable impurities connected with the worship of the goddess.¹ There are two rude oratories at Naûs above Deir Dimitry.² Is the name a corruption of the Greek *ναός*?

The temple at Sufiry in the district of Dunnyeh has some of its walls standing, though the columns are all fallen. On one side are three doors, the largest twenty-five feet high and eight feet wide. Some of the stones are twenty-two feet long.³

The famous temple of Venus at Arka stood on a mound two hundred feet high, and about a mile in circuit round the base. High up in the face of the rocky precipice under the temple is the entrance of a tunnel from which once issued a beautiful waterfall. The water was brought from the mountain through tunnels and over arches. Sixty-four granite columns have been thrown down the precipice in front.⁴

The ruin at Deir el-Kulah (Convent of the Castle) is described by Dr. E. Smith.⁵ The site commands a beautiful view of the city and plain of Beirût, with the shipping in the harbor, and on the south the Nahr Beirût passes almost directly beneath the spectator, in a chasm so deep and precipitous that the river is not visible, and the immense walls of rock rise up like huge bastions, while the snowy battlements of Sunnîn and the rounded dome of Kineeseh look down on the spectator from the east. The gorge is so inaccessible that panthers are said still to find in it a hiding place. The temple faces the northeast, and is one hundred and six feet by fifty-four. The portico had a double row of columns, six feet in diameter, and portions of four of them are still standing. In a long Greek inscription now in the kitchen

¹ Robinson's Biblical Researches, 1856, pp. 603-608.

² The Land and the Book, i. p. 361.

³ Bibliotheca Sacra (1848), Vol. v. p. 13.

⁴ Bibliotheca Sacra (1848), Vol. v. p. 15.

⁵ Bibliotheca Sacra (1843), pp. 557-563; see also *Giant Cities of Bashan*, p. 293, and Robinson's Biblical Researches, 1856, pp. 14-17.

of the convent, the idol is addressed as Baal-Markos, sovereign lord of sports. In other places were Baal-Berith, "lord of the covenant" (Judg. ix. 4), Baal-Zebub, "lord of flies" (2 Kings i. 2); but this "high place" was dedicated to the "lord of sports," and the account of Baal-Peor (Numb. xxv) tells us of what sort they were.

It may give a more accurate idea of ancient ruins in Lebanon, if guided by Dr. De Forest, under whose hospitable roof the writer spent his first winter in Syria, we follow up the eastern declivity of the mountain, from the point where the Damascus road descends toward the Bukâ'a, as far as Fum el-Mizab, and then crossing over to Anti-Lebanon return along its western base, and cross back to our starting-point. His account of the journey is in the *Journal of the American Oriental Society*.¹ At Judeitheh, just below Khan el-Mureijat is a ruined temple of Juno, and near it an inscription on a block of limestone that may have been the base of a statue, stating that the brothers Balbicanus and Cemfilus, at the dying request of their mother Petilia Lucia, had erected it as a votive offering to Juno for the health of the emperor Hadrian and his children. West of the fountain at Niha is a ruined temple one hundred and seventeen and a half feet long and fifty-six feet wide. The stones over the central door, which is sixteen feet wide, had a rich tracery of vines and grapes, and broken Corinthian capitals are scattered among the rubbish. On the opposite side of the stream are the ruins of a similar structure, while a steep climb of forty-five minutes brings us to Kûlaat Nîha, a temple ninety-two and a half feet by forty-six, commanding a fine view of the Bukâ'a. The walls of these old temples were hewn smooth after they were erected, and in this case the process was not carried above the first row of stones. In front there were three courses in the foundation, and seven others carried the wall up more than thirty-five feet. In the interior there were six columns on each side, those at the corners being double. Five minutes to the west of this is another ruin, about thirty

¹ *Journal of the American Oriental Society*, iii. p. 349-366.

feet square, built of large stones, roughly cut. Half an hour beyond, the people of Kūsūrñabeh have built their houses around the foundations of an ancient temple. Another half hour brings us to the ruin Burj esh-Shaarah, fifty feet by twenty-five, standing in a court two hundred and seventeen feet by one hundred and twenty. A portion of a church alongside of it is yet entire. Passing by several antiquities of less importance we come to the beautiful Lake Yemnoneh, two miles long in the early spring, though nearly dry in the autumn, and there, facing the principal fountain, whose waters fall in a pretty little cascade, is a ruined temple, fifty-six by thirty-six feet, on an elevated platform two hundred and sixty-five feet by two hundred and five, its columns three and one third feet in diameter. The name of Adrian is roughly inscribed on the smooth face of the rock here and there in this vicinity. At Deir el-Ahmar is a small ruin with Corinthian capitals to its pilasters. Crossing to Nakleh under Anti-Lebanon we find massive foundations twelve feet high, with ten feet of solid wall above them. Passing by the magnificent ruins of Baalbec, and not wearying the reader with a list of tombs, broken columns, substructures, and other antiquities at a dozen different villages, we reach the weather-worn temple of Mijdel. Its east end and north side are nearly entire. Dr. Robinson¹ gives its size, eighty-two feet long and forty-six feet wide. The columns of the portico, four and one third feet in diameter, are fallen. Three doors, as usual, opened from this into the interior. The grand central one is fourteen feet six inches wide, with sculptured door-posts twenty-four and one sixth feet high, six feet wide, and four and one fourth feet thick. The five half columns on each side of the interior are fluted, and alternating with them are two niches, one above the other. In one side a course of three large stones, each twenty-one feet eight inches long, and five feet eight inches high fills out the length. With the exception of the smaller temple at Baalbec this is the best preserved ruin in the region, and the view from it is mag-

¹ Later Researches, p. 493.

nificent. On the east it looks across a narrow valley to the rocky sides of Anti-Lebanon. To the west it looks across the variegated carpet of the Bukâ'a to the snowy crest of Lebanon, and northeast the fertile plain stretches away to the head-waters of the Orontes.

Leaving Mejdal, and climbing the eastern side of Lebanon by a road that passes through Kubb Elias, an hour from that place brings us to the Shukif eth-Thaur (Cliff of the Bull), so called from the figure of that animal, cut with much spirit, and of the size of life, on the north side of a large detached rock at the foot of a rugged precipice; forty minutes more brings us back into the Damascus road.

A believer in tradition may find much older antiquities in this region. The tomb of Elisha is shown to him at Furzul. The grave of Noah will be pointed out at Kerak only seventy yards long,¹ because the knees of the patriarch are doubled under him. Not far from Sirin is, on like authority, the last resting-place of Seth, more than a hundred feet long, and "a few hours further east is the largest and oldest cemetery in this world of graves, containing the tomb of Abel, placed above the collected bones of all who perished in the flood."

We have given the size of several of the stones in the ancient temples of Lebanon; we close with the measurement of the block still in the quarry at Baalbec. It is sixty-eight feet in length, seventeen feet two inches wide, and fourteen feet seven inches in thickness.²

Since writing the previous paragraph, a letter received from Rev. S. H. Calhoun, dated April 3d, 1869, says: "You have been, I believe, at Baalbec; I have often visited those stupendous ruins, and with constantly increasing interest. I had heard that a traveller had found his way into a room hitherto unknown, through a small aperture in the wall of the southern subterranean passage. On a late examination

¹ See *Five Years in Damascus*, i. p. 278; W. M. Thomson "The Land and the Book," i. 353, says "a little more than one hundred and thirty feet long"; "Syria and the Holy Land," p. 95 gives "at least sixty feet."

² Robinson's *Biblical Researches* (1856), p. 505.

I was convinced that it was a chapel for worship. The door was originally twenty feet high, opening to the south, and opposite it stood what was probably an altar. The roof was arched and ornamented. I am inclined to think it was a chapel for sun worship at noon-day, as the immense temple above was for the worship of the same luminary at his rising. Thus Baalbek was, so to speak, the capital of sun worship."

"One would naturally suppose that a temple of the sun would in its longer diameter correspond exactly with a line drawn east and west. Instead of this it varies ten or twelve degrees. The reason for this deviation seems to be that the western end is made to face with great exactitude the highest point of *Jebel Sunnûn*, perhaps with reference to some chapel for worship on that summit, or because the morning worshipper would see the rays of the sun lighting up that point a full half-hour before they reached the temple itself."

ARTICLE V.

THE DOCTRINE OF THE APOSTLES.¹

BY S. R. ASBURY, RESIDENT LICENTIATE AT ANDOVER.

INTRODUCTION.

THE subject of which the present work treats forms the second part of the Theology of the New Testament. A presentation of the apostolic doctrine, apart from the doctrine of Christ as contained in the Gospels, presupposes that the former, though closely connected with the latter, yet forms

¹ Abstract of *Die Lehre der Apostel*, dargestellt von Hermann Messner. Dr. Messner is now Professor Extraordinary in the University of Berlin, and editor of the *Neue Evangelische Kirchenzeitung*. He is said to be a man of thoroughly evangelical and progressive views. Other works referred to in the Article are: *Biblische Theologie des Neuen Testaments*, von Chr. Fr. Schmid, Professor in Tübingen (Stuttgart, 1859); *Die Petrische Lehrbegriff*, by Lic. Dr. Bernhard Weiss, Professor in Königsberg (Berlin, 1855); Neander *Die Pflanzung der Christlichen Kirche*, etc. [*The Planting of Christianity*, etc.].