

## ARTICLE VII.

PHYSICAL PREPARATION FOR ISRAEL IN  
PALESTINE.

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## I.

DURING the months of December and January last, I have been permitted to traverse the entire length of Palestine under exceptionally favorable circumstances, and have had brought to my attention several points in which the physical features of the country have had an important bearing on its history. These I will briefly summarize, leaving the fuller discussion of them for a period of greater leisure. Our route led from Beirut, across the Lebanon and Anti-Lebanon mountains, to Damascus, thence over the south shoulder of Mount Hermon to Baniyas (Cæsarea Philippi) and the ancient Dan, thence south to Lake Galilee, Nazareth, Jezreel, Samaria, Shechem, Shiloh, Jerusalem, Jericho, Mar Saba, Bethlehem, Hebron, the south end of the Dead Sea, Engedi, then back to Jerusalem and down to Joppa.

## I. ISOLATION IN A CENTRAL LOCALITY.

The peculiar development of Israel demanded isolation in a peculiar country. Otherwise they would have been amalgamated with the more numerous, more powerful, and more civilized heathen around them, and their exclusive religious development would have been rendered extremely difficult, if not impossible. At the same time, if their religion was to become universal, the theater of historical

development must be at a pivotal point of the great national movements of the world's development. Both these ends were secured in Palestine by a remarkable combination of geological and physical forces which has commanded the admiration of all profound students of the subject.

The "great fault of the Jordan Valley" was pronounced by Humboldt "the most remarkable geological feature anywhere to be found in the world"; while Karl Ritter, in his elaborate geographical publications ever returned to this cleft in the earth's surface, as the most significant fact in the natural history of the globe. This "fault," or crack in the crust of the earth, extends from Antioch on the Orontes River, in Syria, to the south end of the Gulf of Akaba, on the east side of the Sinaitic Peninsula, a distance of about one thousand miles. The Lebanon Mountains, Western Palestine, and the Desert of Sinai are on one side of it. The Anti-Lebanon Range and the elevated plains of Moab and Northern Arabia are on the other side. Along the whole dividing line the rocky strata were fractured, and the eastern edge of the western portion slipped down, while the western edge of the eastern mass was elevated.

The depression is most pronounced in the valley of the Jordan and the Dead Sea. Lake Huleh and the marshy plain extending north to Cæsarea Philippi are almost exactly at sea-level; but Lake Galilee is more than 600 feet, and the Dead Sea 1,292 feet, below the level of the Mediterranean. In its deepest place the bottom of the Dead Sea is 2,600 feet below ocean-level, and since the heights of Moab and those near Hebron are more than 3,000 feet above the Mediterranean, it follows that the bottom of the Dead Sea is depressed nearly 6,000 feet below the general land-level. The rock strata on the surface of the plains of Moab correspond to those on the western margin of the Jordan Valley and of the Dead Sea. Western Palestine is a gigantic arch

of rock strata, with Shiloh, Jerusalem, and Hebron on its summit, its eastern foot at the bottom of the Dead Sea, and its western base below the plains of Philistia on the Mediterranean.

The western arch, however, has one remarkable interruption in Palestine. This appears in the plain of Esdraelon, which occupies a "cross-fault," extending from the Jordan a little south of Lake Galilee to the Mediterranean at the north end of Mount Carmel. Nazareth lies a little to the north of this cross-fracture, while the Mount of Precipitation, over which his fellow-townsmen were on the point of casting Jesus, is a portion of the northern cliff facing Esdraelon produced by the geographical fault, or fracture. Mount Tabor, a few miles to the east, is an outlying mass of rock which did not settle down with the rest of the valley, and is still connected by a low ridge with the main mass to the north.

The summit of the valley of Esdraelon, between Mount Tabor and Jezreel, is only about 500 feet above the Mediterranean. The depression, therefore, affords the natural line of communication between the shores of this sea and the country east of the Jordan. This was the main route followed by the caravans from the valley of the Euphrates through Damascus to the Mediterranean at Acre, and thence along the shore to Egypt. It was this which made the valley of Esdraelon the great battle-field between the east and the west. Recently an English company has surveyed and partly graded a railway from Acre through this valley to the Jordan, and thence to Damascus. Thus, from first to last, it has been a great highway for the nations.

Yet, upon either side the ascent to the hills is so rapid, and the country so inaccessible, that there has been little temptation for military occupation by foreigners. When Napoleon led his expedition from Egypt to Syria, he established his headquarters for a while on the plain at Ramleh, near

Joppa, and later besieged Acre, and made his headquarters near Jezreel; while his ablest general Kléber fought an important battle at the base of Mount Tabor. Meanwhile Jerusalem was left undisturbed in its isolated position among the mountains of Judæa. When asked why he did not capture Jerusalem, Napoleon replied that it was so out of the way that it was of no general military significance. There can be no question, that the warning of the prophets against alliances with the great nations in the valleys of the Nile and Euphrates conformed to the highest principles of both military and political wisdom. There was little motive for Assyria to capture Jerusalem, except as she was an ally of Egypt. Her strength was in the natural independence of her isolation.

Next to the Caucasus, Judæa is, from a military point of view, one of the most easily defended regions in the world. The approaches from the west are through steep and circuitous mountain gorges, in which an attacking army is in constant peril from surprises. The trails from Samaria to Jerusalem are, even now, almost impassable to horses, while the desert and difficult roads protect it from the south. Joshua's march from Jericho up the valley to the summit at Ai and Bethel, a few miles north of Jerusalem, exhibited the perfection of military tactics. From this point of vantage he could sweep along the central ridge to the south, and easily occupy the main positions of importance. Providence was not altogether blind in leading the children of Israel through Moab to the head of the Dead Sea and to the passes that lead thence to the central part of the Promised Land.

North of the valley of Esdraelon the land was almost equally protected. The approach to Lake Galilee by the Jordan Valley is difficult. The entire east-and-west "fault" facing Esdraelon from the north presents a precipitous front which is easily defended. The mountains on both the east and the

west side of the valley, beginning at the south end of Lake Galilee and extending to the ancient Dan, are lofty, and inaccessible to a military force; while north of Dan the valley between Lebanon and Mount Hermon is so deeply filled with the débris of a recent volcanic eruption that it is practically impassable. The Litany River, which rises near Baalbeck and flows south through the valley between Lebanon and Anti-Lebanon, as though it would join the waters of the Jordan Valley, meets this barrier, and suddenly turns at a right angle to join the Mediterranean near Sidon. The observant traveler cannot fail to be impressed with the completeness of this barrier as he crosses its southern projection near Dan, and takes a glance at the successive steps with which the volcanic material rises across the valley to the north.

Thus, with this barrier of rough basaltic rocks to the north, the precipitous mountain walls on the east and west, and the desert on the south, Palestine was specially prepared to be the home of a "Peculiar People." At the same time the great highway between the east and the west passed through its center, but so walled in that there was little temptation for an armed force to interfere with peaceable people on either side. So that, as Origen forcibly maintained, Palestine, though insignificant in itself, was so centrally situated that it was the fittest of all places for the dissemination of Christianity to the ends of the earth.

## II. THREE GREAT MIRACLES.

The destruction of Sodom and Gomorrah, the parting of the waters of the Jordan, and the falling of the walls of Jericho, are three notable miracles upon which the physical history of Palestine sheds interesting light. These were, doubtless, what are styled "mediate miracles." That is, they are miracles in which the secondary agencies used by the Divine Will are clearly traceable. This, however, does

not in any degree detract from the divine power displayed in them. They may be compared to the explosion of a mine which has been prepared for a particular emergency, such as occurs when an enemy is directly over it. Since its explosion is not left to chance, but is brought about at a particular time to accomplish a particular purpose, it is lifted out of the category of the established order of nature, and made to conform to the definition of the immediate acts of a free will. In these cases the accomplishments are also so clearly superhuman that they are indubitably miraculous.

All these three miracles seem to be directly connected with the natural causes which have produced the "great Jordan Fault," and which render the region specially subject to earthquakes, to one of which the falling of the walls of Jericho may be directly referred for its secondary cause. But it is as easy to conceive of a direct control of the secondary causes of an earthquake by the Divine Will as it is to understand how one's arm is moved by the human will. A miracle is as natural to the Divine Will as an ordinary physical act is to a human will. The mine beneath the walls of Jericho was, however, so deeply laid that only divine power and prescience could explode it at the proper time to accomplish its spiritual purposes.

The parting of the waters of the Jordan has been thought by some to have been caused by a landslip somewhere above, which temporarily cut off the water below. Such an interruption of the waters of the Columbia River in Oregon is known to have occurred at the Cascades, where an old channel was permanently obstructed by an immense landslide, producing a lake above, whose outlet is still over the rocks which cause the cascade. Having studied this somewhat carefully several years ago, it was with it in mind that I entered the Jordan Valley at Jericho, near the ford above the Dead Sea. But on reaching the river's bank certain

phenomena instantly presented themselves, which point to another explanation.

Near the Pilgrims' Bathing-Place, the east bank of the river is so eroded by the stream as to present a perpendicular face. This consists of fine sediment, about thirty feet thick, which has been deposited by the river when standing at a higher level, and subsequently channeled by it when the land-level was relatively higher. But what was still more significant, was that there were here clear indications of three changes of level: First, there had been an elevation of about fifteen feet, during which erosion had proceeded to that extent. Then there had been a return of the water to the higher level and a re-sedimentation up to the old limit. This was followed by a re-channeling of the whole, during which the river had cut through both the later and upper sediment, and also for fifteen feet lower down.

The most natural interpretation of this succession is, that, after the channel had been cut down the first fifteen feet, there was an elevation, through subterranean forces, of the bed of the stream a mile or two below. This would dam up the water temporarily, and afford a dry crossing-place for a few hours, or even longer, and make the waters seem to pile up above, as described in Josh. iii. 16. When, however, at length, the water began to run over the obstacle to its progress, there would be opportunity to refill with sediment a part of its bed above; so that, on later re-erosion to its present level, it would present the phenomena now to be observed. I have not evidence sufficient to form an opinion as to whether the episode in the river's history brought to light by these facts relates to the same epoch with that of the miracle recorded in the Pentateuch; but it certainly gives a plausible explanation of the probable secondary causes used in accomplishing it. Here, again, was a particular use, for a moral purpose, of the subterra-

nean forces which have so long operated in producing the great depression of the Jordan Valley. If one contends that the exhibition of this force at that time was foreordained, he must still bring in prophetic, or divine, foresight to secure the presence of the hosts of Israel there at the precise juncture, and this involves all the essential elements of a miracle.

The probable secondary causes employed in the destruction of Sodom and Gomorrah have been so well described by Sir J. W. Dawson in his "Egypt and Syria" (pp. 127-131) that a few additional remarks are all that is necessary. The Upper Cretaceous strata which, in the great Jordan Fault, have been thrown down below the level of the Dead Sea, contain much bituminous limestone, such as naturally gives rise to pools of petroleum and inflammable gas. Familiarity with the gas and oil regions of the United States, and a recent visit to the still more remarkable oil-fields at Baku, on the Caspian Sea, make the description of the destruction of Sodom and Gomorrah seem exceedingly natural and lifelike.

American papers, just received, report an oil-well recently opened in Texas which sends up to a height of 200 feet a stream of oil six inches in diameter, and pours out 25,000 barrels of oil per day. The late Professor Orton told me that he had seen the pressure-gauge on a gas-well in Central New York register 2,600 pounds to the square inch. The pressure on the piston of a locomotive rarely goes much over from 130 to 180 pounds to the square inch. The oil-fields at Baku on the Caspian Sea are limited to a few square miles, yet this small area produces as much as all the American fields combined. When a well is sunk a few hundred feet to the subterranean reservoir, the oil comes up with such force that there is no possibility of controlling it. The drills are thrown out by the force of the pressure, together with such quantities of stones, that



the derricks are battered to pieces, and a cone of débris is piled up around the orifice. Meanwhile the oil is caught by dams in the open fields. The region of the Dead Sea is a somewhat similar gas and oil field, over a deep fissure in the earth leading far down towards its central fires. The description of the destruction of Sodom and Gomorrah reads almost exactly like that of some of the scenes known to have accompanied the burning of various petroleum wells and of the stores of inflammable substances surrounding them. The biblical story is too sober and realistic to have been invented. The whole story is told in a few words: "And the Lord rained upon Sodom and upon Gomorrah brimstone and fire from the Lord out of heaven; and he overthrew those cities, and all the plain" (Gen. xix. 24). From the heights of Hebron, about thirty miles away, where Abraham was, the plain about the end of the Dead Sea could not be seen. Instead he saw the smoke of the catastrophe ascending "as the smoke of a furnace." Nothing pertaining to this description has the air of fiction. There is nothing fantastic or extravagant about it, except as the facts naturally entering into the history are in themselves stranger than fiction.

Nor is the fate of Lot's wife altogether anomalous. The eruptions of gas and oil are often accompanied with eruptions of salt slime such as presumably enveloped her as she lingered behind. The description of her death is certainly very sober, and unconnected with the fantastic elements which have been attached to it in many popular representations. The phrase "pillar of salt" is more definite than the original demands. Mound of salt would probably more nearly express the idea. But salt is an abundant constituent of the rocks around the Dead Sea. The lower strata of Jebel Usdum at the south end consist of solid salt 150 feet thick. The pillars left by the erosion of this stratum have given shape to the popular conception.

Again we repeat, that this explanation of the miracle, while it strongly confirms the truth of the record, does not in the least degree impair the miraculous character of the event. The use of these natural forces to accomplish the moral purposes of the catastrophe involves the direct action of the Creator as really as the aiming and firing of a gun at a mark does that of a free human agent. The conjunction of this natural catastrophe with this particular epoch in the history both of Lot and of Abraham could not have been accidental. If the divine agency was not directly involved in setting free at that instant the physical forces producing the catastrophe, it was involved in securing the relation of Lot and Abraham to it. But it is as easy to believe that the Lord directly used the forces prepared as that a huntsman directly fires a gun.

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