
A.J. GREENFIELD

THE MESSAGE OF BIBLICAL MIRACLES

We show that a careful examination of the description of miracles in the Tanach indicates:

- (1) Miracles are not necessarily in violation of the laws of nature.
- (2) The inclusion in the description of certain scientific processes and/or facts unknown to those who were present, gives credence to the authenticity of the text.
- (3) These same inclusions tend to support the conclusion that the text is divinely inspired, since no human at the time could possibly have written such a description.

INTRODUCTION

In the Tanach, many of the events described seem to be supernatural, i.e., in violation of the natural course of events. Those who believe that an omniscient Hashem created the world and composed the Torah ascribe the miraculous events there described to the intervention of Hashem in the affairs of man. It seems clear that these spectacular events were so viewed by the people that experienced them.

However, the Tanach was written for all generations, including our own. There should then be a message even to skeptical scientists of our own day. But, on the face of it, the miracles described in the Tanach are given short shrift by scientists. Since such events appear to violate the laws of science, that in itself is viewed by scientists as strong evidence against the possibility that they actually occurred as described. Scientists commonly view miracles as mythical descriptions which at best may have had some basis in fact but, in the course of transmission over hundreds of generations, the facts have been distorted out of all proportion to the actual occurrences.

In this article we carefully analyze four of the more spectacular Scriptural

* Based on a lecture given at the Second Torah and Science Conference March 1995.

miracles, each witnessed by a vast multitude of people. We demonstrate that:

1. There is no evidence that these four miracles violate the laws of physics (though others may in fact do so).
2. The description of each of these miracles includes certain scientific processes and/or facts unknown to those witnessing the event. The significance of these processes would be appreciated only by a scientist of our own era. These inclusions lend authenticity to the text — they would never have been included if the text was nothing more than a collection of ancient myths or legends, rather than actual historical events.
3. There is no natural way to understand how such scientific information could have been known and included by a human author at the time when the Tanach was written, thousands of years ago.

The most rational explanation is to attribute the authorship of the Tanach to a divine being, with knowledge of all the facts and with foreknowledge of future scientific processes thousands of years before their time, a being which we have already referred to above as “Hashem” (The Name). The acceptance of divine authorship of the Tanach gives force to the divine demand to follow the dictates of the Torah.

1. THE SPLITTING OF THE RED SEA

The popular image of the Torah description of this event is as follows: The Jews had just been liberated by Hashem after about 100 years of being slaves to the Egyptians. After one week, the Egyptians changed their minds and sent their army to bring the Jews back. The Jews were trapped between the approaching Egyptians and the Red Sea.

In desperation, at the last possible moment, Moshe waves his staff over the water, the Jews jump into the water and, miraculously, Hashem makes the water split, leaving a channel for them to cross the sea on dry land. The water on each side of this channel stood as vertical walls, one to their left and one to their right. The Jews crossed safely to the other side.

Meanwhile, the Egyptians saw their slaves escaping. There was only one way to get them back. To chase right after them into this miraculous channel. However, as soon as the Jews were safely on the other side and the whole Egyptian army was still in the channel, the walls of water came streaming back to their original position and the entire Egyptian army was drowned.

The dry channel between two vertical walls of water in the above account seems to violate the law of nature, that the force of gravity makes all water seek

the same level. Moshe's action of waving a stick cannot possibly have made the water defy this law of nature.

A closer examination of the text of the Torah (Shemot, Chap. 14) shows that the action of the waters was not supernatural but, rather, a natural reaction to a very strong wind. Verse 21 says: "and Moshe stretched his hand over the sea and Hashem made a powerful east wind blow during the entire night, which made the sea into dry land and the waters were split." This language explains the action of the water as a natural reaction to the force of the wind. Water seeks its own level only so long as there are no other forces, such as the powerful wind sent by Hashem. The only purpose of the staff of Moshe was to signal the Jews to start crossing the sea. Thus, this simple explanation does not require any violation of the laws of nature.

However, verse 22 that follows appears to contradict the above-quoted description. It says: "And the Jews came into the sea on dry land and the water was a wall for them on their right and on their left." A "wall" sounds like a vertical wall and there is no conceivable wind which would cause the water to form a vertical wall. Furthermore, if the east wind simply blew the waters far away, it would also have blown the Jews back to Egypt.

Thus, it seems most reasonable to postulate the emergence of dry land between two masses of water against the near (west) shore, one to the right of the Jews and the other to their left, held in place by the powerful east wind. It was made up of two parts: an east wind oriented somewhat to the south to hold the mass of water to their right, and an east wind oriented somewhat to the north to hold the mass of water to their left. This action left a dry, wind-free path between the two faraway masses of water, which from a distance appeared like vertical walls in the moonlight.

This view of two masses of water is supported by verse 8 of the next chapter (15), praising Hashem: "With the wind from your nostrils you pile up the waters, standing like masses of liquid." The usage "nostrils" is not anthropomorphic. It is used, rather, to describe the two separate, slightly-diverging wind streams. The return of the waters to their previous state is signaled by Moshe stretching out his hand over the sea again. The wind subsides and, without the wind holding them back, the waters come back with great force, shaking the Egyptians mightily, killing all of them.

There is one further question. Why did the wind have to blow all night to split the water, as quoted in Verse 21, above. The effect of the wind in splitting the sea should have been accomplished in much less than an hour.

However, it would have taken a whole night for a people of 600,000 adult men, their wives, children and cattle to cross the expanse of the Red Sea.

Verses 19 and 20 in Chapter 14 say that when the Egyptians came close

enough for the Jews to see them, they were unable to close in on the Jews because a thick fog hovered between the two camps, preventing contact all night between the pursuing Egyptians and the crossing Jews. When, towards morning, the Jews finished crossing (“at the time of the morning watch” — Verse 24), when the pursuing Egyptians were entirely in the seabed of the Red Sea, they were overcome by the returning waters as the restraining wind subsided.

There are a number of unknown facts and scientific processes we have found:

1. The inclusion of the wind as an agent causing the water to be massed far away, leaving a dry channel for the fleeing Jews.
2. The separation of the wind into two slightly divergent wind streams, each holding a large mass of water in equilibrium.
3. The appearance of the water masses as vertical water walls when seen by the Jews from a distance (in moonlight).
4. The need for a night-long wind to hold the water masses in equilibrium while an entire people crossed the Red Sea.

Thus, there is nothing in this description which violates the laws of nature. One may discount the occurrence of such a wind as being supernatural, since current science does not fully understand the sources of unusual winds (e.g., hurricanes).

The details of the description appear to include information which would have been unknown to any human author at the time when the Torah was written, 3500 years ago. These details appear to establish the authenticity of the text and of the event as described.

We may have proved that this event was not in violation of the laws of nature, but this does not detract from the powerful impression created by the fortunate occurrence of this rare strong wind at exactly the time needed to save the Jews. The perfect timing is very impressive and makes it very plausible to believe that Hashem intervened to save the Jews, using natural means to accomplish that end.

2. THE “MOUTH OF THE EARTH” THAT SWALLOWED KORAH

Another well-known event (Bamidbar, Chap. 16) describes how a rebellion by Korah and his group against Moshe and Aharon was miraculously stopped. Moshe tells the rest of the Jews to distance themselves from the rebels to avoid being caught in the same unnatural death that will befall the rebels. Moshe explains that if the rebels die an unnatural death, it is a sign from Hashem that Moshe and Aharon are right and the rebels wrong. Sure enough, just the evildoers and no-one else die at the predicted moment as the ground opens

under them and they are swallowed by the earth, never to be seen again.

This appears to have been an ordinary earthquake. Therefore, one should have no trouble accepting the description of what happened as a natural event, even though the Jews of that time must have viewed it as supernatural. It is very likely that none of the Jews, including Moshe, had ever seen or heard of an earthquake, since they are relatively rare and localized events. In fact, Moshe calls this earthquake a new creation of Hashem (Verse 30).

Today, the actions of earthquakes are well known because the immediate effects of any large earthquake are communicated worldwide. Deep fissures open up and people go tumbling in only to have the fissure close after them, burying them alive. To the Jews at the time of Moshe, unaware of the nature of earthquakes, this event, witnessed at close range, must have made a tremendous impression.

Since Moshe had never experienced an earthquake, it is surprising to find him warning the rest of the people not to get too close to the rebels, lest the innocent be killed together with the wicked. Why did Moshe issue such a warning? He had no reason to suspect that innocent Jews who were too close to the rebels might also be killed.

The inclusion of the warning before the event gives credence to the text, since it would have been omitted from a made-up, mythical description. Yet, it does not appear to be explainable by natural means. Only the face-to-face relationship between Moshe and Hashem, described throughout the Torah, makes such a warning plausible. Thus, the inclusion of this warning in the text tends both to establish the authenticity of the text describing this event as well as the divine inspiration of the author of the text.

One is again impressed by the occurrence of the earthquake at exactly the time predicted by Moshe. It is this timing which leads to the belief that Hashem intervened to punish the rebels and strengthen the hands of Moshe and Aharon, using natural means to accomplish that end.

3. THE FLOW OF THE JORDAN IS CUT OFF

The Jews were ready to enter Eretz Yisrael and capture it after leaving Egypt and spending 40 years in the desert. Between them and their goal was the Jordan river to be crossed. There was no way to cross an entire nation of 600,000 men and their wives, children, and their animals.

Hashem tells Yehoshua that from this day he would be recognized as a great leader, like Moshe before him (Joshua 3:7). He tells Yehoshua that the waters of the Jordan will stop flowing as soon as the feet of the Kohanim carrying the holy ark touch the water (Verse 8). Sure enough, it all happens as predicted, and as

soon as the Kohanim and the ark leave the river bed, after the whole nation has crossed, the Jordan starts flowing again.

At first glance, this looks like a supernatural event. However, as will be seen, this type of stoppage has occurred several times in recorded history, due to natural means.

Let us first examine four other historical occasions when this type of stoppage occurred. In the year 1267, Sultan Bibers commanded that a bridge be built over the Jordan. The sultan sent the Emir Jamal el-Din to build the bridge on five archways. They gathered the money and materials needed and built the bridge. After completing the job, all the builders left. Very soon, with the coming of heavy winter rains, several of the support pillars of the bridge collapsed and the sultan was very angry. He demanded the bridge be fixed immediately.

However, this was now winter time when the water of the Jordan flows with great force. The builders tried for several days and saw they could not fix it during the winter. In those days builders who failed their task were treated more harshly than today and they feared execution. Then, on the night of 8 December 1267, the waters of the Jordan were suddenly completely cut off. The builders hurriedly set up torches and bonfires and completed fixing the defective supports by morning. Shortly afterward, the waters started flowing again. They all gave thanks to Allah for saving them from the wrath of the sultan.

Does this miracle prove that Allah helped them and that he is the true G-d? We will return to this question after discussing the miracle of Eliyahu.

The above was recorded by a 14th-century Arabic historian, Nuviry (see *L'Heker Arzenu*, Braslovsky, p. 231, n. 32), and a manuscript with the above information is found in the National Library of Paris.

According to a series of manuscripts in the Bodleian Library at Oxford, there was another occurrence about 300 years later, in addition to the above recorded stoppage (*L'Heker Arzenu*, Braslovsky, p. 224, n. 6). They describe a violent earthquake on 14 January 1546 at about noon in Jaffa, Hebron, Yerushalaim, Ramallah, Shechem and Damascus, causing widespread damage and death. The dome of the Church of the Holy Sepulchre collapsed, as did that of the Dome of the Rock, but the Synagogue of the Ramban remained undamaged. The documents mention that the Jordan stopped flowing altogether for two days, tending to indicate an association between the Jordan's flow and the earthquake.

About 400 years later, in 1906 and again in 1927, a series of earthquakes occurred and the flow of the Jordan was again interrupted (for 21 hours in 1927). An inquiry showed that near the village of Damia, there is a 50-meter high, steep cliff overhanging the bed of the Jordan. When an earthquake shakes the cliff, tremendous earth slides can occur, filling and damming the Jordan for

anywhere from ten to fifty hours, depending on the amount of debris and where it falls into the river. The same type of stoppage can occur during the high-water spring season due to the undercutting of the cliff by the high waters and the falling of the unsupported portions.

There is strong evidence from the text of the Book of Joshua that the miracle at that time was due to the same natural means as the later stoppages. It says: "and the waters from above (upstream?), stood as a single heap, very far away, at the city Adam."

The city Damia (Adam Ha-ir) is about 25 km. north of the location of the Jews, opposite the city of Yericho. To Yehoshua and the Jews, it looked supernatural since they had no way of knowing what was happening so far away. Yet, Yehoshua, who by tradition recorded the Book of Joshua, correctly refers to the place where the water was dammed, the true source of the stoppage. The water must have stopped flowing at Damia about 10 hours before the last of the flowing water touched the feet of the Kohanim (assuming the Jordan water flows about 2.5 km./hr.).

The inclusion of the city of Damia as the location where the water stopped flowing is powerful evidence that the Book of Joshua, like all the books of the prophets, is a factual narrative of the events described, even including facts that the author Yehoshua could not have known. This is strong evidence that it was written under the inspiration of Hashem. Otherwise there does not appear to be any way that Yehoshua could have known what was happening 25 km. to the north.

It is also evident that the rest of the story was an accurate description of the event, including the split-second timing predicted in advance, whereby the stoppage of the water at the feet of the Kohanim was due to a rare event which occurred at Damia, many hours before the Kohanim approached the water.

In fact, the prediction and the timing indicate the concern of Hashem to help them physically and psychologically, not only to get across this barrier, but also as encouragement for the battles and struggles ahead of them. It is very difficult to dismiss this miracle as an exaggerated myth that never really happened.

4. THE TEST OF ELIYAHU

The prophet Eliyahu (Kings I, Chap. 18) lived at the beginning of the First Temple period, under King Achav and his evil wife Iyzevel. She had all the prophets of Hashem killed and imported 450 idol-worshipping prophets of Ba'al, eating at the King's table. Eliyahu, the last surviving prophet of Hashem, told Achav that there would be no rain until he, Eliyahu, thus decided. Eliyahu

went into hiding at the command of Hashem and for three years there wasn't a drop of rain. Matters had reached the starvation stage.

Then, Hashem tells Eliyahu to come out of hiding and challenge King Achav to bring the 450 false prophets as well as the Jews to Mount Carmel. Eliyahu asks the Jews why they are all so indecisive? Decide once and for all between following Hashem or following Ba'al. Let us make a test. The 450 prophets will place a sacrifice on their altar, without any fire. They will call on Ba'al to send fire. Then Eliyahu will do the same, calling on Hashem to send fire. Whoever can send fire to the altar must be the true G-d. The people enthusiastically agree to this test.

The prophets of Ba'al call to their idols all day long, to no avail. Then Eliyahu builds a 12-stone altar, with a trough dug around it. He places the wood and the slaughtered sacrificial animal on top. Then he douses the entire setup with water three times until everything is fully drenched and the trough full of water. He prays to Hashem for a miracle that will show the people and King Achav once and for all who is the true G-d.

Verse 16 says: "Then the fire of Hashem fell and consumed the sacrifice, the wood, the rocks, the earth and the water..." The people bowed down and shouted "This is the true G-d" and they killed the 450 false prophets.

Was this supernatural? A careful reading of the text indicates that the natural agent could have been a bolt of lightning from the sky, especially since it says that the fire of Hashem fell from the sky. Apparently, the lightning was attracted to the electrically-conducting, water-doused altar at the top of Mt. Carmel (a natural lightning rod). The meat and water-soaked wood, porous altar rocks and the earth below it were all heated strongly by the electrical current of the lightning bolt. The meat and the wood were heated to the flash point and were consumed by the ensuing fire. The water was turned to steam (and thus consumed). The water absorbed in the stones and earth was also turned to steam, explosively blowing apart the stones and earth by the ensuing high pressure. Thus, the water doused everywhere consumed the entire altar, in an explosive, fiery destruction.

Had an actual fire been applied to this water-drenched altar, the water would have made it very hard for the fire to ignite even the wood and meat. Thus, the very means which helped the electric bolt so effectively made the people believe that this fire miraculously defied its natural enemy — water. Thus, even if the event was entirely natural, it was very impressive and miraculous looking to the Jews.

Of particular interest to the scientist is the inclusion of the water, rocks, and earth as items being consumed, against their known indestructibility by fire. Such a list would not simply have been made up, but must have been witnessed

as described. This gives great veracity to the authenticity of the text.

On the other hand, how did Eliyahu know that it would be better to douse everything in water? Also, Eliyahu's prediction of "a bolt from the blue" is quite astounding. Thus, the only plausible explanation appears to be divine guidance and intervention, using natural means.

This miracle is different from the other three in that it was initiated by Eliyahu to bring the Jews, including their evil king, to believe in Hashem. It is clear that Eliyahu was quite sure of the outcome of the test or he would never have proposed it.

It is also different from the other events in that it is a direct test that there is only one true G-d. Hashem does perform miracles for people of other religions, as happened to Emir Jamal el-Din, whose life was saved by the miracle at the Jordan, when the sultan was about to kill him, even if he then ascribes his salvation to Allah. But the miracle of Eliyahu is unique in showing us which is the true G-d.

CONCLUSION

The scientific inclusions in the description of miraculous events in the Tanach give strong evidence that the text is a factual narrative and cannot be dismissed as a collection of myths and tales.

The factual and scientific knowledge of the author of the Tanach is very strong evidence that it could not have been written by any person except under the direct inspiration of Hashem.

