

PARSHAT BO 2020 – SOURCE SHEET

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SPONSORED BY ED & CECILE GROMIS, IN MEMORY OF ED'S MOTHER, CHANA GROMIS
CHANA BAT MOSHE YEHUDAH HACOHEN A"H -- YAHRZEIT ON 7 SHEVAT

1. SHEMOT 10:21-23 – THE PLAGUE OF DARKNESS

וַיֹּאמֶר ה' אֶל מֹשֶׁה נְטֵה יָדְךָ עַל הַשָּׁמַיִם וְיָהִי חֹשֶׁךְ עַל אֶרֶץ מִצְרָיִם וַיִּמַּשׁ חֹשֶׁךְ. וַיִּט מֹשֶׁה אֶת יָדוֹ עַל הַשָּׁמַיִם וַיְהִי חֹשֶׁךְ אַפְלָה בְּכָל אֶרֶץ מִצְרָיִם שְׁלֹשֶׁת יָמִים. לֹא רָאוּ אִישׁ אֶת אָחִיו וְלֹא קָמוּ אִישׁ מִתַּחְתָּיו שְׁלֹשֶׁת יָמִים וְלֹכַל בְּנֵי יִשְׂרָאֵל הָיָה אֹר בְּמוֹשְׁבֹתָם.

(21) And God said to Moses: “Stretch out your hand toward heaven, that there may be darkness over the land of Egypt, darkness which may be felt.” (22) And Moses stretched out his hand toward heaven; and there was a thick darkness in all the land of Egypt for three days; (23) They could not see one another, and no one could rise from his place for three days; but all the Children of Israel had light in their dwellings.

2. RASHI/RAMBAN – DARKER THAN THE DARKNESS OF NIGHT

וימש חשך. ויחשיך עליהם חשך יותר מחשכו של לילה, חשך של לילה נאמיש ויחשיך עוד :

“Veyomesh choshech” means that the darkness would be a darker darkness than the darkness of night, the darkness of night would be perceptibly darker than usual.

The plague of darkness was not just that there was a lack of sunlight. It exceeded nighttime darkness. It was “choshech afeila” – “thick darkness”, meaning that a very thick mist came down from the sky. This is why God said to Moses: “stretch forth your hand to the heavens” - Moses had to physically bring down this darkness [from above].

3. S'FORNO – NO LIGHT WOULD PENETRATE THIS DARKNESS

וימש חושך ויסיר את החשך הטבעי של לילה. כי אמנם חשך הלילה הוא אויר מוכן לקבל האור, והוא חשך בהעדר האור בלבד. אמנם זה החשך יהיה אויר בלתי מוכן לקבל האור לרוב עביו, ולא יפול עליו העדר האור בהיותו בלתי מוכן אליו, ולפיכך לא ראו איש את אחיו כי לא הספיק לזה אור נר ואבוקה :

“Vayomech choshech” -- this [plague of choshech] would remove the ordinary darkness called night. The reason this was necessary was because night darkness consists of air that is ready and capable of absorbing light in the morning. The darkness that would occur now was something unable to interact with light at all. The reason for this inability to interact with light was the density of the texture of this darkness. And light would not illuminate as the atmosphere was not prepared for it, and therefore no one could see anyone else, because even a candle or light could not help in that situation.

4. SHADA"l QUOTES JOHANN EICHHORN'S THEORY, AND DISMISSES IT

Johann Gottfried Eichhorn (1752-1827) was a German Protestant theologian of the Enlightenment and an early orientalist. Here Shada"l quotes his theory about Choshech, only to dismiss it.

ואייכהארן יחס המכה הזאת לרוח חזק חס ומזיק הנקרא בערבי Samum ובטורקי Samiel הנושב במצרים מפסח עד עצרת באותם חמשים יום הנקראים אצלם עדיין חֲמֵשִׁין. ואז בני אדם מוכרחים לישב בביתם ולא יצאו החוצה. וכל זה איננו שוה לאייכהארן כי אמנם אין מדרך הרוח ההוא שימשך ממנו חשך גמור עד שלא יראה איש את אחיו בתוך ביתו.

5. TORAH TEMIMAH – DARKNESS CAUSED BY BLINDNESS

מבואר במדרשים שהחושך היה "כעובי דינר", וכלל הענין מופלא מאד, דמה שייד להתפיס שיעור ממשות בחושך? וגם צ"ע דלפי פירש"י שהיה כל משך המעת לעת כולו לילה ולא היה יום כלל, אי"כ נשתנו סדרי בראשית? וזה קשה מאד שהרי הקב"ה הבטיח לנח ולבניו ויום וְלַיְלָה לֹא יִשְׁבְּתוּ (בראשית ח כב)? ולולא מסתפינא להמציא דבר חדש מאד הייתי אומר דענין החושך היה לא באויר רק בעיני האנשים. והיינו שהיה מתוח תבלול על אישון העין, ואמרו חכמים שאותו התבלול היה נמוש ביד וגם היה כעובי דינר, וניחא הכל.

6. DR. EDWARD MAHLER (1857-1945) – CHOSHECH WAS A SOLAR ECLIPSE

Dr. Eduard Mahler was a Hungarian-Austrian astronomer, Orientalist, chronologist, and natural scientist. In *Handbuch der Jüdischen Chronologie* (1916), he determines that the period of Hebrew oppression in Egypt began with the expulsion of the Hyksos (he dates this 1575 BC). According to Jewish tradition the oppression lasted for 240 years. This means 1335 BC was the date of the Exodus. Mahler suggests that the plague of darkness was caused by an eclipse of the sun. The Exodus itself took place in the first month of the year, in spring, during the month Nisan (Aviv), and according to Jewish tradition it was on a Thursday, which was the 15th of the month. The plague of darkness, according to tradition, occurred fourteen days earlier, on Thursday, which was the first of the month. The only total eclipse of the sun visible in the Delta from the end of February to the beginning of May, during the whole of the thirteenth and fourteenth centuries BC, occurred on Thursday, 13th March, 1335 BCE. Therefore, the Exodus must have taken place on Thursday, 27th March, 1335 BCE. According to Mahler this falls during the reign of Rameses II (1347-1280 BCE). The total eclipse of the sun accounts for the complete darkness over Egypt, while in Goshen there was only a partial eclipse, which explains why the Israelites had light, while the Egyptians did not. And although it says in the narrative that the darkness lasted for three days, which makes no sense, as a solar eclipse lasts for just a few minutes at most, Mahler explains that they were so frightened, they could not move for three days.

7. ANONYMOUS ON "MI YODEA" – CHOSHECH WAS A LACK OF PHOTONS

Modern science teaches us us that light consists of photons. Photons are packets of energy that act like particles in many respects although they have no mass (since they travel at the speed of light). So was Choshech a lack of photons? The problem is this – how can this kind of darkness be "thick"? The miraculous darkness God created could have been not due to a lack of photons, but the failure of photons to pass on their energy. This would have been caused by a very slight slowing down of light from its usual 300,000km per second. When this happens the photon "particles" have some of their energy converted into mass, according to Einstein's famous equation, $E=mc^2$.

Scientists have recently proven that photons can be slowed down. At the University of Glasgow, an experiment was carried out to prove exactly that. Co-lead author of the study Jacqueline Romero said: "This finding shows unambiguously that the propagation of light can be slowed below the commonly accepted figure of 299,792,458 metres per second, even when travelling in air or vacuum." Professor Padgett added: "the effect has a solid theoretical foundation and we're confident that our observations are correct."

When photos are slowed down sufficiently, they will not emit the right wavelength for our eyes to perceive it, hence it would be dark. Also, their additional mass converted from energy could add more weight to the air that prevents people from moving or being able to stand up.

This is only a theory, but it seems to fit remarkably well with the facts given in Parshat Bo. As Derech Hashem of Ramchal says, whenever Hashem performs a miracle, He does so in accordance with as much of the laws of nature as possible. After all, "nature" (or the laws of Physics) is how the Creator has decided to run the world the majority of the time, according to Rabbi Samson Raphael Hirsch.

8. R. HANUCH OF ALEXANDER – TRUE DARKNESS IS NO CONNECTION WITH OTHERS

לֹא רָאוּ אִישׁ אֶת אָחִיו – "A person did not see his brother." That is to say, each individual only worried about himself and only looked to save himself and the members of his household – and, thus, "did not rise from under the darkness for three days." Not a single one of them succeeded in rising above the degraded spiritual level that they were caught in. The Egyptians were responsible for their own darkness because of their selfishness and self-centeredness. It was not the **symptom** of the darkness-- it was the **cause** of the darkness. Their darkness was spiritual.

9. RABBI AVRAHAM ARIEH TRUGMAN – DARKNESS IS A SYMPTOM OF UTTER DEPRESSION

In psychological terms darkness represents a sense of depression that is fed by despair and purposelessness ... Depression causes people to feel alone, as if no one cares about them and in turn leads them not to care about others. This phenomenon is quite literally described in the biblical verse [in Parshat Bo about the plague of darkness] - "no one would could see their brother." An even more extreme form of depression occurs when people are completely sunk in the abyss and virtually unable to move. They are stuck in a state of physical or emotional paralysis. This phenomenon is also quite literally described in the biblical verse - "nor could anyone get up from his place."
(Orchard of Delights, p.222)

10. R. NACHMAN OF BRESLOV – WHY WAS תּוֹחַ 9TH PLAGUE? IT IS ALWAYS DARKEST BEFORE DAWN

The evil inclination is more interested in the depression following a sin than in the act of sinning itself, for nothing is as spiritually and even physically debilitating as depression. The Exodus from Egypt, nationally and personally, entailed confronting the darkness and returning to the light. They held on to the light and hope of salvation. Just as the plague of darkness immediately preceded the redemption from Egypt, so too, the darkest hour always comes right before the dawn. Knowing this secret and deciding never to give up are the greatest antidotes against the evil inclination's ultimate secret weapon of depression.