Rabbeinu Bahya and the Case of the Mysterious Medieval Lightning Rod

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It has been said that a spirit of invention has dominated American thinking since its founding. The people of the United States love to celebrate innovators and creators of new technologies, both contemporary as well as those of the past. One manifestation of this is the continued admiration and adoration of Benjamin Franklin, one of America’s founding fathers, credited with a number of useful inventions, including bifocal glasses, a new type of stove, and the urinary catheter. The invention for which he is perhaps most well-known, however, is the lightning rod.

In the early 1750s, Franklin hypothesized that lightning was itself electricity and he began experimenting to prove this. At the same time, he sought to devise a method of limiting the damage lightning caused to a building when it struck by means of placing a steel rod at its top which would cause the lightning to dissipate. Although there is no direct record of the incident and Franklin first mentioned it himself only months later, a full write up appeared in 1767 describing how Franklin, experimenting with a kite and a key during a lightning storm, proved his theory about lightning and how to prevent damage caused by it. He then began advocating for the use of lightning rods in his hometown of Philadelphia. Their use would eventually spread around the world. Franklin’s experiment was immortalized in Benjamin West’s 1805 painting Franklin Drawing Electricity from the Sky, and it has become the subject of one of the most ubiquitous stories of early American innovation. Indeed, the grand story of Franklin’s invention of the lightning rod (varieties of which can still be found on houses and buildings), is taught to children until this very day.

In view of this popular story, we might be a little surprised to find a description of a lightning rod in a commentary on the Torah written in 1291! R. Bahya b. Asher, (not to be confused with the earlier Bahya ibn Paquda), was a Spanish exegete who flourished in the late 13th century and early 14th century. He authored Kad Ha-Kemah, an alphabetically organized encyclopedia-like work with entries on various aspect of Jewish life and beliefs, Shulhan Shel Arbah, a halakhic and mystical treatise on food and eating, and a commentary on Pirkei Avot. What he is most well-known for, however, is his commentary on the Torah. The most salient feature of this commentary is, as he states in his introduction, the utilization of different methods and traditions to explain the Torah, including peshat, midrash, kabbalah, and seikhel. This last method combines approaches to the text based on science, philosophy, and sometimes allegory.

Although R. Bahya typically offers more than one interpretation to explain a given idea, it is rare that we find him utilizing all four approaches in his commentary on a single verse. However, in his explanation of the story of the Tower of Babel (commenting on Genesis 11:8), specifically when he addresses what the people of that generation were trying to accomplish in their construction of the tower, he does in fact use all four. In his “al derekh ha-seikhel” approach, R. Bahya writes:

The men of the dispersion were wicked and knowledgeable in all wisdoms. They thus made a city and tower in order to be saved from a deluge of fire. Since they knew that the world had previously been destroyed in a deluge of water, they were
afraid for their lives and sought to build a place such that if He [God] wanted to bring a deluge of fire and burn the world, they would be saved from it... and [they would] tie up a part of the fire’s core such that it would not come close to the city. This is similar to that which we find even in our generation that some wise men know the power to tie up part of the lightning so that it will only go up to a specific boundary.

Referring to wise men who stand in a high location and are able to capture lightning and dissipate its power such that it affects a limited area sounds an awful lot like describing people who know how to use a lightning rod. Is it possible that the idea of a lightning rod was known almost five hundred years before Franklin or anyone else?

There are certainly some readers of R. Bahya’s work who thought so. A number of printed editions of R. Bahya’s commentary to this verse even insert in parentheses the word “אַף גַּּזְגֶּזְגֶּזֶת,” which is Yiddish for lightning rod. One can even find articles about R. Bahya that credit him with knowing the secret of lightning and how to avoid damage from it long before Benjamin Franklin or anyone else (a somewhat strange assertion since R. Bahya does not claim here that he was reflecting his own or even any uniquely Jewish knowledge, but rather that of “wise men” in his generation). It seems rather unlikely, though, that these ideas were known and understood by R. Bahya in the 13th century and were subsequently lost over time. Could R. Bahya, then, be referring to something else?

In an article published in Lechaim magazine, Arye Olman suggests that R. Bahya is referring to certain stones of power, known in the Muslim world and particularly in Persia that were said to prevent lightning strikes. Olman marshals a number of sources demonstrating that people believed that such rocks had powers and would put them in high locations for protection. Despite living in Christian Spain, R. Bahya was fluent in Arabic and certainly was aware of various aspects of Islamic culture. Additionally, R. Bahya had a strong interest in the mystical power of stones and in connection with this wrote extensively in his commentary about the stones on the breast-plate of the High Priest. It is thus possible that R. Bahya is referencing a stone of power that could disperse lightning, although it is a bit difficult to read that into his commentary.

A more likely source for R. Bahya’s comment may have come from his Christian neighbors. Already in the 10th century, we have records of Christian liturgical rites that were invoked for storm protection. Similarly, a number of early Christian stories specifically describe the cross itself as providing its wearer with all kinds of protection, including from storms. Writing in the 13th century, William Durand suggests that the ringing of the church bells will not only lead people to pray for storm protection, but will also cause the demons to flee in terror, thus quieting the storm. We also have records of medieval bells that were inscribed with the phrase “fulguro frango” which loosely translates as “I break up the lightning.”

Interestingly, a short treatise written by the archbishop Agobard of Lyon (c. 779–840) describes the tempestrarii, men and women who were widely believed to have control over storms and were able to summon or prevent them by using magical incantations. In this treatise, Agobard criticizes and dismisses these beliefs quite forcefully, although it is not entirely clear if the critique is against pagans or to counter wayward priests. Regardless, the belief that magic or religious rituals could control the weather persisted far into the High Middle Ages.

In time, various Christian rites, especially the ringing of church bells, may have been presented as representing the new (and true) power over storms in place of the superstitious pagan activities of mages and magicians. Church bells were of course used in many Christian rites and in some communities; they even went through a “baptism ceremony to consecrate them” for various rituals. Later sources also seem to directly link bell ringing to the dissipation of storms. A 15th century book of Christian liturgical customs from Valencia, Spain (not far from where R. Bahya likely flourished), for example, does not mention prayer in connection with bell ringing, but does note that one should ring the bells whenever a storm threatens, and specifies that the number of bells rung is dependent upon the severity of the storm. No less a figure of science than Sir Francis Bacon, in his Sylva Sylvarum (1626), tried to explain how this functioned on a scientific level.

This idea that bell ringing could prevent or at least limit the impact of lightning thus reverberated throughout the centuries. Over the years, numerous reports addressed the efficacy of this method. There is nothing actually scientific about this approach, of course, and moreover, there are various later reports of bellringers themselves being struck by lightning while ringing during a storm. Benjamin Franklin himself, in a letter to Harvard Professor John Winthrop, wrote that lightning seems to strike the steeples of the church at the very time the bells are ringing. “One would think it was now time to try some other trick,” Franklin concluded.
In R. Bahya’s time, however, bell ringing appears to have been seen as a scientific or supernatural method of dissipating storms. Could R. Bahya in our verse be referring to the ringing of church bells? Could the “wise men” who “know the power to tie up part of the lightning” refer to the bell ringers or, perhaps, some variation of Agobard’s rejected *tepemstarii*? R. Bahya would certainly not ascribe any real power to a Christian religious ritual, but the line between magic, religion, and science was not always so clear in the medieval period. If some version of the belief in the *tepemstarii* was still extant or if bell ringing was seen as an effective way to prevent lightning, perhaps R. Bahya is in fact referring to those who were at least perceived as being able to control its effects.

At first glance, however, one cannot help but think that R. Bahya’s description of something that catches the lightning and causes it to strike only a particular location sounds like a contemporary lightning rod. Although, as we have seen, R. Bahya may have been referring to something else entirely, the mystery might not be completely solved.

R. Bahya himself admitted that divining the meaning of matters that happened long ago can be a fraught and uncertain endeavor. After offering another explanation for Bahya’s lighting rod remains a mystery at the intersection of magic, religion, and science was not always so clear in the medieval period. The line between magic, religion, and science was not always so clear in the medieval period. If some version of the belief in the *tepemstarii* was still extant or if bell ringing was seen as an effective way to prevent lightning, perhaps R. Bahya is in fact referring to those who were at least perceived as being able to control its effects.

1 For a brief description of the event and the competing claims of discovery by some of Franklin’s contemporaries, see Walter Isaacson, *Benjamin Franklin: An American Life*, 137-145.

2 There is some question as to the correct pronunciation of his name. The standard scholarly is to spell and pronounce it Bahya and I have thus employed it throughout this essay.

3 Most of his biographical background is unknown, including where he lived and whether he held any rabbinic role. Even his true name and that of his father’s is subject to doubt.

4 These can be found in *Kitve R. Bahya b. Asher*, ed. C. D. Chavel (Jerusalem: 2006).

5 R. Bahya’s approach is sometimes seen as an exemplar of *PaRD*E*S*, an acronym for *peshat, remez, derush*, and *sod*, which is used to describe the four ways of interpreting the Torah. Technical and historical issues with *pardes* make this assertion somewhat problematic. See Albert van der Heide, “PARDES: Methodological Reflections on the Theory of the Four Senses,” *Journal of Jewish Studies* 34:2 (1983): 147-159. I hope to further explore these and other issues related to R. Bahya in my forthcoming dissertation.

6 Regarding the possibility of God destroying the world with fire, see *Zevahim* 116a with *Shittah Meikutzet* No. 18 and Maharsha, *Hiddushei Aggadot* s.v. “aval”. See also Shu”t *Binyan Tziyon Ha-Hadashot* No. 146 who posits that there are conflicting Talmudic and Midrashic sources about this.

7 In the recently published Oz Ve-Hadash edition of R. Bahya’s commentary, the editors claim that this word appears in an early printed edition but do not specify which. I have looked through a number of the early printed editions, however, and have not found this insertion in any edition printed before the 20th century.


10 See James Monti, *A Sense of the Sacred: Roman Catholic Worship in the Middle Ages* (San Francisco: 2012), 632-638. A number of later sources (including Isaacson) have cited Thomas Aquinas as writing about the efficacy of bell ringing in dissipating storms, but no original source has been provided.

11 See here for a picture of such a bell from Germany (now in Switzerland) cast in 1486.

He Sent Out the Raven

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N oah’s dove—with-the-olive-branch has become an icon, carrying positive associations if also sometimes a hint of naivete. But the dove was not the first bird Noah reached for when he opened the Ark’s window; that distinction went to the raven: Genesis 8:7 reads:

וַיְשַלַח אֶת הָעֹרֵב; וַיֵצוֹא וָשֹב עַד יְבֹשֶת הַמַיִם מֵעַל הָאָרֶץ.

He sent out the raven; and it went to and fro (yatso va-shov) until the waters had dried up from the earth.

Why did Noah send out the raven? What did the raven do, and why? Although the verses are silent as to the reason for sending the raven, it seems that the bird does not fulfill whatever mission it may have had, leading Noah to send out a dove “to see whether the waters had decreased.” The dove first returns with nothing, then with an olive branch, and finally does not return, signalling that the earth is habitable again.

The absence of a stated reason for sending the raven led the ancient Jewish allegorist, Philo of Alexandria, to suggest that the raven, a symbol of vice, was in fact being sent away not on a mission but simply to purge evil from the ark.

The rabbis also interpret the raven symbolically on Sanhedrin 108b, where a baraita asserts that the raven was one of three creatures that violated the ban on copulation in the ark. The raven, in this reading, is identified with sexual sin.

The prior segment of the same talmudic passage also presents the raven in sexual terms. Perhaps reading the root shuv in the phrase yatzo va-shovas relates to teshuvah, an answer, Resh Lakish has the raven “retorting” to Noah: “Your master hates me and you hate me” — God hates the raven and therefore told Noah to bring only two ravens, as opposed to seven of the “pure (tahor)” animals (including doves) — and Noah hates the raven too because he then chose an impure animal to send out, imperiling an entire species. The raven therefore accused Noah of intentionally trying to kill him, asking, “maybe you are after my wife?”

The idea that the Noah would be sexually interested in Mrs. Raven may sounds strange, but it does fit well into a larger tradition that identifies cross-species mating as one of the forms of corruption that precipitated the flood. According to various midrashim (e.g. Tanhuma) the animals that were saved were the ones that had not engaged in such violations. So to say that the raven suspected Noah of desiring Mrs. Raven identifies the raven with the antediluvian lack of boundaries rather than with the attempted new world order after the flood.

The combination of passages in Sanhedrin presents the raven as an animal that sees itself as a sexual rival of man, one that is lusty, that disobeys orders with triumphant retorts (teshuvah nitsahat). This characterization echoes another tricky, sinister animal who, according to the rabbis, desired a man’s wife (the mirror image of the raven’s suspicion of Noah): the snake.

The snake set off the chain of events that led from the initial bliss of creation to human exile from Eden and the world’s eventual near destruction. It’s therefore noteworthy if the first animal to be singled out after the waters begin to subside, the raven, is in fact a snake-like surrogate. While the post-flood world may be a clean slate in some ways, the same challenges and potential for sin that caused downfall thought to have lived in Saragossa, definitive evidence for this is somewhat lacking.


As referenced above, it is not entirely clear where in Christian Spain R. Bahya resided. Although he is commonly thought to have lived in Saragossa, definitive evidence for this is somewhat lacking.

Cited in Monti, A Sense of the Sacred, 635.

This is loosely based on Midrash Bereishit Rabbah 38:6.
the first time are still there, and will require vigilance to overcome.

A non-symbolic reading of the raven episode by medieval commentator R David Kimhi (Radak) generates a similar impression. Radak suggests that the reason for sending the raven was the same as for sending the dove, namely, to check whether the waters had subsided. Ravens and doves share many features of habitat and diet, and both are known as land-sighting birds. But the reason Noah initially chose a raven was that ravens, unlike doves, eat carrion, and Noah assumed that the subsiding waters would expose the corpses of the humans and animals killed in the flood. If the raven came back with flesh in its mouth, Noah would know the waters were low. Instead, however, the raven did not provide useful information because it would go in and out of its nest, looking for a place to land, but would not fly far enough to actually encounter whatever the waters might be exposing.

Radak’s explanation is simultaneously pragmatic and shocking. A simple reading of the story does not encourage us to ask what was left over. “All existence on earth was blotted out (va-yimah)” (Gen. 7:23) — erased, perhaps, without a trace. Later we learn that Noah saw that the earth had dried, but we never hear of him seeing anything else left on its surface.

And yet, even if the new world was truly new, without a trace of the old, Noah didn’t know that it would be that way. He sent the raven because he quite reasonably thought he might be greeted by piles of corpses when he left the ark.

The raven’s mission was unsuccessful, however, and instead Noah got his information from the dove, not in the form of strings of carrion but an olive branch. As one of my students at Drisha pointed out to me, the sign Noah originally sought was one that looked backwards to the destruction, but the sign that comes through is the one that looks forward, to new growth.

The harbinger of Noah’s exit from the ark must come from not from an animal that harkens back to the sins of the past - and that literally feeds on the destruction they caused - but from one that helps Noah and his family begin afresh.

And yet, we can’t forget the raven that is still flying around out there.