

Because the Sound is Good for the Spices: A Brief Note on Pittum ha-Ketoret

By: DAVID S FARKAS

It is recited around the world on a regular basis, often as much as three times a day. A wide range of traditions are associated with it and the text is among the most frequently requested items in the Jewish scribe's catalogue. Yet for all of this, it remains one of the least understood of all the daily prayers. Of course, we can be speaking only of *Pittum ha-Ketoret*.

Pittum ha-Ketoret refers to the preparation of the incense that was offered twice daily upon the golden altar inside the Temple. The precise method of preparation was complex, so complex, in fact, that it was a closely guarded secret. According to the Talmudic account, the priestly family of Avtinas was responsible for preparing the mixture, and successive generations of the family refused to divulge their method.

It would appear that this method, or at least the one aspect of it I wish to focus upon, still remains a secret. I am referring specifically to one cryptic statement in the standard *Pittum ha-Ketoret* text found in ordinary prayer books. This passage is not actually a prayer *per se*, but rather a detailed description of the preparation process and ingredients that made up the incense, along with related observations. As we will show below, the version found in most *siddurim* differs in some significant ways from the Talmudic text upon which it is based. The cornerstone of our inquiry, however, is the following single sentence, which appears in all of them:

תְּנִינָא רַבִּי נְתָן אֹמֵר כְּשֶׁהוּא שׁוֹחֵק אֹמֵר הֵדֵק הַיֵּטֵב הַיֵּטֵב הֵדֵק מִפְּנֵי
שְׁהַקּוֹל יָפֵה לְבָשָׁמִים.

David S Farkas received his rabbinic ordination from Ner Israel Rabbinical College in 1999. A Toronto native, he lives with his family in Cleveland, OH, where he serves as in-house labor counsel for an Ohio-based corporation.

It was taught: Rabbi Nathan said, when he would grind the incense he would say, “Grind it fine, finely grind it” because the sound [or voice] is good for incense.

“*Kol*” can mean either sound or voice, i.e., speech. So in what sense can either sound or speech be beneficial for incense? Can sound waves (if *hazal* were aware of them) help the grinding process? Does the fragrance of spices become intensified when the grinding process is accompanied by sound? Or does it simply mean that words of encouragement, like a personal trainer helping an athlete, are helpful towards ensuring that the spices are ground properly? The standard *siddur* commentaries offer no comment. So what does this passage mean? If my informal polling is representative, most of us have no idea.

Although our liturgy is filled with many difficult passages, most of these arise in infrequent services, or in prayers recited upon special occasions only. It is rare to find such a little-understood passage within the ordinary daily prayer service. Indeed, for years the meaning of this phrase has troubled me. It bothered me to recite something so often without knowing what I was saying. Looking to uncover the meaning of Rabbi Nathan’s statement, I began to investigate.

The Text

If it is the truth one is looking for in a scholarly pursuit, the first thing to establish is the correct text. In this case, we must turn our attention to the Talmudic passage in *Keritot* 6b. The full discussion of the incense extends over a full double-sided page, but our concern is only with Rabbi Nathan’s statement, and the directly relevant source material. What follows is the relevant passage:

ת"ר היו מחזירין אותה למכתשת פעמים בשנה בימות החמה פזורה שלא תתעפש בימות הגשמים צבורה כדי שלא תפוג ריחה וכשהוא שוחק אומר הדק היטב היטב הדק דברי אבא יוסי בן יוחנן. ושלש מנין יתירין שמהן כ"ג מכניס מלא חפניו ביוה"כ נותן אותה למכתשת בערב יוה"כ ושוחקן יפה יפה כדי שתהא דקה מן הדקה כדתניא (ויקרא טז) דקה מה ת"ל והלא כבר נאמר (שמות ל) ושחקת ממנו הדק מה ת"ל דקה כדי שתהא דקה מן הדקה. אמר מר כשהוא שוחק אומר היטב היטב הדק היטב מסייע ליה לר' יוחנן דאמר ר"י כשם שהדיבור רע ליין כן הדיבור יפה לבשמים.

The rabbis taught: it [the incense] would be returned to the mortar for grinding twice a year. In the summer it would be spread out so as not to become moldy, and in the winter it would be piled up so that the smell should not dissipate. And when he would grind, he would say “grind it fine, finely grind it.” These are the words of Abba Yose ben Yoḥanan.

As for the three extra *maneh* from which the *Kohen Gadol* would bring two handfuls [of incense] into the Holy of Holies on Yom Kippur, he would place them on the mortar prior to Yom Kippur and grind them especially fine in order that it should be the finest of the fine. As we learned: What do the words “ground finely” mean? Is it not already stated that one should grind it fine—what, then, do the additional words “ground finely” mean? [It means] that the incense must be the finest of the fine.

The master stated: When he would grind, he would say, “grind it fine, finely grind it.” This supports R. Yoḥanan, for R. Yoḥanan said, “Just as speech is detrimental to wine, so is speech beneficial for spices.”

Immediately, one familiar with the version found in the prayer book apprehends differences between that version and the Talmudic source just presented. One notices, for example, that Rabbi Nathan’s name is not mentioned as the source of the statement under question. It is quoted, instead, in the name of Abba Yose Ben Yoḥanan. This observation is also made by the 18th century writer R. Abraham ibn Ezra (Henceforth “Ibn Ezra,” not to be confused with the medieval Bible exegete of the same name) in his *Batei Kenisiot*.¹ Ibn Ezra notices the difference between the Talmudic account and the version found in the *siddurim*, and says he cannot understand why the “arranger of the prayers” attributed the statement to R. Nathan.²

¹ *Batei Kenisiot* (Salonika 1805) at 116.

² According to a Responsa of Radbaz, the “arrangers of the prayers” composed the *siddur* version from an amalgamation of different sources. See Heshey Zelcer, “Abbaye’s Statement? Establishing the Proper Text and Context,” *Hakirah*, Vol. 13, p.151.

Additionally, one observes that the Talmudic passage never mentions the word *kol*. In *Keritot*, as well as in a parallel passage in *Menahot* 87a, Rav Yoḥanan is reported saying *dibbur* is beneficial for spices, not *kol*. As we shall see in more detail below, the difference between these words is substantial. It is only in the Jerusalem Talmud (*Yoma* 4:5) where we find the expression מַפְנֵי שְׁהַקוּל יָפָה לְבַשְׂמִים.

Preliminary Questions

Before turning to the central mystery of how a “*kol*” can be beneficial for spice grinding, a number of preliminary questions must be resolved. First, exactly who is it that utters this formula of “grind it fine, finely grind it”? Is it an anonymous foreman, standing over the grinder? Or is it perhaps the Temple grinder, uttering incantations to himself? And as alluded to above, precisely what does “*kol*” mean? Is it specifically the sound of a man’s voice—be it of the grinder or the foreman—that was beneficial? Or is the mere presence of sound somehow helpful in the incense-making process?

As to the question of who uttered the phrase, both opinions are found among the commentaries. Rambam appears to hold, in keeping with the plain sense of the Talmudic passage, that it was the grinder himself who said the words.³ Rashi, however, commenting on the passage in *Keritot*, states that there was a foreman supervising the grinder, and it was this overseeing foreman who would recite the formula.⁴

Interestingly, Rashi seems to contradict himself on this point, for while in *Keritot* he writes that the foreman said it, in an important related passage elsewhere he writes that it was the grinder who said it. Indeed, this touches upon the question of whether the beneficial “*kol*” was specifically speech, or sound in general. In *Arakhin* 10b we are told of various Temple instruments with pleasant sounds. The flute is listed, for example, as are a pair of cymbals.

³ *Klei ha-Mikdash* 2:5.

⁴ The Jewish Encyclopedia (entry on “incense”) sides with the Rambam, stating, “the man who performed that work incited himself by repeating the words, “*hadek beiteb*” = “make it very fine.”

The account relates that in the course of time these instruments became impaired in various ways, such that their sounds were no longer pleasant. Improvements were attempted, to no avail. Yet when the various “improvements” to the instruments were removed, their sweet sound returned again. In the same passage we learn there was a mortar used in the Temple for grinding spices. The mortar broke, and so Alexandrian craftsmen were imported to fix it. Similar to the other two vessels, when it was discovered that the repairs actually harmed the grinding process, the repairs were removed, whereupon the mortar once again worked as it had worked before.

So what then was the “sound” that was so beneficial for the spices? In *Keritot* it states that a man’s voice was the helpful addition. Yet in *Arakbin* it is implied—by association, though not stated explicitly—that it was the sound of the mortar itself, like the flute and the cymbals, that was pleasing. In fact, Rashi in *Arakbin* actually appears to conflate the two. He first comments that the mortar itself had a pleasing sound, and somehow through this sound the smell permeated the incense preparation. Yet as a proof text he cites the passage in *Keritot*, adding almost parenthetically that it was the grinder himself who would utter the formula. Thus, Rashi appears to contradict himself on the point of whether it was the Temple grinder or a foreman who would utter the formula. At the same time, Rashi seems to hold that it was *either* the sound of the grinder itself *or* the voice—of either the foreman or the grinder—that was beneficial to the incense.

The conclusion of the passage in *Keritot* must also be examined. Recall that Abba Yose ben Yoḥanan’s (or in the prayer book version: R. Nathan’s) statement was used to support R. Yoḥanan’s view that just as speech is detrimental to wine, so is speech beneficial for spices. Notice that here the word “speech” is used, rather than the ambiguous word “*kol*.” The fact that speech is detrimental to wine can be observed, Rashi explains, in the libations process. When the priests would draw wine for the sacrificial libations, they would watch carefully to make sure no lees fell into the wine. If lees appeared on the verge of entering, a foreman would signal by hand to the one pouring to stop the flow, rather than express this verbally. Clearly, the passage contrasts the benefits of “*kol*” with the det-

riments of “speech,” implying that the word “*kol*” means speech, not simply sound.⁵

The aforementioned Ibn Ezra also notes this strange discrepancy. He resolves it ingeniously, citing yet a third source drawn to his attention by his father. In *Shabbat* 58b the Talmud cites a *Tosefta* in *Kelim*, discussing the ritual purity status of a bell, with or without a clapper, used for mortars. Rashi (*loc. cit.*) comments that the bell was helpful for making incense, again citing the proof text from *Keritot*. Evidently, Ibn Ezra concludes, *any* kind of sound is helpful for the incense-making process. The sound of speech is *optimal*, and for this reason the passage in *Keritot* closes by contrasting the benefits of speech for incense with the detriments of speech for wine. However, as the other Talmudic passages imply, the sound of the grinding itself—aided, possibly, by a bell inside the mortar—was also helpful.

Thus, in sum, the passage may mean that *either* speech *or* ordinary sound is helpful to the process; and if it is the former, it may mean either the speech of the Kohen grinding the spices, or of the overseeing foreman supervising him.

How It Helps

With all of this knowledge, we are in a much better position to understand how exactly the sound could help the spices. At a minimum we may dispense with one of the possibilities I began with, namely, the suggestion that the passage means nothing more than that an overseer’s words of encouragement will ensure proper grinding. The sources indicate that “*kol*” is not necessarily speech, and further that the “*kol*” might not even come from the overseer. Clearly this is not a viable explanation.

I should begin by observing that in preparation for this article I contacted several authors of treatises on the science of fragrance and spices. I asked them if they were aware of any literature or experimental information associating sound with incense. As there are

⁵ The question of how speech (*dibbur*) is detrimental to wine is closely related, though not identical, to our own inquiry of how “*kol*” can be beneficial for spices, but not the subject of this essay.

some individuals (I suggested in my correspondence) who believe that speaking to house plants can aid their growth, perhaps speech or sound can stimulate the incense herbs and spices? To a man, no one was aware of any such phenomenon. With the exception of one intriguing possibility I will mention below, it appears that there is no scientific basis to understand our curious passage.

I was also unable to find any ancient corroborative sources. Though both Philo and Josephus touch upon the subject of incense preparation, neither of them mentions this enigmatic detail.⁶ The Letter of Aristeas, a 2nd-century-BCE Pseudepigraphical work, contains a description of the Temple and the Temple service. Yet the author strikes a contrary note to our passage by stating that all of the Temple service was performed in silence. (“... There is no one to give orders with regard to the arrangement of 95 the sacrifices. [sic] The most complete silence reigns...”) Many have called this assertion into question on the basis of a variety of sources, including statements of *Mishnah Tamid* in 1:2-4, 3:2 and elsewhere, indicating that verbal instructions and orders were all part of the Temple service. If we compare the incense preparation to sacrifices and the Temple service generally, our passage in *Keritot* may also be added to the list of sources undercutting this particular claim of Aristeas.⁷

With no answer forthcoming from the ancients, one must refine the search—grinding it more finely, as it were. Down through the centuries, several suggestions have been raised to explain this mysterious passage. Most of them seize upon the contrast made between wine and spices, and propose what might be called “metaphysical” explanations. Everyone can reach his own conclusion, but to this writer, at least, the reasons suggested are not very convincing and are in some cases unintelligible, at least to this writer.⁸

⁶ See *The Jewish Temple* (London 1996) citing Philo for the proposition that the ingredients of the incense are all symbolic of the elements from which the universe was created. *Id.* at 121. *Cf.* the opinion of Josephus (B. J. v. 5, § 5; or see Wars, 217-218) that the thirteen ingredients, which come from the sea, the desert, and the fertile country, are meant to signify that all things are God’s and are intended for His service.

⁷ See *Letter of Aristeas*, chapters 94 and 95.

⁸ Relevant citations include *Ben Yehoyoda* and *Tzon Kodshim to Menachos* 87b; *Aruch La-Ner to Keritot* 6b; R. Pinchas Zivchei (discussed *infra*) also

Very few clear explanations have been offered through the centuries. One explanation, originally suggested by the *Kol Bo* (circa 14th century) is that the Hebrew formula of “*hadek beitev*” emanates from the depths of the throat (“*hevel hagaron*”) and is thus beneficial for the spices.⁹ This suggestion does have the merit of being valid regardless of whether the formula is uttered by the foreman or by the Temple grinder. Yet this explanation is contingent upon understanding *kol* as speech, and speech only, whereas we have seen that it most likely includes all sound generally. Furthermore, according to this suggestion, one cannot simply say that *kol* is good for spices, because it is specifically this throat-based formula that is helpful, and nothing else.¹⁰ Finally, it is unclear how this explains anything, for it merely begs the question of why this particular formula is beneficial for spices.

As all roads eventually lead to Rome, all inquiries into this topic eventually lead back to the suggestions first articulated by an Italian doctor, Rabbi Avraham b. David Portaleone (1542–1612) in *Shiltei Giborim*. In this most interesting work, the author focuses upon many aspects of the Temple service, and digresses into much mathematical and pharmacological material. In doing so he cites approximately 100 different authors, including books written in more than a dozen languages.

R. Avraham proposed two explanations for the meaning of this passage, which to this day, more than 450 years later, remain the only two rational explanations (i.e., excluding the aforementioned metaphysical ones) ever given. Thus it is, for example, in the Ibn Ezra’s work on the subject, that the explanations proposed by R.

cites *Baer Yosef* to Exodus 30:36; *Hida* in *Petaḥ Einaim* to *Sanhedrin* 70a, to be contrasted with the *Hida*’s comments in *Hadrei Beten* to Genesis #15; See also Rabbi Yaakov Emden, in his notes to *Menahot* 87b, writing that speech is bad for wine because *in vivo veritas* (= נכנס יין יצא טורח) and so silence is always best for anything to do with wine. Cf. R. Emden’s comments in *Siddur Yavetz* to the preparation of the incense.

⁹ *Kol Bo*, ed. D. Abraham, Jerusalem, 1990, vol. 2, p. 227 (§ 38).

¹⁰ The explanation of the *Kol Bo* is cited in *Yalkut Meam Loez* to Exodus 30:36, and the author emphasizes that according to it, only the specific words used in the Talmudic passage could be used, and no other equivalent formula.

Avraham in *Shiltei Giborim* are the only explanations presented. In more modern times, Rabbi Menachem Kasher, in his encyclopedic *Torah Sheleimah*, approvingly cites only R. Avraham's explanations.¹¹ Even in our own time, in a massive 1,100 page volume devoted exclusively to *ketoret*, Rabbi Pinchas Zivichei could cite only the *Shiltei Giborim's* two proposed reasons as rational explanations of the passage.¹²

It should first be noted that R. Avraham first asserts that the grinder said the “grind finely, finely grind” formula himself as a simple means of encouragement (*ziruz*), precisely the first explanation we rejected above. But R. Avraham appears to recognize that this could not possibly be all that was intended, because he proceeds to give two explanations to explain the benefit of *kol* that have nothing to do with encouragement. So let us turn to R. Avraham's proposed explanations.¹³

R. Avraham's first suggestion—perhaps not surprisingly, coming from a doctor—is a medical one. According to this suggestion, the formula used could have been said only by the Temple grinder himself. The reason is that the grinding process inevitably caused clouds of dust to swirl about. The benefit of saying these words is that through the use of a verbal incantation, the grinder would be forced to exhale. Uttering these words would hence yield a medical benefit, because they would push the dust out of the throat. Accordingly, when the Talmud says one should do this because the *kol* is good for the spices it means it was good to *clear out* the spices. The groundwork for this explanation was, of course, laid by the earlier observation of the *Kol Bo*, cited above, that the specific formula was laryngeal. R. Avraham uses this observation to explain precisely why the phrase was beneficial.¹⁴

¹¹ See *Torah Sheleimah* #134 to Exodus 30:36

¹² See *Me-Zehav U-me-Paz* (Jerusalem 2004). R. Zivichei is a student of R. Ovadia Yosef.

¹³ *Shiltei Giborim* at 95 (Mantua 1607).

¹⁴ This explanation is also found, apparently independently, in *Midrash Talpiot* by R. Eliyah Hakohen (author of *Shevet Hamussar*) in the entry of *Besamim*.

This explanation, though certainly ingenious, is replete with difficulties. First, as Ibn Ezra already observed, it makes sense only according to the view that it was the Temple grinder who said the phrase, and not the foreman. Although in theory the dust could enter the foreman's lungs as well, it would be much more likely to enter those of the one grinding the spices. Moreover, this explanation too, is contingent upon *kol* meaning speech, whereas the preponderance of the Talmudic texts indicates it means any noise whatsoever.

R. Avraham proposes another possibility. According to this second theory, the benefit could be found in the wind produced through speech. That is, since, as mentioned above, the grinding would produce a great deal of dust, there was a strong possibility that this dust would go to waste. The Temple wanted to avoid such a waste of time and resources. By speaking these words, therefore, the foreman or the grinder would somehow direct the swirling incense dust back towards the mortar, and away from the floor. According to this explanation, therefore, when the Talmud says one should do this because the *kol* is good for the spices, it means it was good to *make sure the spices weren't wasted*.

This novel suggestion is also problematic. It shares the same problems as the other, in that it must describe *kol* as speech, rather than sound. And, of course, the doctor does not explain how one could channel his voice in such a way as to ensure the spices returned from the air into the mortar. Thus, the only two rational explanations ever proposed to explain this mysterious passage are shot through with difficulties.¹⁵

¹⁵ R. Zivichei does draw our attention to an interesting textual issue that relates to the two proposed explanations, despite their inherent problems (which R. Zivichei does not address). That is, although we commonly pronounce the word "*besamim*" in the prayer book version with precisely that pronunciation, there is another version that mandates a pronunciation of "*bosomim*." The former means "spices," but the latter may mean "the spice makers." The first suggestion of the *Shiltei Giborim*, that the benefit was to clear out the lungs, works with the second version, whereas the explanation that the benefit was to retain as much spice dust as possible works only with the former. In *Shaar Ha-Kavonnot* of the Ari (p. 329), the Ari insisted that only the former pronunciation of "*besamim*"

It might be added, too, that these rational explanations bear the unmistakable hallmark of the Renaissance and the Italian milieu in which R. Avraham lived. Many writers rightly decry the unfortunate habit some have of explaining Talmudic passages with mystical-kabbalistic ideas altogether foreign to *ḥazal*. As these writers observe, it is anachronistic to understand 5th-century Babylonian texts with 12th-century European thinking. It bears recalling, then, that for precisely the same reason, rational and scientific explanations for difficult passages, attractive though they might seem, are not often what *ḥazal* intended.

Indeed, on that last note, attention should be called to a recent article by Dr. Yirmiyahu (Herman) Branover, a well-known lecturer and professor at Ben-Gurion University. Dr. Branover argues, citing field research, that unlike the common understanding that men are possessed of five distinct senses (sight, hearing, touch, smell, and taste), these five senses are often, in fact, intertwined. Thus, there are people with heightened sensory palates who actually can “taste” colors, or “see” sounds. One researcher, by the name of Dr. Daniel Wesson, has even coined the word “*smound*” to describe the overlap between the olfactory and auditory sensations. If so, suggests Dr. Branover, we may have at last discovered the meaning of R. Nathan’s [or: Abba Yose’s] enigmatic instruction to announce the formula: “*This instruction must have seemed rather peculiar- until Dr. Wesson’s discovery. It is now known that the combination of fragrance and rhythm heighten the experience of both.*”¹⁶

It is not entirely clear from his short article what Dr. Branover means. He appears to suggest that the grinder himself would be able to smell the spices better because of the instructions—yet what would this accomplish, as the spices were meant not for the personal benefit of the grinder, but for the Temple service?

should be used, and not *bosomim*. This may be the Ari’s way of saying, R. Zevichei conjectures, that he understood the passage in *Keritot* as saying that the *kol* was beneficial for the spices, not the spice makers, and thus the word should be pronounced “*besamim*.”

¹⁶ *The Sound of Incense* (Branover), available on, among other sites, www.congregationlubavitch.org.

What Professor Branover likely means is perhaps best spelled out in a most unlikely source—a textbook entitled *Delivery System Handbook for Personal Care and Cosmetic Products: Technology, Applications and Formulations*. As its name suggests, the book is a survey of technological advances and applications in the cosmetics industry. Yet in one chapter the authors touch upon the origins of personal cosmetic care, and manage to digress from there into a discussion of the incense process used in the Temple. The chapter authors, Elishalom Yechiel & Rosmarie Coste, write:

[T]he grinding process was aimed at grinding the spices as finely as possible. The chief of the formulators was required to chant, “downsize them finer, grind [sic] downsize them finer” because, as it was said, the sound waves are good for the process... The special sound waves of the notes chanted were considered to allow better extraction than the much stronger sound of the pestle hitting the mortar, even if that pestle had a bell added to soften its sound. Sonic-mediated extraction is today a state of the art technology, allowing improved penetration of the extracting solvents into the powdered substance. **Choice of suitable sound waves to maximize the extraction process is, amazingly, an issue elaborated upon and argued in depth about an extraction process practiced in the Temple in Jerusalem more than 2000 years ago.**¹⁷

Through the miracles of the Internet I was able to contact Dr. Yechiel, an assistant college professor and president of a biotechnology firm in San Antonio, Texas. Dr. Yechiel feels confident that the benefit of sonic-mediated extraction is the true meaning of the passage. Although the science behind it might not have been fully understood, the Temple priests knew from experience, Dr. Yechiel maintains, that regular rhythmic chanting would produce the best smell of the various herbs and spices used to make the incense. This is also the reason that the incense was to be ground “finely”—it is because, Dr. Yechiel explained to me, the smaller the particles, the better the aroma extraction.

¹⁷ *Delivery System, Id.* (emphasis added) Published by William Andrew, Inc. (New York, 2005) at 125.

This idea is certainly fascinating, mind-boggling, even, for were this the true meaning of the text, it would mean that the ancient priests of the Temple had hit upon a scientific discovery so new that even today it is yet to be fully understood. This would not be the first time such an idea has been entertained—one great 19th-century Rabbi and scholar even suggested that the very same Temple priests had discovered a method of mechanical printing 1,500 years before Gutenberg invented moveable type.¹⁸ Perhaps in addition to their printing discoveries, the Temple priests had also discovered the methods of sonic extraction.

Indeed, we may conjecture further—perhaps the discovery that the olfactory and auditory sensations are actually combined was just one more bit of knowledge that the Temple priests kept secret. In Midrashim and the Talmud, as alluded to in the opening paragraphs of this article, we learn that the precise method of preparing the spices was a closely guarded secret kept by the *Avtinas* family.¹⁹ Is it more clever than convincing to suggest that there were other bits of ancient wisdom known only to the *Avtinas* family? With the new scientific research, have we come upon one of those secrets lost for nearly 2,000 years?

Inveterate rationalist that I am, I must confess my doubts about this proposition. As stated, even today we are not fully aware of any close connection between smell and sound. It seems too much to believe that the Temple priests could have known that much about it, even if only by experience, so long ago. Moreover, in our conversation Dr. Yechiel conceded that while the concept of sound-mediated extraction might be state of the art, it is not commonly used because it is not cost-effective, and extraction solvents such as liquid carbon dioxide or boiling alcohol are just as or nearly as good. And even with sound, one still needs solvents to extract the aroma. Moreover, it appears from the midrashic sources that the secrets of the *Avtinas* family had more to do with the smoke col-

¹⁸ See the comments of the *Maharatz Hajes* to *Yoma* 38b. The suggestion of *Maharatz Hajes* was anticipated even earlier, though not quite as clearly, by the 17th-century Rabbi Yonah Landsofer in his *Bnei Yonah* (p. 14, second column).

¹⁹ *Yoma* 38b; *Shir Hashirim Rabbah* 3:4.

umn arising from the incense, than the method used for extracting the smell from the spices.²⁰ Thus, although it obviously has at least some knowledgeable proponents behind it, it seems doubtful to me that this could be the solution to the age-old riddle.

Conclusion

At this point the reader might be tearing his hair out. If the meta-physical reasons are unacceptable, and the rational reasons are dubious, and the scientific explanations doubtful—then what does the passage mean? How could a *kol* be beneficial for spices?

I'm afraid I don't have a Sherlock Holmes-type of answer that will magically resolve the questions, leaving the reader gasping in amazement at the sheer genius of it all. After studying this passage closely, and after reviewing scores and scores of sources (including many not cited herein) I cannot say with certainty what it means. We may, however, make an educated guess.

Earlier we said that the formula could not simply be for encouragement, as if this were the case the grinder himself would not be uttering it, and moreover, sound alone would not be sufficient to encourage the grinding process. But perhaps the words were necessary, not so much to encourage the spice making process, but to *get rhythm*. One could indeed grow weary of pounding and grinding all the numerous spices that were used in making the Temple incense. As the beat of a drum was used in ancient times to assist the galley slaves in the ships, perhaps a rhythm could also help with the incense preparation.²¹ At least one individual posits this theory, and

²⁰ Ibid.

²¹ The extent and treatment of galley slaves in ancient Rome is hotly debated, but it is universally acknowledged both that such slaves existed, and that they rowed to the rhythm of a regulator's drum beat. Much discussion centers on the statement of Paul (1 Corinthians 4:1) urging men to regard themselves as "servants" for the founder of Christianity. The word "servants" in the original Greek is *huperetes*, which literally means "under rowers," i.e., galley slaves.

For a full discussion about the use of rhythm and work songs in ancient times, see *Work Songs* (E. Gioia) Duke University Press 2006.

even cites a little-known article by Yechiel Michal Pines (1843–1913) the writer and religious Zionist leader, in support.

In 1877, Pines accepted an invitation from the Moses Montefiore Testimonial Fund to serve as its representative in Palestine. As part of his position, or perhaps out of natural curiosity, Pines made it his business to befriend the local Arab inhabitants, and on occasion noted some of his findings. In a volume of *Yerushlayim*, a yearly anthology published in Israel (Palestine) between 1882 and 1919, Pines noted that the Arabs, always famed for their hospitality, had a curious custom regarding the serving of coffee to guests.²² The Arabs, Pines observed, would not simply serve coffee from an existing batch, but would prepare a new batch of coffee specifically for the guest. If the guest was particularly important, the one grinding the spices would sing in honor of the guest, while those around him would accompany the singing by beating a rhythm. Pines cites the passage from *Keritot* (and even the parallel passages indicating the existence of bells in the mortar) and says that what he saw could explain the otherwise “incomprehensible” passages. It is not altogether clear, but apparently he saw a connection between the chanting of the Arabs and the Temple preparation. Perhaps he too, understood the passage to mean simply that a rhythm was good for the spices.²³

What may be the best proof for this suggestion is the one obvious question that we have not addressed until now—why the switch? Whether it was the grinder or the foreman that uttered the words, why switch between “*hadek heitev*” to “*heitev hadek*”? Even according to the opinions who argue that these are laryngeal words, capable of expelling the dust from the lungs, why should the speak-

²² *Yerushalayim* (Volume for 1887, p. 160).

²³ This suggestion was presented to me by a learned friend, Mr. Shimon Steinmetz. This suggestion may also have the support of the Chief Rabbi of the British Commonwealth. Rabbi Sir Jonathan Sacks, in the Koren translation of the *siddur*, translates the relevant phrase as “grind finely, finely grind, because the [rhythmic] sound is good for spices.” With the insertion of the bracketed word “rhythmic,” without any footnote or commentary, Rabbi Sacks may be signaling his agreement with this approach.

er rotate the words? Surprisingly, none of the commentators above address this seemingly obvious question.²⁴

Perhaps, and it is just perhaps, the answer may have come to me one morning when I was reciting the *ketoret* towards the end of the service. The various difficulties discussed in this article were very much on my mind as I read the words aloud. Suddenly I stopped cold as I heard myself pronounce the words “*hadek heitev, heitev hadek.*” It sounded to my ears like a tribal drumbeat—a true rhythm. I then tried it again, out loud, repeating only the same two words, “*hadek heitev, hadek heitev.*” It did not sound nearly the same. The chanting effect is not the same when one repeats the same two words over and over, as it is when one switches back and forth, back and forth, during the chant. In other words, I came to realize, when R. Nathan said אומר הִדֵּק הַיֵּטֵב הַיֵּטֵב הִדֵּק מִפְּנֵי שֶׁהַקּוֹל יִפָּה לְבָשָׂמִים he was not merely explaining why speech was necessary at all; he was explaining why it was necessary to *rotate* the words. The reason is because chanting is good for spices, and rotating the phrases, rather than simply repeating them, makes for a better chant.

Is it possible that this is all R. Nathan intended in the passage so many of us recite every day? Absolutely. But is it certain? No. Sometimes no answer is better than a wrong answer, and sometimes one should be content to leave a matter unresolved. דרוש וקבל שׁכר our sages have said. It is worthwhile studying Torah even if one cannot reach a practical or definitive result. If we are left with a mystery, so be it. When the Temple is restored in God’s good time,

²⁴ In the *Batei Kenisiot, supra*, Ibn Ezra notes that the Biblical phrase “*hadek,*” used in Exodus 30:36, precedes the Talmudic phrase “*heitev.*” He makes no attempt to explain, however, why the speaker would rotate the phrases. R. Baruch Epstein in *Barukh she-Amar* (Tel Aviv, no date) suggests, in accordance with I Kings (20:18), that primary or more important goals are to be mentioned before secondary goals. Thus, when the spices are still whole, the goal is for them simply to be crushed, and so the word “*hadek*” comes first. But once the crushing process has begun, the goal is to refine the crushing, and so “*heitev*” comes first. R. Epstein offers this suggestion only in the form of “perhaps” (*efsber*) and indeed, its weakness is apparent.

and the incense service is once again part of our lives, we will surely learn the truth.²⁵ ❧

²⁵ My sincere thanks to the *Hakirah* editors and the anonymous editor of the outstanding online scholarly *Onthemainline* blog for their invaluable assistance. Also, a special thank-you to Dr. Shnayer Leiman, an inspiration to so many, for his review of an earlier draft of this article and for his suggestions.