

בראותם יחד: עיונים בויכוחי התכלת

An Assessment of the “Techeiles Talks” Responses to Rabbi Mordechai Hershfeld

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Introduction

The murex trunculus techeiles contention, its proponents tell us, is a “developing sugya”. At times these developments take the form of fresh svaros to answer old kushyos, sometimes it’s newly unearthed information, and occasionally it means noticing some fact or feature that had previously been overlooked. Oftentimes, however, the primary development simply comes in the form of a developing tone of voice when repeating old arguments. What was originally suggested as a speculative answer to a question eventually gets presented as a proactive proof; what was seen as a dochek develops into an obvious truism; yesterday’s efsher yeish lomar becomes today’s established fact.

These developments were most recently articulated in the lecture series “Techeiles Talks” by Rabbi Avrohom Gross, a yungerman who has emerged in recent years as a vocal spokesman for the murex techeiles. In this series, widely distributed and broadcasted on the Lakewood radio station, Rav Gross delivers a point by point “all inclusive and in depth response and rebuttal” to shiurim given six years ago by Rabbi Mordechai Hershfeld, in which the latter had presented many of the common critiques and questions that have been raised over the years about the murex techeiles.

The thrust of the rebuttal is not merely to suggest tirtzvim to the various kushyos. In tone and in stated purpose the goal is far more ambitious: to demonstrate that all of the critiques are either ignorant or intellectually dishonest, and that in reality there are – as he says often – *no* real questions at all on the chilazon’s identification as the murex trunculus. This assertion is significant, as it serves to counter the green herring effect: the impression that murex techeiles depends on a chain of forced solutions to a series of problems, similar to the old joke that a herring is green and hangs on the wall – as long as you paint it green and hang it on the wall. The techeiles advocate sets out to demonstrate that it is **“punkt farkert, the kashyos are stretching and painting herrings blue in order to try to see a kashya; the joke is really on the makshim”**. It is thus important to him to not only provide possible answers, but also to summarily dismiss, at times derisively, the very legitimacy of the questions themselves.

Much of the discussion becomes highly technical, and centers around interpretation of ancient Latin texts, finer points of archeological conjecture, the molecular makeup of dyes, and other some such that few of us are in any position to assess. But a number of the points involve some good old fashioned gemara learning as well. There have been those who have questioned how the murex can fit with

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I express my gratitude to the many knowledgeable people on both sides of the techeiles debate, not least of all Rabbi Gross himself, who have given me from their valuable time to clarify various areas of the topic. Rabbi Mottie Cohen has graciously shared the fruits of his indefatigable research as well as manuscript sections of his upcoming sefer, some of which has significantly informed portions of our discussion here, particularly with regard to the shiur dosh.

I beg the reader to take this essay only as a contribution, for whatever it’s worth, to the already voluminous literature on the question of murex techeiles. It deals with a few details of a multifaceted sugya; please do not make any final decisions with regard to the mitzvah d’oraissa of techeiles based solely on what we’ve written here.

Our tone in this essay is in keeping with the level of the debate, and comparable to the tone of the lectures being analyzed. Chas v’shalom for anything we say in here to be taken as a personal attack on any individual; any frankness is only there to highlight the points being made. We hope it will be processed that way by all parties.

various halachic statements in Chazal about the chilazon¹. As he does with all the critiques, the advocate makes short shrift of these questions, demonstrating in quick, efficient, almost nonchalant manner that they too are based on ill-informed misunderstanding of the subject matter. It is these shiurim that we will focus on, and presume that our findings are revealing of the general discussion.

It should be noted at the outset that our goal in this paper is **not** to prove or disprove the thesis itself. We will simply analyze the methodology and presentation of the rebuttals, in order to better understand how we should process the underlying claims and the impressions formed by the discussion.

Chapter 1: Tzod (Shiur 46)

The Gemara (שבת דף עה.) tells us that one who traps a chilazon on Shabbos is chayiv for the melacha of tzod. R' Yisroel Reisman and others have observed that this presents a difficulty if we are to assume that chilazon is a murex, at least according to one rishon. The Tosfos Rid writes (חגיגה יא:) that one would not be chayiv for trapping a slow moving snail, because it is already nitzad v'omed – it barely moves at all and can be easily picked up. Chilazon, which the gemara says *is* subject to tzod, thus must be some faster moving creature than a murex, which would not be subject to tzod.

Now, there are Rishonim – most notably Rashi – that apparently disagree with the Tosfos Rid on this point. Rashi seems to hold that there is tzod even on a slow moving snail². Of course, Rashi doesn't say that the *chilazon* is a snail³, but we can say that this particular objection to the murex would be irrelevant according to his approach to hilchos tzod. Rav Gross therefore points out that the Tosfos Rid is a da'as yachid and this sugya cannot be seen as a conclusive disproof to murex techeiles⁴.

A mistaken question

Be that as it may, he tells us, the entire discussion is actually a mistake. ***“The whole question doesn't even start”***, because the Tosfos Rid himself would agree that trapping a murex would be tzod. When he

¹ The questions do not originate with Rav Hershtfeld. They have been raised and debated over the years by, amongst others, R' Yechiel Perr Zt"l, and ybdl"ch R' Yisroel Reisman, R' Shlomo Miller, R' Asher Weiss, and R' Moshe Heineman. Rabbi Hershtfeld simply compiled and presented them.

² Rashi translates the chomet as a snail, and the gemara says that trapping the chomet is tzod d'oraisa. Apparently, Rashi understands that nitzad v'omed doesn't apply if the animal is naturally slow (as opposed to a sick deer for example, which is unnaturally tethered by its illness) The Tosfos Rid disagrees with Rashi about the identity of the chomet, because in his view something like a snail cannot be what the gemara had in mind as being chayiv for tzeida.

³ The question of if Rashi himself – who in various places defines the chilazon as a 'tolaas', or a 'dag katan', and describes its shape as long and thin – can possibly be brought in tandem with the murex trunculus is discussed extensively elsewhere, but is beyond the scope of the current essay.

⁴ Rav Hershtfeld argues that R' Shlomo Zalman Aurbach paskins l'halacha like the Tosfos Rid, so it should not be so easily dismissed, to which the advocate responds that the fact that R' Shlomo Zalman paskins like him is not mochiach to us that the metzius is going to follow the Tosfos Rid. It should be noted that R' Elyashiv apparently paskins like Rashi.

Rav Gross further states that any source who describes the chilazon as a worm, snail, or slug-like creature must also agree with Rashi that slow moving animals are subject to tzod. This is not so, because there are plenty of sea slugs and even sea snails that swim or float through the water (unlike murex which crawls slowly along the bottom), and thus cannot be easily taken by anyone's definition (indeed, those who alternate between describing the chilazon as a "tola'as" and a "dag katan" can quite reasonably be expected to have this sort of creature in mind). Rav Hershtfeld already made this point; it is puzzling that the response was to simply restate the claim without addressing the correction at all.

said that snails cannot be subject to tzod, the Rid was talking about a land snail, which you just scoop up. Yes, murex too can be found on or close to shore, in which case picking them up would not be tzod, but when they are far out at sea, you can't just walk over and get it. You need to send down a baited basket or something similar, and after the snails crawl in you raise it to the surface. This would be tzod no matter how slow the animal is, says the advocate, because every time you need tachbulos or equipment to catch something it is automatically tzod.

“The maggid shiur (R. Hershefeld) seems to have forgotten what he himself said a few shiurim ago, that more often murexes are obtained by putting down traps in the sea”. This certainly would be tzod even for a murex, as it is ***“mefurish in the gemara in Beitza that when you say ‘havei metzudah un’tzudenu’ that is a siman that there’s an issur tzeida involved. So, farkert, there’s definitely, even according to the Tosfos Rid, tzod on the murex which is on the bottom of the ocean and you need to do tachbulos to trap it. Avada there’s an issur tzeida on such a thing. So this whole kashya from tzeida is not a kashya bichlal to even begin with.”***

Well, we certainly can't argue with a mefurish gemara in Beitza, so that seems to settle that. The whole question appears to have been a mistake.

A new svara

Except that the gemara in Beitza does not exist. What the advocate is doing here is positing his own personal svara in gidrei hilchos tzod, and borrowing a term from a gemara in a different context to describe it. The gemara there is discussing fish – which are fully subject to the laws of tzod – that are already trapped in a small pool of water. The question on the table is how small the pool must be in order for the fish to be considered nitzodin v'omdim. To this שמואל sets a limitation that as long as you still need nets to trap it within the pool, they cannot yet be considered trapped, so trapping them now would be tzod. Nowhere does the gemara indicate an idea that a circumstantial need for equipment is what proactively makes something tzod. *“Havei metzudah un’tzudenu”* simply serves as an indication that the pool is too big for the fish to be considered already trapped, at which point it is obviously tzod to catch it, because it's always tzod to catch an untrapped fish – they're quick.

The *Techeiles Talks* chidush is something else entirely, which is mefurish neither in the gemara in Beitza nor anywhere else: that an animal which by its own characteristics is not subject to the rules of tzod at all can *become* subject to tzod if it happens to be located in a place where you can't easily reach it. Therefore, a snail that is on the ocean floor which you obtain by having it crawl into a baited basket is subject to tzod, because you needed equipment to reach it.

This may or may not be a good svara (personally I find it a bit of a stretch, but nobody asked me), and may very well be worthy to suggest as a yeish lomar to mitigate the question.⁵ But it's not what the

⁵ There are those who argue that because Tosfos Rid (in חגיגה) uses of the term נצודין ועומדין, that indicates that he understands our sugya (in ביצה and שבת) to also be discussing proactive criteria for what kind of animal is subject to tzod. As such, even שמואל – who sets the shiur of nitzudin v'omdin in an enclosure at *“havei metzudah”* – can be read to be providing such a shiur, that any animal in a circumstance that requires equipment to obtain is subject to tzod.

I find this reading to be forced to the point of desperation. We already know that a slow moving animal is not subject to tzod, from the gemara of (שבת קו:): צבי חיגר זקן וחולה (שבת קו:). So of course the term to describe that is nitzodin v'omdin. (To the contrary, it is Rashi who is saying a chidush that it depends if the slowness is the animal's natural state or not.) שמואל's shiur is a new one that relates specifically to size of the enclosure; nothing about his statement is geared to the innovation of an entirely new halacha in hilchos tzod. It should be noted that the term nitzudin v'omdin is used by commentators discussing hilchos tzod in various contexts. There's nothing at all remarkable about the Tosfos Rid's usage. Be all that as it may, anyone is welcome to make the argument and let the listeners assess. The problem is that we've gotten through the entire response and nobody did.

gemara meant when it said “*havei metzudah un'tzudenu*” indicates that the pool is too large for a fish to be considered nitzod v'omed. It seems strange to pass off an aigeneh svara as a mefurish gemara in order to inform one's listeners that the whole question was actually a mistake to begin with, and that those who ask it have – in their zeal to discredit techeiles – simply neglected to learn the sugya.

What was the response?

What's more confusing is that Rav Hershfeld had already presented the idea in his shiur, and debated it on logical grounds. This would have been a good place for the advocate to express why he feels that the svara is a good one. But he doesn't do that; as it is, the *only* contribution that he makes to the discussion is to inform his listeners that it's a mefurish gemara in Beitza. Which it's not. When all is said and done we're left with a comprehensive all inclusive response which, in this instance at least, is not a response at all.

Chapter 2: Dosh (Shiur 52)

The braisa (שבת דף עה.) tells us that one who is potzeia a chilazon – i.e. extracts the blood for its use as a dye – would be chayiv for the melacha of dosh⁶.

This is problematic. As pointed out by R' Yechiel Perr Zt"l amongst others, a single murex does not contain anywhere near enough dye to fit the shiur needed to be chayiv for dosh. The shiur disha as paskined in the Rambam⁷ is a כגרוגרת, whereas each murex only contains a minute amount of dye. Thus, one who extracts dye from a murex cannot be chayiv for dosh; it would seem then that the chilazon must be some other creature which contains more dye.

An erroneous premise

Once again, *Techeiles Talks* tells us, we have a kashya on the murex which is based on a basic mistake in the sugya. The shiur for dosh on dye is actually **not** כגרוגרת at all, the murex skeptics have simply misapplied a Rambam: ***“The magid shiur started off with a kashya that the shiur [for disha] should be a grogeres, which was Rav Perr's idea, that there should be a shiur grogeres on taking out the dam chilazon. But the Kesef Mishna says on the Rambam that the shiur disha is not a grogeres – that's only a shiur disha for אוכלין. But otherwise what would be the shiur? The Yerushalmi is mefurish and the Bavli is mevuar that the shiur for anything for weaving or spinning or anything for that tzorech would be a sit kaful”.***

Now that we know the real shiur disha on dye is the amount with which one can dye a *sit kaful* (a thread approximately 12 inches long), the only question is if a single murex can produce even that.

Crunching the numbers

The next few minutes of the response are devoted to a sardonic mathematics lecture, in which the advocate patiently demonstrates that if it takes 40 snails per full pair of tzitzis you'd be able to dye twelve inches worth of each of the shazur shmoneh threads that make up a string of tzitzis⁸ with 1/3 of a snail. And then, lest the magid shiur ask that the Chazon Ish has a longer *sit kaful* so the murex being the chilazon will be a machlokes R' Chaim Naah and the Chazon Ish, we go back and do the math again

⁶ This is according to Rebbe Yehuda. The Chachamim disagree, but only because a fish, unlike an animal or human, is not considered gedulei karka, and thus not subject to dosh in their view.

⁷ הל' שבת פרק ח' הלכה ז'

⁸ Each string on a standard pair of tzitzis is made up of 8 threads twisted together; Rav Gross does his numbers using a *sit hakaful* of one of those eight threads.

for sixteen inches to show how even using the larger sized thread, **“you’d better believe that you have a shiur disha inside one murex.”**

We may have been spared the math lesson, because Rav Hershtfeld had already acknowledged straight out that (assuming the shiur of *sit hakafel*) a very thin strand would obviously work. He merely expressed skepticism that there shouldn't be some sort of shiur to the thickness of the string. All the techeiles advocate had to do was explain why he arbitrarily chose a strand one eighth the thickness of a standard tzitzis string as the size of the *sit kaful* that Chazal had in mind, and they'd both be on the same page. Alas, after three minutes of portraying “the magid shiur” as a dimwit who can't add two and two, he never does get around to revealing how he arrived at this assumption, thereby rendering the entire exercise yet another non-response.

Rav Perr's idea

Be that as it may, what's more interesting to us is this rule in hilchos Shabbos that we have just been authoritatively enlightened about. Of course, a shiur for disha on a chilazon would be a *sit hakaful*, as mefurish in the Yerushalmi and mevuar in the Bavli. It certainly wouldn't be a גרוגרות; that was just Rav Perr's idea. As a trusting listener, curious about techeiles but not necessarily holding in the sugya of shiur disha, I would naturally assume that I'm being informed about some established facts within the sugya.

Curious. A little research turns up the Chasam Sofer on the spot in Mesechtas Shabbos who specifically says that according to the Rambam the shiur disha on a chilazon actually is a גרוגרות.⁹ As does R' Mordechai Binet in his sefer Magen Avos¹⁰. Nobody seems to have informed these acharonim that this was just Rav Perr's idea.

⁹ The Chasam Sofer observes that the ברייתא brought in ירושלמי, unlike the one brought in the בבלי, does not mention a chiyuv for dosh with regard by חלזון. פציעת חלזון. He explains that presumably the ברייתא there was discussing a small chilazon which contained less than a כגרוגרת of blood and is therefore not subject to dosh.

In מסכת כתובות דף ו. In the Chasam Sofer takes this even further and says the shiur is grogeres across the board – even when you don't need the blood at all. He therefore explains that although bris mila on Shabbos is אסור דש according to the Rambam, that is only because of the rule of שיער חצי, and would not be chayiv. In the same piece he states that the shiur for dam besulim would be a grogeres, even though only a small amount of blood is needed to accomplish its purpose (to prove that the woman was a besula).

¹⁰ With regard to a different question, the Magen Avos (מלאכת דש, עמוד 5) says that the gemara was referring to a chilazon that does not have a כגרוגרת of blood in it, and therefore one who is פוצע it is only chayiv for killing it [not דש].

Like the Chasam Sofer, the מגן אבות also assumes a shiur כגרוגרת across the board, even by אדם חבורת אדם. The one exception he allows is מילה, on which he writes “המצוה אחשביה כאלו הוי שעוריה”.

ובודאי שדבריו גבי חלזון צריכים עיון, דהא הגמ' עצמו כתב דיש חיוב משום דש אחלזון, והי"ע. וראיתי בקונטרס מראה הרקיע מאחד מגדולי ה"תכילת חבורה" שכתב באופן המביא לידי גיחוך לפלוג בדבורו מחמת קושיא זה ולתפוס רק מה שאמר המגן אבות לגבי מציאות החלזון (שהוא דבר שאינו ידוע להגאון הנ"ל), ולהעלים עינים מהפסק הלכה מפורשת בדבריו בהלכת דש.

וגם עי' בקונטרס לבוש הארון המביא מש"כ המגן אבות לגבי מילה דאינו צריך לשיעור כגרוגרת (שהוא באמת ענין אחר לגמרי), והעלים עינים ממה שכתב להדיא אחר זה שבחלזון כן צריך שיער גרוגרת.

ואודות דברי החת"ס עי' בספר מראה הרקיע הנ"ל שכתב לדחוק דבריו במסכת שבת בדברים שאינם יכולין להביא אפי' לידי גיחוך, שאינם מובנים בשום פנים ואינם נותנין טעם כלל לא לשבח ולא לפגם. וז"ל ונראה שאין לדייק מדבריו שס"ל להחת"ס שהבבלי מיירי כשיש בו כדי שיעור גרוגרת דזה ודאי לא מסתבר לומר שהירושלמי בסתמא איירי בחלזון קטן והבבלי בסתמא איירי בחלזון גדול ועי"ש בדברי החת"ס שכל דבריו רק לברר דברי הירושלמי עכ"ל. ואין בזה שום מובן, שהרי זהו בדיוק מה שכתב החת"ס שהירושלמי איירי בפחות מכשיער ולכן אין דישה, משא"כ הברייתא בבבלי שאמר שיש חיוב משום דאיירי שדש כשיער. וזה לא שייך במורקס דלעולם לית ביה שיער. ועכ"פ ראינו להחת"ס שיער דישה לעולם בכגרוגרת, כמו שמבואר בדבריו בכתובות אף לגבי מילה. והמחבר הזה בלי טעם תפס שהחת"ס סותר דברי הגמ' שלנו וגם דברי עצמו, ואתמהה שהדברים עלו עלי דפוס.

ומסתמא אחר שיבושים שבקונטרסים אלו נגרר האברך שלנו כשהגיד לשומעיו שאין לדש שיער גרוגרת, וכבש מהם דברים מפורשים שבכתבי גדולי האחרונים.

The *אור שמח*, too, is oblivious to this distinction. He goes so far as to say¹¹ that שחיטת קדשים would not be chayiv for דש, despite needing the blood for the מצוה of זריקת הדם, because one does not need a כגרוגרת for זריקה.¹² The idea that דש for the purpose of זריקה should have a lower shiur because it accomplishes its (quite valuable) function with less than a גרוגרת is not even brought up.

In fact, יגעי ולא מצאתי a single source anywhere that gives a shiur for dosh according to the Rambam as anything other than a כגרוגרת across the board. There is some discussion if this shiur would apply even in a case of dosh which is not for the sake of the blood at all, for example by חבורת אדם. Some achronim maintain that even there it is כגרוגרת;¹³ others argue that if the point is not to obtain the product it is illogical to prescribe a shiur based on the size of the product¹⁴. But nobody (so far as I've been able to locate) suggests that when the purpose is to remove the דבר הנידוש, the Rambam holds of a subjective case specific shiur for dosh.

כסף משנה The

Techeiles Talks attributes their fact to the כסף משנה. The כסף משנה comes to address a fundamental question: why indeed does the Rambam give a shiur of כגרוגרת for dosh on both of the items he is discussing (milk and blood)? These both have different shiurim regarding the melacha of הוצאה – for milk the shiur is כדי גמיעה and for blood it is רביעית. If for הוצאה their shiurim are not identical to each other, and neither one is כגרוגרת, why does everything change for dosh?

The כסף משנה answers that there's something different about extracting an item בחי חיבורם that gives it a different shiur. He goes on to explain why the shiur then settles on a גרוגרת: because they are foodstuff and can be used to enhance bread.

This כסף משנה is extremely difficult on the face of it: why do milk (a drink) and blood (for dogs) suddenly get treated as foods with regard to dosh, when they have very different functions and therefore have different shiurim than food – and each other – with regard to other melachos?¹⁵ It's notable that the

¹¹ הלכות שבת פרק ז' הלכה ד'

¹² Although more than a גרוגרת inevitably emerges, the או"ש suggests that the rest of the blood would be a מלאכה שאינו צריכה לגופה and therefore would not contribute toward being חייב. He eventually discards this approach for unrelated reasons.

¹³ See the aforementioned Chasam Sofer in Kesubos. The Magen Avos says the same with regard to all chabura except mila. See also Beis Yitzchok ל"ו סי' ט"ו. The Magen Avraham (ט"ו, שט"ז) says the shiur of כגרוגרת on wounding an animal applies even if no blood at all is extracted – a גרוגרת of blood must move from one place to the other under the skin. This is taken for granted by the השקל and הלכה ביאור as well.

¹⁴ See אבני נזר נ"ז, ז' and צפנת פנעח, פרק ט' הלכה ח'

¹⁵ Blood is used for בהמה, מאכל, which has its own shiur. It is also not at all clear what the כס"מ can possibly mean when he says "they" can be used to enhance bread. Does he mean blood is used to enhance bread? Even if we were to take this leap, it would be left unexplained why we would suddenly start viewing blood in this way, specifically with regard to shiur disha.

What's most startling is that the shiur of blood for the melacha of hotza'a is רביעית, which is larger than כגרוגרת. But for milk the shiur hotza'a is כדי גמיעה, which many ראשונים understand to be smaller than כגרוגרת. So the Rambam seems to be saying dosh has a larger than regular shiur for milk, and a smaller than regular shiur for blood.

These questions are asked in various forms by the מפרשים. Some (see מנ"ח and דברות משה) simply leave off with צ"ע. Others (see יצחק ירנן) assume that the כס"מ means that once some liquids are foodstuff, all liquids get the identical shiur of כגרוגרת. Others assume that כס"מ means to explain the Rambam along the lines of שבת תוס' in טו"ז, that since dosh is a bigger טירחה, it carries a bigger shiur (אלא דצ"ע על דבריהם משום דם כנ"ל).

The takeaway from all of this is that the כס"מ himself is not at all clear that there would be a different shiur for דם חלזון. Even if there is, that shiur would not be *sit kafil*, as we discuss below.

מפרק is משינה on the same Rambam simply writes, “Since the Rambam holds that making a wound is משינה (a תולדה of dosh), he obviously holds that the shiur is a גרוגרת, because the shiur for the melacha of dosh is כגרוגרת”. The מגדל עוז makes the same unmitigated statement. And nobody seems to have taken from these words of the כס"מ, whatever it is that they do mean, to therefore assume that the Rambam held of a subjective שיער in dosh¹⁶. The acharonim either had a different take on the כס"מ himself, or simply did not go with his approach l'maisa.

And so we have a cryptic line in a כספ משנה, that nobody ever proposes to base an approach to the sugya on, and that many אחרונים explicitly do *not* take as dispositive. And yet, in order to defend murex, all this must change. The כס"מ is trotted out, not as a possibility or a "כדאי הוא לסמוך עליו", but rather to inform us that of course the shiur for dosh on a chilazon is a *sit hakaful*, as is mefurish in Yerushalmi and mevuar in Bavli. It is strange that our techeiles lecturer, who was so meticulous to make sure his *sit kaful* conforms to both R' Chaim Naah and the Chazon Ish, is untroubled that the very premise he stated as fact is disputed by the מגיד משנה, סופר, חתם סופר, and, so far as we can tell, just about everybody else.

The *sit kaful*

As for the connection of *sit kaful* to the shiur disha for techeiles, well no, that is neither mefurish in Yerushalmi nor mevuar in Bavli. Nor does it seem to be true at all – not according to the Kesef Mishna, or anybody else. *Techeiles Talks* does not supply a source for it; best I can tell, the idea appears to have been invented special in honor of the murex trunculus.

Chazal give a shiur *sit kaful* for melachos relating to working with material (ועוד, אורג, צובע, מנפץ, גוזז), as that is the amount considered to be a workable piece of thread¹⁷. The amount of dye considered to be a shiur chashuv is given in שבת עט. as enough for a סבכה לפי קטן בגד for unprocessed dye. This is a larger shiur than a *sit kaful* by any measure – and certainly considerably larger than a *sit kaful* made of a strand 1/8 the thickness of a tzitzis string.

The ראב"ד, who argues on the Rambam and says that shiur disha is subjective to each individual object, bases his shiurim on the shiurim for hotza'a. The shiur for hotza'a on unprocessed dye is קטן בגד, so that would presumably be the shiur for petzias chilazon as well (see פרק ט' הלכה א' the ראב"ד specifies this shiur for בישול סממנין¹⁸).

Where does this leave us?

Does any of this definitively disprove the murex? Maybe, maybe not. Perhaps proponents may claim that the proofs to the murex are strong enough to justify a *kim li* like the Raavad¹⁹ and speculate that

¹⁶ The closest I could find is the נזר סי' נ"ח אות י"ג in אבני נזר, who employs the term “מאכל אדם” to stress the difference between when one needs the blood, and when one does not need the blood at all. He, however, cannot mean to limit the דין to מאכל אדם specifically (unless he is paskining like the ראב"ד, which would render his words irrelevant to our discussion of שיטת הרמב"ם), because blood is not מאכל אדם, and does carry גרוגרת when needed. The context there is to contrast cases of דש where the purpose is to obtain the product, to cases where it is not. All of the counterexamples he cites are of the latter nature.

See also parallel discussions in סי' מ"ט אות ה' and סי' נ"ז אות ז', where again the אבני נזר uses the term “אוכל” but never indicates that needing the item for a different purpose would have a different shiur; he simply emphasizes the point of having a use for the product is what makes it sensible that the shiur should be in the size of the product. It is significant that the אבני"ד paraphrases the כס"מ, but only uses the term “ללפת הפת” with regard to milk. With regard to blood he simply says “שצריך לדם”.

¹⁷ עי' שבת עט. שיעורו כמלא רוחב הסיט כפול כיון דלטיייה קאי שיעורא כטווי. וזה שהעושה עין הצבע שיעורו בסיט כפול (פרק ט', הלכה י"ד) כנראה משום שהוא תולדה דצוביע ע"ש.

¹⁸ If the משנה כספ indeed ascribes to a separate shiur for petzias chilazon, it would presumably be this one. At any rate, the shiur of *sit kaful* is by all indications entirely baseless.

¹⁹ This appears to be the preferred approach of the Levush Ha'aron (pg. 88), which responds to the question of how the murex fits with the shiur disha by pointing out that the ראב"ד argues.

according to him murex would fit the shiur²⁰. Or maybe there's some other tirutz we haven't thought of yet²¹. What concerns us is not if murex is conclusively discredited by this one discussion; what we find troubling is the flippant reinvention of sugyas in hilchos Shabbos in order to distract observers' attention from the growing stain of green paint dripping from our herring.

Chapter 3: קושר ומתיר (Shiur 44)

The gemara in Perek Klal Gadol learns out each of the 39 meleches Shabbos from malachos that were done during the building of the mishkan. The malachos of קושר ומתיר, the gemara tells us (עד:), were done by the chilazon trappers. Rashi explains that this refers to the maintenance of the nets that were used to fish for the "dag katan" – the chilazon – needed to dye the yerios in the mishkan. Nets are made up of a series of knots, which sometimes have to be tied or untied in the course of the fisherman's work.

Some have asked this as a question on the murex. The gemara here assumes that chilazon is caught with nets, but if chilazon is the murex why would one need any equipment at all to catch it? Why not just pick it up? The answer to this is that many murexes were caught in deeper sea, so some kind of device was necessary to attract them, gather them, and bring them to the surface.

But was it nets? Nets are used to sweep through the water in order to catch swimming creatures. In the case of murex, you simply put some sort of baited container on the sea floor, and when the snails latch themselves onto the bait, you pick it up. Aristotle, who lived in the beginning of the tekufas tana'im, tells us that murex catchers would use wicker baskets to bring the snails to the surface. So if the standard murex fisherman does not pack a net, why does the gemara assume that a standard chilazon fisherman does?

²⁰ It seems unlikely that murex can meet even the shiur of בגד קטן either. According to previously accepted numbers it certainly would not. But Rav Gross claims that a friend of his has managed to dye an entire set of tzitzis from one murex, using strings that were only shazur shtayim. This would represent quite a development in the sugya, as the Ptil Tekhelet people, who have been dyeing techeiles for thirty years, say that it takes 7 to 10 times more than that to dye that amount of string. (It's peculiar that on the basis of this one recent and undocumented anecdote Rav Gross manages to insinuate that Rav Hershfeld was somehow out of line for – six years ago – using the numbers provided by the professionals. But we assume that that was simply in keeping with the general theme of painting all murex skepticism as intellectually dishonest.)

Either way this experiment does nothing for Rav Gross's purposes of justifying the Rambam; his shiur is כגרוגרת according to almost everybody. As for the ראב"ד, I don't know if 4 shazur shtayim strands (which is the same thing as one shazur shmona string) equals a בגד קטן or not.

Another option would be to argue that in the ראב"ד the shiur of petzias chilazon should parallel the shiur hotza'ah for processed dye, which is כדי דוגמא (possibly even smaller than a *sit kaful*). I don't see why this should be, and seems to be contradicted by the ראב"ד in פרק ט' cited above. But the sugya of shiurim for מלאכת שבת is a complicated one, and it is difficult to rule this out definitively. At any rate, we're still looking for a chilazon that meets the Rambam's shiur according to almost all known achronim.

²¹ The *sit kaful* idea, despite the self-assuredness with which it was stated, is actually a fairly late breaking development in the developing sugya. The Levush Ha'aron offered two tirutzim: perhaps the gemara meant you're only chayiv if you extract the dye from many murexes at one time, and perhaps the great expense of the dye would make it chayiv at a smaller shiur.

The first tirutz is simply not what the gemara says – הצד חלזון והפצעו is חייב משום דש. The second is equally untenable – the expense of the dye was a result of the large number of snails and strenuous labor necessary to produce any serviceable amount of dye. No individual snail's dye is very expensive at all. This is unimportant in any event, because as we've seen the Rambam's shiur for dosh is כגרוגרת, not based on expense. And the ראב"ד's shiur would presumably be learned from hotza'ah, as above. (The source they bring from מגן אבות for the idea that individual expense of an item should decide the matter is misrepresented. See above, fn. 10.)

This claim too was refuted several years ago in a magazine article by someone named Rabbi Chaim Klein, who pointed out that “facts are stubborn things” – nowadays murexes can and often are gathered by sending down baited nets instead of wicker baskets.

The shiur... and the rebuttal

In his shiur entitled “Tying and Untying” Rav Hershfeld presents all of the above information fairly and accurately, gives the last word to Rabbi Klein, and concludes that this issue does not seem to be a raiya against the murex. As such, there does not seem to be much for *Techeiles Talks* to offer a rebuttal to.

But rebut he does anyways. The “Response to Tying and Untying” consists of the advocate simply repeating all the information that Rav Hershfeld had already laid out, only this time in a derisive tone of voice²². It appears he didn’t want to miss an opportunity to paint murex skeptics as nudniks who raise ridiculous issues. No doubt his listeners walked away dutifully impressed.

They shouldn’t have. Rav Hershfeld was too generous. And it’s Rav Gross’s eyerolling that is difficult to justify. **“Obviously... the same way they used wicker baskets they could’ve used nets. It’s not like there was some sort of hakpada to davka use wicker baskets.”** What he deftly ignores is the context of the sugya: Chazal determine the 39 melachos based on the melachos that were done in building the mishkan. As such the question is not whether there was a hakpada *not* to use nets, the question is if there was hakpada *to* use nets. And so far as we can tell, there’s no reason there should have been. Aristotle lived in the beginning of the tekufas tanaim, in his era murex fishing was not done with nets. Why would Chazal assume that the bonei hamishkan specifically felt the need to use this particular method, to the point that קושר ומתיר must be seen as a basic feature of the process?

So no, perhaps this is not a raiya berura against the murex. But the approach’s evolution from a tirtutz to a bemused statement of the obvious seems inappropriate. The murex proponents are making an ukimta – that these two of the מלאכת שבת are learned out of a מלאכה that the בוני המשכן had no particular reason to do, and that there is no particular reason to think that they did.

And when Rashi describes something as a “small fish that is trapped with nets”, it does take at least a bit of imagination to assume that he just felt that that was the best way to describe a “sea snail crawling on the ocean floor that can be picked up using a net if you feel like it”.

Is it possible? Yes, it is possible. But we may be excused for once again wanting to don our green paint smocks before learning this part of the sugya²³.

²² He also declares that murex fishing nowadays is almost always done with nets. He may want to check his information with the Ptil Tekhelet people, who proudly announce that “today we trap murexes in exactly the same way that was done 2000 years ago – with wicker baskets”, and provide a video of themselves doing precisely that.

²³ It should be noted that Pliny the Elder, who lived about four hundred years after Aristotle, describes murex catchers in his day using something that gets translated as a “mesh”. Most people involved in the techeiles discussion (on either side) seem to accept that this too is not a net made from knots, and would therefore add another layer of arbitrariness to the matter-of-fact assumption that chilazon catching entailed קושר ומתיר. I personally don’t know much Latin, or much about mesh, so I have no comment.

Chapter 4: נטילת נשמה – Deteriorates on Death (Shiur 47)

The גמרא in עה. שבת tells us an interesting fact about the chilazon, that carries significant ramifications in halacha: When someone removes the blood from the chilazon, the creature will surely be killed at some point in the process. Petzias chilazon is therefore a פסיק רישא – an action which automatically results in a מלאכה – with regard to נטילת נשמה. Even so, says the gemara, if one does this on Shabbos he is **not** chayiv for killing it. This is because the death of the chilazon, while inevitable, is something he specifically does not want to happen²⁴. As the gemara explains, blood removed before the death of the creature produces a clearer or better dye than does blood that is removed from it after it dies.²⁵ Thus, the worker attempts to keep the chilazon alive as long as possible during the process, and even though it eventually must die at some point, he is not chayiv for its death.

The question for us then is if this reality is a true feature of the murex trunculus. Does its dye deteriorate if removed after death? This has been the subject of much discussion over the years.

Dr Sterman's answer

Dr. Baruch Sterman, one of the founding members of Ptil Tekhelet, has said that it certainly does. In an article defending the murex from criticism²⁶ he argued that *"We consider this to be a powerful proof... in experiments we have seen that as soon as two hours after death, the quality of the dye is severely degraded"*. Some critics have protested that two hours is too long to be what the gemara had in mind, but Dr. Sterman goes on to dismiss this argument as "arbitrary".

R' Shlomo Miller disagrees with Dr. Sterman's halachic analysis. He points out that a deterioration that doesn't occur until two hours later is indeed far too long to be considered *"lo nicha lei"* on the death of the chilazon. Thus, if murex blood remains strong for that long, there indeed would be a chiyuv for נטילת נשמה on extracting its dye, and it therefore cannot be the chilazon described in the gemara²⁷.

²⁴ There is discussion in the Rishonim about the exact nature of the פטור. But the basic facts are straightforward: the animal inevitably dies as part of the process, after which subsequent blood removed produces inferior dye, and the worker is therefore unhappy about the death. We are using the term פסיק רישא דלא ניחא ליה for ease of the discussion, not to pin ourselves to a specific mehalech in the sugya.

²⁵ For the purposes of the upcoming discussion, we will need to keep careful track of the "i"s and "y"s.

²⁶ "A Response to Dr. Singer's Review of the Murex Trunculus as the Source of Tekhelet"

²⁷ Rav Hershfeld overplays his hand when quoting Sterman (not by name). He claims that "everyone who has dyed with the murex over the years" has said that it takes two hours to deteriorate. Rav Gross pounces on this – correctly – because (at least so far as we can tell) the only source for the statement was Dr. Sterman.

Rav Gross then goes on to overplay his own hand as well: ***"Nobody says this. There's one person from Ptil Tekhelet, one person who mentioned this as an idea, without any scientific evidence – it was just an idea – that... l'chora it should take two hours. It wasn't based on any experiments, any yedios, any scientific knowledge. It was an idea put out. And nobody else shtells it tzu so it's a little interesting where [Rav Hershfeld] got this from."***

He goes on to speculate that Rav Hershfeld may have gotten it from R' Shlomo Miller's letter, and it was probably R' Shlomo's talmidim who fed R' Shlomo the information.

This is all quite ridiculous. Dr. Sterman's essay was and still is posted on Ptil's website; he wrote that it *was* based on experiments; he is one of the strongest and most knowledgeable proponents of murex techeiles and has been involved in hands on murex dyeing for as long as anyone. A scientist by training and vocation, he is eminently qualified to stand as a source for the physical properties of murex dyes.

If Rav Gross is aware of some further developments – maybe Dr. Sterman eventually retracted his statement, or admitted under cross examination to be a secret agent working for the other team, or whatever – he is entitled to alert his listeners to the new information. But apparently just informing them of yet another development in the developing sugya was not quite belittling enough for his purposes.

Levush Ha'aron's experiment

As the years went by, the sugya developed further. The authors of Levush Ha'aron downgraded the number from two hours to half an hour: *"We decided to perform an experiment. We took two snails and broke the shell. From the first we immediately extracted the dye and rubbed it into a cloth. We placed the second snail aside for about half an hour and rubbed it into another spot on the same cloth."*²⁸ They report that the first dye stayed fast after washing the cloth, whereas the second dye washed out. They thus conclude that this phenomenon is not only not a difficulty, but in fact a strong proof to the murex as chilazon.

Rav Hershfeld quotes all of this, and then argues that even half an hour is too much – the gemara seems to be referring to a deterioration that happens *immediately* upon death.

Rav Gross has some fun with this objection. After all, who told Rav Hershfeld that the experiment wouldn't work in less than half an hour as well? ***"Now where did he get half an hour from? The answer is he got it from Levush Ha'aron that talks about someone who did a test after a half an hour and saw that takeh it's worse after half an hour then when done right away when it was still alive. So veist doch ois it must be that tafasta meruba lo tafasta, so they only wrote half an hour so it must be that under half an hour it doesn't work like that. This is a silly comment, a silly idea... There wasn't any test done within under half an hour to go ahead and say that it wouldn't deteriorate faster."***

The only thing silly here is the idea that there's something wrong with analyzing the murex contention on the evidence provided by its strongest supporters²⁹. But what concerns us is the bottom line: is there or isn't there a feature of the murex trunculus that fits with this one that Chazal told us about the chilazon? Is its dye less potent when extracted after the death of the creature?

Rav Gross does the experiment himself

At this point in the shiur, things begin to spiral. The advocate, who began his shiur by announcing he will demonstrate that this whole kashya was based on "fake news", now declares that ***"I personally did the experiment myself"*** and it worked. He tells how he intentionally killed a snail and observed the dye immediately becoming less potent because it mixed with mucus in the snail, which presumably makes it go down in quality. He therefore concludes that farkert the experiment was indeed a great proof to the murex, and ***"this טעות to make it into a kashya is mamash based on nothing, based on air"***.

But something is strange. The results of the experiment that our techeiles lecturer stresses sound very different than what Dr. Serman and Levush Ha'aron have been pushing. And – if you listen closely – he at some point earlier even mentioned that he doesn't think the Levush Ha'aron's experiment proves anything "the way it was done". So we're left befuddled. What happened between the time that the experiment didn't prove anything and the time that he did the experiment himself, that turned the original question into a טעות based on nothing, based on air?

It appears that what happened here – smack in middle of this shiur, before our eyes and unannounced – was yet another development in the developing sugya. The past two decades of tirutzim / proofs are

²⁸ Levush Ha'aron pg. 53

²⁹ Readers are supposed to assume that the Levush Ha'aron people weren't doing their best to coordinate the murex with the chilazon or anything like that. They happened to be out for drinks one night and decided to crack open some snail shells, and noticed this interesting feature. By the time they were writing their sefer they no longer had any murexes around, so they just jotted down what they had discovered about the arbitrary number of half an hour. Or so Rav Gross appears to suggest. I guess the term "silly idea" is in the eyes of the beholder.

indeed inviable. But no harm done, because the advocate has just pivoted almost midsentence into an all new approach to the topic, which just so happens to *also* be an incontrovertible proof to the murex techeiles.

This is all very confusing, so we'll have to take it from the top.

The old tirutzim

Let's back things up. The entire conversation to this point is a Purim shpiel. It is difficult to understand how it went on for so long.

We begin with Baruch Sterman's claim: two hours after extraction it deteriorates. This is supposed to match with the gemara that someone who is squeezing the chilazon wants the creature to stay alive. But it doesn't match the gemara; it in fact has nothing at all to do with what the gemara says. Forget about if two hours is enough time to be considered *lo nicha lei* – who cares what happens after extraction? What the gemara says is that the dye removed from a living creature is superior to dye removed from a dead one. Therefore you try to keep it alive for as long as possible while you extract it. This is completely immaterial to any deterioration of extracted dye, which in turn has nothing to do with the snail being alive or dead.

The Levush Ha'aron experiment continues to push the same red herring. They exposed murex dye to oxygen, at which point it oxidized, and then noted that after a while it didn't work very well anymore. Correct, it didn't. Because snail dye oxidizes when exposed to oxygen, which is why dyers reduce it before dyeing with it. You'll get exactly the same results with dye removed from a living snail as with dye removed from a dead one. The entire line of argument is a meaningless distraction³⁰.

Rav Gross knows this. So instead of admitting that we've been fudging this for twenty years, he simply slips into another discussion entirely, and pretends that there was something impertinent for asking the question that until now has been unanswered.

At any rate, we seem to all be on the same page now. We can disregard the previous non-answers, and focus instead on this new suggestion. So it's back to the drawing board: how indeed does murex trunculus fit with the phenomenon mentioned in *שבת עה*. Must a worker truly take care not to kill the creature when extracting its dye, lest it deteriorate? We will examine Rav Gross's idea in the upcoming chapter.

³⁰ Trying to reconstruct their thought process, the best I can come up with is they may be suggesting a case where someone will try to dye *without* reduction by rubbing the open snail directly on the cloth. As such he will try to do so as quickly as possible, because if the snail dies it may cause dye leakage and then you'll waste time in trying to gather it up, in which case the dye will oxidize. Or something like that.

I have no idea if this way of dyeing is even possible, but one thing we know for certain – it is not how techeiles was dyed (nor is how murex is or was dyed, according to any expert or book, ancient or modern, that I have ever seen). The gemara in Menachos is quite clear that techeiles was dyed by putting the blood into a pot etc. To suggest that the gemara in Shabbos assumes that in all normal cases of techeiles dyeing you are indeed chayiv for netilas neshama, but was referring to their invented case when it said *אפי' תימה שפצעו חי וכו'*, without even saying *הכא במאי עסקינן*, is beyond absurd.

Things get more bizarre still when they inform their readers that in ancient times reducing methods were not so good so dyers preferred not to do it. This historical reality was apparently invented in real time for this discussion, and is simply not true about murex. At any rate, we know from the gemara that techeiles was made in pots, so if we are to assume their new reality about murex, techeiles must be something else.

Chapter 5: נטילת נשמה 2.0

Rav Gross's new explanation of the gemara is based on the following. When a murex snail dies, his dye leaks out of the dye sac³¹. Now, the gemara mentions loss of dye *quality* on death, not loss of the actual dye itself. However, says Rav Gross, what the gemara is referring to is this: when the dye leaks, it spreads throughout the body of the snail itself and mixes with the mucus. Thus, if you try to salvage it, it will be a contaminated dye, not as potent as pure dye properly extracted.

All fine and well. But there's a problem. The gemara doesn't simply let us know that murexes lose dye on death. The gemara tells us a *nafka mina l'halacha* based on a specific *metziyus*: The worker prefers, while he is extracting the dye, not to let the snail perish till as late in the extraction process as possible. Therefore when it finally does die the death is *lo nicha lei*, because the rest of the dye is not as good.

Is any of this true about murexes? First we have to understand how dye is extracted from a murex.

Removing dye from a snail, method 1

Most of the body of a murex snail is ensconced within its rock-like shell. Somewhere on the body, deep within the shell, is a small gland which contains its dye. The most commonly discussed method of obtaining it is to smash open a small hole in the shell opposite this gland³². At this point, as Rav Gross mentions, the snail is still alive. A knife is then used to slice off the gland, after which the snail – mortally wounded by the slice in his body that removed his gland – almost immediately perishes³³. The intact gland is then thrown into a vat with thousands of others, and the dye is subsequently prepared by mixing in various reducing agents and boiling.

Unfortunately for our worker, if he uses this method on Shabbos he will be *chayiv* for *netilas neshama*. Because the death happens automatically – פסיק רישא – but it only happens *after* he has already procured the entire uncontaminated dye, as an aftereffect of his having done so. No leakage to worry about, and thus, alas, no *lo nicha lei* to get him off the hook. We are therefore left with an unresolved problem – murex does not in fact fit with what the gemara describes about the *chilazon* at all.

Techeiles Talks does not address this problem here – in fact, he does not mention it at all. As such we are left very much in the dark, not only about how this got presented as a *proof* to the murex, but also why it is not indeed a pretty serious problem with the contention.

We are once again out on our own, with a response that fails to respond. We are left to speculate that maybe the gemara refers only to a worker who is using a different technique³⁴. In a later *shiur* Rav Gross pushes the existence of other techniques for a different reason as well, so let us see how the gemara may fit with those other methods of dye extraction.

³¹ Levush Ha'aron mentions this phenomenon as well, but, as they mix it in with their oxidation experiment, it becomes impossible to follow a coherent argument from their presentation.

³² This is the method described by Aristotle and Pliny, and is the one that is done today by the modern *techeiles* dyers. In the excavations of ancient murex remains, archeologists identify which have been used for dyeing by noting the shells left with the hole smashed through in precisely the place of the hypobranchial gland.

³³ As Rav Gross tells us in *Shiur* 48

³⁴ This is a strange assumption, because in the context of the gemara it is R' Yochanan who makes an *ukimta* that the *braisa* meant specifically *מת כשפצעו*. Rava seems to be attempting to be *meyashiv* the *braisa* on *lumdos* grounds, without being forced to assume a specific case. It seems *dachuk* to assume that even according to him the most common methods would indeed be *mechayiv* the worker.

Removing dye from a snail, method 2

In Shiur 52, Rav Hershfeld mentions that the method of slicing off the sack – which is the way it is done today³⁵ – was used by the ancients as well. He is correct, of course, but Rav Gross takes him to task anyways for implying that it was the *only way*³⁶.

Rav Gross is correct. There were other ways as well.

The second way, as demonstrated by a leading contemporary murex expert John Edmonds³⁷, was to simply crush the entire snail in one blow, turning the entire creature – shell, mucus, dye, and all – into one gelatinous mass. The whole thing is then thrown into a pot and cooked in a way that isolates the dye.

Unfortunately, this second option too is no help for us. The gemara absolutely cannot be referring to this method because it would be netilas neshama d'oraisa. Murex proponents' tirutz that the death is *lo nicha lei* because then the dye would mix with the mucus is obviously inapplicable when you are specifically crushing it, killing it, and mixing it all together.

Removing dye from a snail, method 3

But there may be a third way as well. Rav Gross points to the ancient writings that seem to describe someone simply smashing through the shell and the gland, thus causing the dye to come out. It is not at all clear to me how this is supposed to work as described, nor is it clear that the ancient writers aren't simply describing the previous method that John Edmonds demonstrated³⁸. Be that as it may, there is still no reason why the death of the snail is anything the worker should be concerned about – the whole process is instantaneous, as long as the snail is alive when you whack it, all is well even if it dies later.

What's startling is that the *Techeiles Talks*, as does Levush Ha'aron, quotes a source documenting the use of this method, from an ancient writer named Aelian. They apparently stopped reading midsentence, or intentionally neglected to mention how Aelian describes the process: *“He smashes it, shell and all, with one blow of a stone. But if the blow is too light, and the creature is left still alive, a second blow with the stone renders it useless for dyeing purposes. For the pain causes the fish to spend the dye, which is absorbed into the mass of flesh or escapes in some other way.”*³⁹

The source tells us that in this method, not only is the death of the murex not *lo nicha lei*, it is in fact the worker's specific intent. If you **don't** kill the creature you lose the dye; you must take great care to kill it on your first try. Punkt farkert.

Removing dye from a snail, method 4

To answer this, some murex proponents have suggested a fourth way⁴⁰. Perhaps the gemara refers to someone who cracks open a hole opposite the dye sack, and then punctures the sack, allowing the dye

³⁵ According to Ptil Tekhelet, who have been producing murex dyed techeiless for the past 30 years.

³⁶ Rav Gross's objection is overdone, because for Rav Hershfeld's purposes it's not important that it was the exclusive method. As long as it was a common one – which it was – for the gemara to make blanket halachic statements about petzias chilazon that are untrue in this method is certainly worthy of note.

³⁷ Video entitled “The Worst Jobs in History”, available from the Techeiles Chabura.

³⁸ Rather than quoting ancient writers, it would be more helpful if someone would actually take out a murex and remove its blood in a way that fits the gemara's description. To date I'm not aware of anyone attempting such a thing (besides Levush Ha'aron's meaningless “experiment”).

³⁹ Aelian, On the Characteristics of Animals XVI 16.1.

⁴⁰ Private correspondence with this author.

to ooze out. Assuming the gemara refers to this method, the theory would be that although this process automatically kills the snail at some point, the worker hopes that the death happens as late in the process as possible. Because at the moment of yetzias neshama the snail shoots the dye in the other direction, were it mixes with the mucus and becomes less potent.

This whole metziyus seems strange. When exactly is our snail passing away? As before, if it dies after all the dye is out, it is not *lo nicha lei*. So it dies in the middle of the leak? And in that split second the snail just shoots it the other way?

I'll have to take their word for it that this is indeed how it would happen⁴¹. There doesn't seem to be any particular reason why anyone would want to use this method, unless he's specifically trying to lose as much of the dye as he can. Nor is there any record of this method being done at any time, ancient or modern. But there you have it: the suggestion is that the gemara's blanket halachic statement is actually not true at all, other than if the fellow happens to be using this one undocumented and inefficient method⁴².

Unfortunately, even this coat of green paint cannot stick to our herring. Because, whether or not this technique would comport with the gemara's statement about *lo nicha lei*, it contradicts the original piece of information that the gemara gave us about the chilazon. One who extracts dye from a murex in this manner would not be chayiv for dosh.

Chapter 6: Dosh Again (Shiur 52)

Recall that the braisa told us that one who is potzeia a chilazon is chayiv for dosh. Rashi explains what the Gemara is referring to: דוחקו בידיו שיצא דמו, you squeeze the fish so that the blood should come out. This portrayal of the process is found in other rishonim as well⁴³ (I'm not aware of any rishon who depicts it differently). Rashi is clearly not describing murex dye extraction, but let's pretend not to

⁴¹ I have seen and heard various contradictory reports from contemporary techeiles dyers as to the actual facts of when the dye leaks, where it goes, and what the death of the snail has to do with it. Virtually none of them, however, meet the basic two criteria to fit with the gemara – that the chilazon's death is inevitable, but **when it happens** the worker is disappointed because the quality of all subsequent dye obtained goes down.

It should be noted that none of the cited ancient writers (Pliny, Aristotle, Vitruvius) say anything about keeping the creature alive *while* you remove the dye (by all accounts the actual dye removal process takes about a second, so the whole idea is pretty outlandish). They talk about *catching* it alive, and keeping it alive *until* you remove the dye, because dead snails don't have any usable dye.

This is all fine and well but has nothing to do with the gemara. To quote these sources as describing the same phenomenon as Chazal did (as Rabbi Gross and Levush Ha'aron do) is highly misleading.

⁴² There is one approach to the sugya, understood by the Ramban to be the opinion of Rashi, that the worker specifically chooses a removal method that does **not** kill the snail – in which case even if he accidentally does kill it, he is פטור. According to Rav Gross and every other murex proponent I have communicated with this is impossible with a murex, which must die at some point in the process. Perhaps more importantly, if one is looking for a method with which to get maximum murex dye, he need not search for some way to remove it without killing the creature. He should just slice off the sac and kill the creature. Or smash the whole thing, as John Edmonds did. Rabbeinu Avraham ben HaRambam also explains the sugya in this way, which is impossible to reconcile with the murex.

⁴³ כן היא בפסקי ריא"ז וז"ל הצד חלזון והסוחטו להוציא דמו עכ"ל וכן בהשלמה וז"ל פוצעו דוחק את הבשר כדי שיוציא את דמו דמי לסחיטה עכ"ל וע"ע באהל מועד שער השבת דרך ד', ואור זרוע הל' שבת סי' נ"ח

notice⁴⁴. The more important question is if murex dye extraction would even fit the halacha being paskined here.

Rashi means what he says. In order to be chayiv for dosh, one must physically effect the extraction of the product, similar to milking a cow or squeezing juice from a fruit. Simply puncturing the animal and allowing the blood to ooze out would not be the melacha. As explained by the אבני נזר, this would be simply פתח לפניו, like opening a door before it, which would be considered a גרמא, not an active melacha⁴⁵. (The סופר חתם paskins similarly misvara, without mentioning this Rashi⁴⁶).

This הלכה would prove problematic for our most recent suggestion. If murex dye was extracted by puncturing the sack and then collecting the leaked dye, it would not be dosh. Since the braisa says you would be chayiv for dosh for petzias chilazon, it cannot be referring to murex dye being extracted with this method.

I don't know where he got that halacha from

Techeiles Talks would not be impressed with this difficulty, because they are apparently unaware of this shitas Rashi (and Chasam Sofer). The unfortunate result of this oversight is a rather aggressive broadside, which turns out to be considerably misguided.

For whatever the reason, there are those who prefer to translate “potzeia chilazon” as the cracking of the shell to reveal the murex’s dye gland⁴⁷. Rav Hershfeld points out that the term potzeia actually has

⁴⁴ When Rav Hershfeld points this out, the techeiles advocate responds, **“Now I don't know where he got that from, obviously, if we're taking that mehalach then the squeezing would be on the guf hachilazon.”**

I have absolutely no idea what he is talking about. Nobody, least of all Rav Gross, suggests that a normal or even viable way of extracting murex dye is to squeeze on the actual body of the snail inside the shell, by hand. I'd be quite interested in seeing someone attempt such a demonstration (and explain why it's a better idea than just slicing off the sac).

⁴⁵ אגלי טל דש ס"ק ט"ו, ה' וז"ל ונראה דס"ל דלא חשוב מפרק אלא בעושה מעשה בדבר המתפרק כמו בדישה שחובט בחיטין עד שמתפרקין וכן בסחיטה שדוחק במשקה וכן בחולב שמושך הדיד עד שהוא דוחק בחלב הבלוע בדדיון. אבל בדם חלזון המפקד פקיד כמש"כ התוס' אם פוצע החלזון לא עשה מעשה בגוף הדם אלא כפותח פתח לפניו על כן פירשו שדוחקו בידי דחק הדם בפנים כמו חולב עכ"ל וביותר ביאור באבני נזר או"ח סי' צ"ז ז"ל...מה שבארתי מלאכת דש ס"ק ט"ו אות ה' דברי רש"י שדוחק בידי דדוקא כהאי גוונא שעשה מעשה בדם אבל החותך בסכין לא הוה מלאכה... והוא פטור כיון שעשה על ידי גרמא שחתך החלזון בסכין ודם הפקוד בתוכו יוצא... ע"ש כי דילגתי.

⁴⁶ כתובות ה': ד"ה מפקד פקיד וז"ל והיה נ"ל לסברא נכונה לומר דוקא בסוחט בידי בענבים להוציא משקה הוא דשייך מפרק וה"ה אם ה' סוחט בכותלי הרחם להוציא דם ה' שייך מפרק אבל הקולף קליפת החרצן שע"ז יצא משקה מהפרי ליכא משום סחיטה אלא כפותח פתח ויוצא המשקה ממילא עכ"ל

⁴⁷ The context there is an attempted raiya that chilazon must be a snail with a hard shell from the fact that the gemara uses the term potzeia, and potzeia means to crack open something hard (as in “potzeia egozim”). Rav Hershfeld quotes R' Perr's written argument that potzeia not only doesn't necessarily mean on something hard, it doesn't mean to “crack” at all. As per the Radak, it refers to “*incising a smooth surface, splitting, cutting, wounding, or causing a fissure*”. By chilazon it refers to rupturing the body and squeezing out the blood. In the context of petzias egozim it means to tap the fusion point of the shell thus causing it to split open on the seam. (This is not applicable to a murex shell, which has no seam and is simply shattered).

The advocate addresses this argument by first denying anybody ever brought such a raiya, then by snickering at Rav Hershfeld for bothering to address the raiya at all because we have other raiyos that chilazon is a snail, then defending the raiya, and finally repeating the raiya himself.

In reality, people have indeed brought the raiya by adducing a rishon that supposedly describes petzeis chilazon as identical to petzeias egozim, ergo chilazon must be a snail. Rav Perr's critique is thus quite relevant. *Techeiles Talks'* objection to the discussion on the grounds that we have other raiyos is possibly the strangest critique of an argument that I have ever heard. Those other raiyos are also debated; one thing at a time. (The advocate continues his critique by

no connotation of something either hard or soft. He further mentions that the stage of shattering the shell would not itself be dosh, because – as per Rashi – you are simply revealing the product, not squeezing it out.

The advocate makes short shrift of this second objection: ***“The second point which is brought up, which you can’t even call it a kashya, because it’s pashut a mistake, is that there’s no disha by just cracking something open. I don’t understand how he gets disha by wheat. That’s what you do by wheat, you’re cracking open the husk and releasing the kernel. So that’s bichlal no question at all, I’m not even sure where he got that halacha from.” “The third question he asked was that there’s no disha unless you cut and squeeze it out. I’m not sure where he got that halacha from.” “According to his understanding of these new gidrei hilchos disha...”***

We, however, do know where “the magid shiur” got this halacha from. He got it from Rashi.⁴⁸

Back to our problem

We appear to have reached something of a dead end. The gemara’s description of petzias chilazon and its halachic ramifications does not appear to fit with any known or suggested method of extracting dye from a murex. In method one you don’t care that it dies as an aftereffect of your having sliced off its gland (and it certainly doesn’t affect the quality of the dye with its death). In methods two and three you are intentionally killing it for the *benefit* of the process. And method four would not be dosh⁴⁹.

Does this conclusively disprove the murex as the source of techeiles? Who knows. Perhaps someone will one day come up with yet another way to de-dye a murex, which would be both פסיק רישא דלא ניחא ליה and שד. Or maybe someone will construct some lomdus that can fit the halacha into one of the existing methods. We’ll just have to wait for the sugya to develop further⁵⁰. As it is, nothing has yet been

announcing that there’s no point in debunking raiyos because it’s obvious that chilazon is a snail and nobody is mifakfeik on that. So there you have it, good to know that that’s settled science.)

He then defends the raiya by pointing out that petzias egozim means to shatter, as is mevuar in the gemara in Beitza 34 “and Rashi there”. What the gemara says is that one may choose to be potzeia a nut inside a napkin so as not to have the shards fly all over. Rav Gross understands this to therefore prove that potzeia means to shatter, not to split open as R’ Perr insists. Perhaps. Or perhaps the fellow is not confident in his perfect potzeia abilities.

What’s interesting is that Rashi there says nothing at all on the topic, so why does *Techeiles Talks* tell us to see Rashi there? It seems that he may have been reading this response straight out of a letter sent a decade ago by R’ Yisroel Barkin to R’ Shlomo Miller (available from the Techeiles Chabura), in which Rav Barkin makes this argument and mistakenly attributes it to Rashi. I embarrass myself with this petty observation only because the advocate takes great pleasure in chiding Rav Hershfeld for getting his information from kuntreisin. It’s reassuring to see that the practice is universal.

Finally, the advocate goes on to thump the petzias egozim proof himself, as we will discuss in the upcoming chapter.

⁴⁸ Rashi has no problem with explaining disha on wheat, because it involves more than just “cracking open the husk and releasing the kernel”. It involves being dosh – trampling – the produce in order to actively separate the two. This is mentioned by the טל אגלי that elucidates Rashi (עי' לעיל הערה 45).

⁴⁹ There’s another issue with the sugya – the gemara’s first תירוץ. R’ Yochanan says that the case of the ברייתא is כשפצעו מת. Going by everything written and spoken on the topic, this seems to be impossible with a murex, which loses its dye on death. I have not seen anybody address this issue to date.

⁵⁰ Here’s my suggestion: Maybe the gemara means someone who ripped the entire snail completely out of its shell, thereby killing it, and losing half the dye. He quickly then squeezes the depleted sack to salvage whatever dye is left, and also gathers up some of the lost dye that got absorbed in the body and mixed with the mucus, to be mekayim the less clear dye portion of the gemara (just getting *less* dye doesn’t fit the words; you also need some *lower quality* dye). With this you’ll be עובר דש as described in Rashi, and also actively kill the snail but be sad that you did.

There you have it, my contribution to the techeiles discussion. No doubt some future presentation will feature this as the obvious פשט in the gemara, thereby demonstrating yet another incontrovertible proof that murex is the chilazon.

proposed, so what we are left with is a “comprehensive all-inclusive response” that leaves us exactly where we were when we started.

Chapter 7: The מחלוקת between Rashi and Rabbeinu Avraham ben HaRambam (Shiur 52)

As we listen further, it becomes clear that *Techeiles Talks* has not missed the Rashi after all. They are just aware of a completely different shitas Rashi than we are. This shitas Rashi is apparently the centerpiece of a robust discussion in the sugya of dosh – that Rav Hershfeld completely ignored.

“The fact that [Rav Hershfeld] brought Rashi on dochko b’yado, he completely ignored the R’ Avraham ben HaRambam. R’ Avraham ben HaRambam on petzias chilazon says ein hach nami that petzias chialzon was smashing the chilazon like petzias egozim. So he did understand that it means to smash open the shell to get to the creature to get out the dye. The אגלי טל was asked about this nekuda – why doesn’t Rashi learn that the petzia was on the breaking open the shell – and the אגלי טל answered that Rashi held that since there are two steps involved, first you break open the shell then you have to pull the dye out of the creature, so memeila it wouldn’t be a disha on the first shlav when you still need to do the second shlav. Which R’ Avraham ben HaRambam argued on, and he holds that no, taking off the shell would be enough to be the melacha of disha.”

It does seem sloppy indeed of Rav Hershfeld to completely ignore the R’ Avraham ben HaRambam. What’s more, he also completely ignored the אגלי טל, who apparently not only knew that chilazon was a snail⁵¹, but also knew the exact process of how to extract dye from a murex.

If you are wondering why this אגלי טל has not until now been a centerpiece of the murex discussion, it’s because it does not exist. In fact, this entire sugya that we just received a shiur klali on is almost completely imaginary. Rest assured that the אגלי טל was never asked “since the chilazon is a snail” anything, nor did he explain Rashi dochko b’yado as referring to the svara of two steps in disha. And Rabbeinu Avraham doesn’t argue on this Rashi, nor does he say anything about hilchos disha and the chilazon at all.

The אגלי טל on Rashi

Let us back things up quite a bit.

Techeiles Talks does not provide any sources at all for this bewildering compilation of rishonim v’achronim, so it’s not clear if they missed the אגלי טל we quoted earlier, or simply misread it. But the אגלי טל explains the Rashi of dochko b’yado exactly as Rashi sounds: in order to be chayiv for dosh, you must physically extract the item being taken. It does not suffice to simply create an opening and allow it to seep out on its own, which would be a גרמא.⁵²

The אגלי טל offers one possible approach to disagree with Rashi’s svara – perhaps dosh can follow similar rules to the melacha of זורה, where the worker throws the pile up in the air, and the wind aids in the actual process of separating it. If so, causing the blood come out on its own may indeed be dosh (unlike Rashi). Even according to this approach, however, simply cracking open a shell to reveal the snail would not be dosh under any svara at all – nothing has been extracted.

⁵¹ As did the anonymous שואל who wondered why Rashi skipped a step.

⁵² דש ס"ק ט"ו אות ה', וביותר ביאור באבני נזר סי' צ"ז. עי' לעיל הערה 45 שהבאנו לשונו

Now, there is another **טל אגלי**, unrelated to this *svara*, that discusses an entirely different *mehalech* to the *sugya*, based on different possible *metziyus*. In **ס"ק ז' אות כ"ה וכו'**, the **טל אגלי** mentions a suggestion he heard from **אחד חכם אחד** to explain the *sugya* “not like Rashi and Tosfos understand, but rather that the *chilazon* has ‘plates’.” In such a scenario, suggests the *Chacham*, the *dosh* would be to remove the creature from inside the plates⁵³. This theoretically would be *dosh* even according to Rashi because – unlike cracking open the shell of a *murex* to reveal its dye sack – you actually are removing something (the *chilazon* itself), and you are doing so by hand, not just letting it come out on its own.

The **טל אגלי** entertains this idea because it would answer an entirely different question he has on the *sugya*, **עיינ שם**. However, he subsequently dismisses the proposal because the removal of the creature would not be the last actionable step in the process, so it does not fit the rules of *dosh*⁵⁴. At no point does he indicate that the *metziyus* of the ‘plates’ was a starting *hanacha*, or that Rashi assumes this *metziyus* and therefore needs an answer why it’s not *dosh* to crack them open. And he certainly doesn’t mention any *Rabbeinu Avraham ben HaRambam* that actually does take this approach⁵⁵. It was a proposed *metziyus*, in order to offer a completely new approach to the *sugya* which in theory even Rashi could technically agree with, but which he eventually discards. And long before the **טל אגלי**’s final objection this proposed scenario would not fit with the *murex*, because bashing open a *murex* shell is not *dosh* for an entirely different reason – you’re not removing anything *b’yado*, or in fact removing anything at all.

The ignored *Rishon*

We now have three different reasons why cracking open a *murex* shell is not *dosh*: It’s not the final step; it’s not *dochko b’yado*; and most important, it’s not *dosh* at all because nothing came out.

So what of *Rabbeinu Avraham*, that *Rav Hershfeld* so callously ignored?

There is no indication anywhere that *Rabbeinu Avraham* argues with any of these *svaros* (and certainly not with all three); he makes no comment whatsoever about *hilchos disha* in relation to the *chilazon*. Nor does he describe *petziyas chilazon* as cracking open a shell. *Rabbeinu Avraham* describes *petziyas chilazon* the same as everyone else – that it refers to squeezing the blood from the creature – and then explains the *sugya* of **נטילת נשמה** by stating that the worker endeavors to keep the *chilazon* alive by extracting the blood only from an **אבר שאין הנשמה תלויה בה** ⁵⁶ (which happens to be both impossible and unnecessary with a *murex*⁵⁷). It seems that *Rav Hershfeld* did well to “completely ignore” this *Rabbeinu Avraham*.

⁵³ This sounds very similar to the *Ya’avitz*, who understood the *chilazon* to be a clam-like animal.

⁵⁴ His *shakla v’tarya* is not about the truth of this *klal* in *hilchos dosh*. His question is only if removing the blood itself is necessarily *dosh*, or perhaps because the blood is *mifkad pakid*, it is not *dosh* at all to remove it. If the latter, one can say that the removal of the creature from within the casing is the last step that can be called *dosh*, and therefore *chayiv*. The **טל אגלי** ultimately concludes that Rashi and Tosfos are correct because the removal of the blood is indeed *dosh*, so the removal of the creature is not.

⁵⁵ It’s unlikely that the **אחד חכם אחד** the **טל אגלי** schmoozed over the *sugya* with was *Rabbeinu Avraham*.

⁵⁶ **ברכת אברהם ס' י"ט, וז"ל ופציעת חלזון שהוא מתכוין בה להוציא הדם אין הנשמה ניטלת בה על כל פנים שאפשר שיפצע ויוצא הדם מאבר שאין הנשמה בה והוא יתכוין לזה אם יוכל כי היכי דליצלח צבעיה וכו'**

⁵⁷ See above fn. 42

Like cracking open a nut

So what happened here? It seems that we were confused by some early kunteisim. Years ago, as murex proponents searched for proofs that chilazon was a snail with a hard shell, someone found a diyuk in Rabbeinu Avraham who says that “petzias chilazon was done by smashing open the shell the same way you would break open a nut”.

In reality, Rabbeinu Avraham says no such thing. He doesn't *describe* “petzias chilazon” like this, he simply *translates* the word “potzeia” by pointing to a famous usage of the term. In the beginning of his discussion, in order to explain why petzias chilazon is something that would result in the death of the creature, he writes *שהפציעה היא הריסוק והחיתוך כמו פוציע אגוזים, ולפיכך אקשינן לרבנן ולחייב נמי בפציעת החלזון משום נטילת נשמה* – petzia means to mush or cut open, as in “potzeia egozim”, and therefore the gemara asks why you are not chayiv for killing the creature [when you tear it open to get its blood].

As Rav Gross told us earlier, the term petzeia does not necessarily connote something either hard or soft, it simply means to cut something open. The most famous usage, in Shabbos: קכב and elsewhere, is with regard to a nut, so when Rabbeinu Avraham tells us that petzia means to cut something open, he refers us to that usage. (He doesn't even mention “chilazon” when doing so; he simply mentions the word petzia that he is translating.)⁵⁸

Rishonim regularly translate lashon kodesh words by stating the meaning, and then referring us to another place where the meaning is more apparent, with the word “כמו”.⁵⁹ That's exactly what happened here, but was misread to be a description of the process as opposed to a translation of the term. Later proponents apparently saw this diyuk, and then built an entire sugya in hilchos disha around it. It is unfortunate they didn't read two lines further to where Rabbeinu Avraham describes the actual potzeia as it applies to a chilazon.

⁵⁸ One may point to his use of the term ריסוק to indicate that he means to “shatter”. However, ריסוק can just as well mean to “mash”, as in squeezing out the blood of the chilazon. At any rate, there's no reason to assume he meant both terms to apply to chilazon, he was simply providing a broad definition of the term. Its specific application to chilazon becomes abundantly clear as one continues to read through the piece.

⁵⁹ The phraseology is ubiquitous and universal to virtually all מפרשים. I happen to have a ספר יחזקאל handy, and by randomly flipping pages for less than two minutes I came across the following:

רש"י ל"ט, ב': **וששאתיך**. כמו והשאתיך על עמי כמו לא ישיא אויב בו:

רד"ק כ"א, כ"ז: **לשום כרים**. ואדוני אבי ז"ל פירש כרים כבשים כמו עם חלב כרים ואלים והוא שעושין אילי ברזל לנגח החומה:

מצודות כ"א, ל"ד: **בחזות**. ענין ראיית הכוכבים כמו החוזים בכוכבים:

מלבי"ם כ"א, כ"ו: **קלקל**. השליך החצים בקלות כמו וכל הגבעות התקלקלו:

Most blatant for our purposes is the טל mentioned above, who uses the exact same words as Rabbeinu Avraham – *כמו פציעת אגוזים* – to define a process that he later identifies as *שחתך החלזון בסכין ודם הפקיד בתוכו* – “יצא”. See above, fn. 45.

Conclusion

As a “comprehensive, all inclusive response”, the *Techeiles Talks* lecture series fails utterly. The advocate provides few sources for his claims, and elaborate svaros are trotted out as brief one sentence pronouncements, leaving the listener with virtually no way to check his work and assess the two sides – or even to notice that he just said a chiddush that needs to be assessed at all. He seems to expect the listener to simply rely on his confident tone, dismissiveness toward his adversary, and ease with which he alludes to sugyos that he appears to be privy to, in order to assume that it all really adds up. Whether or not it actually does, just asking your audience to trust that you know what you’re talking about does not constitute a rebuttal.

Taking the time to reconstruct his arguments has left us with little to justify that trust. We have seen responses that are not responses at all, but were simply the repetition of disputed assumptions, without any further substantiation. In some cases, the “responses” were actually retractions or revisions, despite being presented as rebuttals. We have been authoritatively informed of gemaros and rishonim that do not in fact exist; ideas were stated as obvious facts that actually require intellectual somersaults to validate; straightforward maamarei Chazal have been reinterpreted and retrofitted onto our preferred chilazon. Entire sugyos, complete with invented machlokesei rishonim and biurei acharonim, have grown like coral reef around the murex snail.

The advocate concludes his series by stating that ***“we takeh see that all of the kashyos are either mistakes or based on misunderstandings”***. Going by the few selections that we’ve studied more closely here, this declaration can be charitably deemed a trifle overstated. While there is always room for spirited debate and innovative ideas, just saying *something* in response to each question does not on its own conclusively settle the matter.

In these pages we have examined a mere handful of the several dozen shiurim, with a focus on those that involve the sorts of sugyos haShas that most of us are more familiar with analyzing. What we’ve discussed here is not nearly enough to form an informed conclusion as to whether or not murex trunculus is the authentic source of Chazal’s techeiles. But *meitivan shel krovim ata yodeia shel rechokim*. As we go through more of the topic, intimidated by an onslaught of knowledgeable citations from Pliny and Aristotle, Justinian and Septuagint, ancient fabrics and modern dye chemistry, we should bear in mind that they are unlikely to be any more accurately presented than were the Rashi, the Avnei Nezer, and the gemara in Beitza. Listen, learn, assess. But keep your wits about you. And if you hear some claim that sounds just a wee bit too perfect, make sure to have a loaded salt shaker handy.