

## Using DNA as Halakhic Evidence

### **Man Killed in 9/11 Attacks Is Identified by DNA Testing** ([NYTimes, Ashley Southall, Aug. 7, 2017](#))<sup>1</sup>

The remains of a man who was killed in the Sept. 11 terrorist attacks on the World Trade Center have been positively identified, the New York City medical examiner's office announced on Monday, amid continuing efforts to return victims' remains to their loved ones.

The man, whose name was withheld by officials at his family's request, was the first Sept. 11 victim to be identified in more than two years.

Recent improvements to how DNA is extracted and tested helped confirm the man's identity late last month after years of negative results, the medical examiner's office said Monday. He was the 1,641st person to be positively identified of the 2,753 people killed when the twin towers were destroyed.

Dr. Barbara Sampson, the city's chief medical examiner, said forensic scientists had continued to test the remains as more advanced methods had become available. The vast majority of named victims were identified using DNA or a combination of techniques, according to city data. Positive identification of the remains, which are mostly bone fragments, allows victims' families to finally claim what is left of their loved ones.

"This ongoing work is vital because with each new identification, we are able to bring answers to families affected by tremendous loss," Dr. Sampson said.

Technology adopted earlier this year in the medical examiner's DNA laboratory helped to identify the man after previous tests had fallen short. The DNA lab added more sensitive technology that yielded more information, and optimized the lab's advanced bone-extraction method, according to the medical examiner.

Many families are still waiting for closure. Among the victims, 1,112 have not been positively identified, although the city has issued death certificates for all but three of the victims, whose certificates were issued by other jurisdictions.

The unclaimed remains were moved in 2014 to a bedrock repository 70 feet underground at the National September 11 Memorial & Museum. The repository is not open to the public, although it is adjacent to a reflecting room for victims' families.

The man was the first victim of the attack to be identified since March 2015, when officials confirmed the remains of Matthew David Yarnell.

Mr. Yarnell, 26, was a vice president and programmer analyst in technology at Fiduciary Trust Company International. He worked on the 97th floor of the south tower and was one of 97 employees of the firm and its parent company, Franklin Templeton Investments, who were killed in the attacks.

### **1. *The Beth Din of America's Handling of the World Trade Center Agunot (R. Chaim Jachter), 2003***<sup>2</sup>

The tragic events of the September 11, 2001 terrorist attack on the World Trade Center buildings resulted in over two thousand deaths. As a result of this tragedy fifteen cases of Agunot were presented to Batei Din in the New York metropolitan area. Ten of these cases were presented to the Beth Din of America, the Beth Din of the Rabbinical Council of America and the Orthodox Union. ... In the WTC situation, Rav Yonah Reiss, the administrator of the Beth Din of America, devoted months of meticulous research in coordination with many public and private agencies and firms... His research included obtaining telephone, cell phone, subway, and elevator records as well as the results of DNA testing and dental records.

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<sup>1</sup> See <https://www.justice.gov/archives/ag/advancing-justice-through-dna-technology-using-dna-solve-crimes>

<sup>2</sup> <http://koltorah.org/ravj/Agunot%201.htm>

- Poskim have most recently been asked to address the Halachic status of DNA testing... Rav Zalman Nechemia Goldberg wrote at some length on this issue and concludes that DNA evidence constitutes a **Siman Muvhak Biyoter**. He notes that since the chance of error regarding DNA evidence ranges from a billion to one to a quintillion to one, it far exceeds the requirement that a Siman be shared by less than one thousand people in order to constitute a Siman Muvhak. Rav Goldberg draws an analogy between DNA evidence and Rav Yitzchak Elchanan's ruling (Teshuvot Ein Yitzchak 31) that a photograph of a missing husband showing that he is dead is sufficient evidence of his death... The Beth Din of America partially relied upon DNA testing in the identification of some of the missing husbands.
- A major question, though, arises **whether one may rely upon the civil authorities reports of their identification** by dental records or DNA testing... In addition, Rav Zalman Nechemia ruled that we may rely upon American Airlines assertion that a missing husband was on board one of the planes that crashed into the WTC. He asserts that they also have a professional reputation to uphold and thus may be trusted according to Halacha. He adds that there is no apparent reason for American Airlines to lie about such a matter as it only serves to increase their exposure to liability for the passenger's death.
- Accordingly, the Beth Din of America partially relied upon the New York City Medical Examiner's testimony regarding DNA tests administered under his auspices. Rav Willig notes that he and members of the Beth Din of America were permitted to visit and evaluate the procedures of the New York City medical examiner's laboratory. Rav Willig was duly impressed by the professionalism of this office and concluded that the chance of error in the operation of this office is virtually nil. In fact, Rav Yonah Reiss reports that the Medical Examiner's office told him that dental records are examined no less than five times to insure an accurate identification.
- A great challenge for the Beth Din of America were those missing husbands whose remains were not found. Indeed, Chazal (Yevamot 121) are strict when a husband appeared to drown in **Mayim She'ein Lahem Sof** (waters which have no boundary). Chazal do not permit the wife to remarry even though most people who were lost in Mayim She'ein Lahem Sof perish, because the husband might have surfaced somewhere down the river unbeknownst to us. Tosafot (Yevamot 36b s.v. hah) note that a **Mi'ut HaMa'tzui** (a significant minority) of husbands might have been saved in such situations... A harder case is when the husband called that he arrived at work before the plane hit his building, and where there is no evidence that he was in the building at the time when the plane hit the building. In one case, the husband phoned his wife that he arrived at his office in the north tower (above the ninety-second floor) at 8:20 A.M. and subsequently was not heard from. Rav Zalman Nechemia ruled that Halachic principle of Chazaka (that the status quo was maintained) applies, since there is no reason to assume that the status quo was disturbed. An analogy to a common Halachic experience is relying upon the Kashrut of an Eruv on Shabbat that was inspected before Shabbat.
- The most difficult task faced by the Beth Din of America was a situation where the Beth Din was unable to discover any empirical evidence that a particular missing husband was at the WTC at the time of the attack. An approach pursued by the Beth Din was the possibility of relying on the husband's patterns of arriving at work at the WTC. Rav Yonah Reiss was able to obtain the husband's "Metro Card" records for the months of August and beginning of September 2001 as well as the elevator records for the month of August 2001 (people signed into the WTC elevators with an ID card), and subway records of September 11, 2001.

**2. Sefer HaChasidim (R. Yehuda HaChasid, 12th c.), #232**

כי הנה מעשה ברב סעדיה בן יוסף החכם באחד שהלך למדינת הים עם עבדו והוליך עמו ממון גדול ואשתו היתה מעוברת לימים מת האדון והניח כל הממון והלך העבד והחזיק בנכסיו ויאמר העבד אני בנו כשגדל הבן שהולידה שמע שמת אביו הלך לתבוע נכסיו שהחזיק בהם העבד ונתחתן בגדולי הדור והיה ירא הבן לפתוח פיו פן יהרגוהו ונתאכסן בבית רב סעדיה והניח לפניו לאכול ולא אכל עד ששם לפניו אלו הדברים נתן לו עצה ודבר אל המלך וכן עשה שלח המלך אחר רב סעדיה לדון דין זה וצוה רב סעדיה להקיז דם זה בספל אחד ודם זה בספל אחר ולקח עצם (לעומת עצם) של אבי הבן והניח בספל העבד ולא נבלע הדם ולקח העצם ושם אותו בספל הבן ונבלע הדם בעצם כי הוא גוף אחד ולקח רב סעדי' הממון ונתנו לבנו שבא הרי ראוי לבן שיתעצב ביום מיתת אביו

**3. Responsa Rivash (R. Yitzchak b. Sheshet, Spain, 14th c.), #447**

We should not reach decisions regarding the laws of our Torah and its commands based on the scholars of science and medicine, because if we trust their words, then there is no Torah from heaven, God forbid... For we do not rely upon science and medicine, and we instead rely on our Sages, z"l, even if they say that right is left, for they have received the truth and the interpretations of the law, one person from the next, back to Moshe Rabbeinu a"h.

**4. Assia, vol. 35 p. 49 (R. Isaac HaLevi Herzog, Israel, 20th c.)**

How is it relevant to speak of the reliability of physicians when it comes to something that is definitively accepted by all the greatest medical scholars throughout the world? ... An what a vast difference there is between the medical science in their [Chazal's] time and in our times... it is a shame that while science is continually breaking new ground and revealing deep secrets, even if it is occasionally mistaken, we, in regard to scientific matters that are relevant to the sacred Torah, bury our heads in the sand.

**5. Responsa Tzitz Eliezer (Rav Eliezer Waldenberg) 13:104**

וז"ל שאלתו השניה: ידוע שעל ידי בדיקות סוג הדם אפשר לשלול בודאות שראובן הוא האבא של ילד-האם בדיקה ותוצאותיה תופס מקום בדיני תורה עכ"ל. ואשיבנו כדלקמן: במס' נדה ד' ל"א ע"א איתא: ת"ר שלשה שותפין יש באדם הקב"ה ואביו ואמו, אביו מזריע הלובן שממנו עצמות וגידים וצפרנים ומוח שבראשו ולובן שבעין, אמו מזרעת אודם שממנו עור ובשר ושערות ושחור שבעין, והקב"ה נותן בו רוח ונשמה וכו'. והנה באודם שהאשה מזרעת ברור שכלול בזה הדם. ובהגהות הגר"א ז"א... שהדם בא מן האשה, ... דדה פשיטא דעיקר יצירת הולד היינו מדם שבאשה ודם מוליד דם ע"ש. וא"כ מכיון שהדם בא מן האשה זיהות דם יכול להיות ולקבוע בין בן לאמו אבל לא בין בן לאביו בהיות שדם הבן לא בא ממנו. וזה באמת הנימוק למה שכבו' כותב שאף פעם אי אפשר לוודא ע"י בדיקת סוג הדם שהוא כן האבא...

**6. Talmud Bavli, Bava Metzia 58a**

There was a certain man who heard his wife saying to her daughter: Why do you not act clandestinely when you engage in forbidden sexual intercourse? That woman has, i.e., I have, ten sons, and I have only one from your father, and no one knows. So too, you must be careful so that no one will discover your illicit behavior. Having overheard that only one son was his, when that man was dying he said to his family: All of my property is left to one son. They did not know to which of them he intended to leave his property. They came before Rabbi Bena'a for guidance, and he said to the sons: Go strike your father's grave, until he rises and

reveals to you to which of you he left his property. They all went, but that one who was his son did not go. Rabbi Bena'a said to them: All of the property belongs to this son who did not go.

**7. Rashbam Commentary (R. Shmuel b. Meir, France, 12th c.), Bava Batra 58a**

אמר להו כולהו נכסי דהאי - שלא רצה לחבוט על קברו של אביו שזה הוא הצנוע שבכם ומסתברא דלזה אהב יותר ויפה דן רבי בנאה דלא שייך הכא אלא שודא דדייני והיינו שודא שלא רצה לחבוט והכי נמי אמרינן גבי ההוא דאמר נכסי לטוביה כו' (כתובות דף פה:):

**8. Rashash Commentary (R. Shmuel Strashun, Russia, 18th c.) Bava Batra 58a**

ר"ש ד"ה א"ל כולהו נכסי דהאי. ומסתברא דלזה אהב יותר כו'. בפשוט יל"פ דמסתברא דזהו הבן ומסתמא לבנו נתן וכדמשמע דיען דשמע לדביתו כו' הוא דצוה כן. ואולי דבא ליישב בזה קושיית הא"ר בס"י תקס"ח אות ט"ו דלפי מש"כ בס"ח דטבע דם הבן להתבלע בעצם האב המת ה"ל יותר לבדוק בזה... או משום דע"י נסיון דס"ח יתגלה שהן ממזרים ור"ב לא רצה שיוודע פסולם

**9. Kovetz Teshuvot (R. Elyashiv) EH 1:135**

דהתורה לא האמינה אלא לאב, ואף איהו לא נאמן אלא בהכרת דבר ברור כמ"ש רעק"א בתשו"י סי' קכ"ח ובתשב"ץ ח"ב סי' צ"א כשהאב אומר שספק אצלו דיבורו אינו כלום וכיון שעברו הרבה שנים ובהלכה הוחזקה ככתו, אין שום זכות להטיל דופי בכתו ולהתעסק בבדיקות, האם היא ממנו או לא.

**ובא"ר** סי' תקסח הביא מעשה ברב סעדי' שלקחו עצם ממת וטבלו בדם הקוה של הבן ונבלע בעצם ועי"ז הוכח שהוא בנו, וכמ"ש בספר חסידים סי' רל"ב וכי ע"ז הא"ר "רצ"ע בכ"ב גי'ח [דא"ל זילן] חבטו קבר דאבוכן, ואינו שודא דדיינא כמ"ש הרשב"א ולמה לא עביד [כהא] דרב סעדי' ות"י ע"ז הרש"ש בכ"ב שם מכיון דע"י נסיון הנ"ל יתגלה שהן ממזרים ור"ב בנאה לא רצה שיוודע פסולם ע"י כמ"ש

אך א"כ תסוב הק"י על רב סעדי' ועל ס"ח המביאו, ויש להאריך בזה, ומ"מ לפנינו דעת הרש"ש ז"ל בגדון.

**בגלל** עומס הטרדות הסוככות אותי לא הי' בידי לעבור על מכתב כת"ר אולם יומא קגריס - יומא דמפגרי רבנן, דחקתי ומצאתי זמן מה לעיין במילי דמר והוכרתי לקצר.

בצפ"י לנחמת ציון ובגן ירושלים כשוכו אל גורו ב"ב  
הגני חותם

יוסף של"ו אלישיב

**[ע"ד** השאלה באחת מעוברת שאמרה לבעלה שהעובר אינו ממנו, ומאיש אחר הוא, ועתה אחר זמן רב שנולדה הבת, נפשו בשאלתו אי יעשה בדיקת אבהות [D.N.A.]

**והנה** בנוגע לאוטרה על כעלה מצד אמירתה "טמאה אני לך" - כותב כת"ר דודאי אינה נאמנת ממשנה דשיליה נדרים דחיישין שמא נתנה עיניה באחר, ומאי דמספק"ל לכת"ר האם כיום שנתחדשה בחינה לקבוע האבהות של ילד הנקראת D.N.A. שמקיים קצת דם משניהם ועי"ז מתברר אם אמנם הוא אביו או לא, האם יש על האב חיוב לעשות בחינה הנ"ל בכתו.

**הלכה** רווחת בא"א שאומרת על העובר שאינו מבעלה אינה נאמנת [אה"ע סי' ד' סעי' כ"ט]

הרע"ב בשלהי עדיות והוא מפ"י הרמב"ם שם, אבל הנסיון שלו אינו רק הודעת צניעותו יותר משאר אחיו - וזה נכון בעיני' וה"נ דכותי.

**אמנם** בעיקר הק"י של הא"ר, יש לדרן הלוא מת אסור בהנאה ואין רשות להשתמש בעצם המת בכדי לברר אם הוא בנו, ועי' ח"ס סי' של"ו יו"ד במוכר גופו שילמדו מ' רופאים חכמת הרפואה שזה אסור מדין מת אסובה"נ ע"ש. ועי' חזו"א יו"ד סי' ר"ח שכ' דאפשר דכיון דאין כאן רק רא"י בעלמא ואין זו נמכרת בשכר לא מיקרי הנאה גם יש לדרן למה אין כאן גיוול המת,

**10. Talmud Bavli, Yevamot 80b**

But if so, with regard to the action taken by Rava Tosfa'a concerning a woman whose husband went overseas and her baby was delayed in her womb for the twelve months of the year following her husband's departure, and Rava Tosfa'a rendered the child fit, arguing that the husband is presumed to be the father and the child is not a mamzer, according to whose opinion did he issue this ruling? It must have been in accordance with the opinion of Rabbi Yehuda HaNasi, who says that a baby can be delayed for an extended period of time in its mother's womb even after it is fully developed and ready to be born. But how could Rava Tosfa'a have ruled in accordance with the minority opinion of Rabbi Yehuda HaNasi, against the majority opinion of his colleagues? The Gemara answers: Since there is also Rabban Shimon ben Gamliel, who says that a baby can be delayed in its mother's womb, Rava Tosfa'a in fact acted in accordance with the majority, as Rabbi Yehuda HaNasi's opinion is not that of a lone dissenting scholar.

**11. Responsa Rivash (R. Yitzchak b. Sheshet, Spain, 14th c.), #446**

Even if [the possibility] is exceedingly rare, anytime it is possible to attribute the child to the husband, we attribute him not to adultery, but to the husband.

**12. Rema (R. Moshe Isserles, Poland, 17th c.), EH 4:17:6**

During the twelve months, however, there is no concern, because we can say that this was a very long gestation. This is only if we see nothing distasteful about her, but if we did see something distasteful we do not say that it was a long gestation, and we are concerned for the offspring.

**13. Rosh (R. Yaakov b. Asher, Germany–Spain, 13th c.), Yevamot 2:7**

ועוד כתב בעל הלכות דאין מוציאין מהבעל עד שיראו העדים כמכחול בשפופרת והא ליתא דהא אפי' לענין חיוב מיתה סגי אם ראוהו העדים כדרך המנאפים כדאיתא בפ' השוכר את הפועלים דף צא. ואמרינן נמי בספ"ק דמכות דף ז. ורבנן היכי דיני כשמואל דאמר במנאפים עד שיראי כדרך מנאפים בכלאים עד שיכניס כמכחול בשפופרת וכיון דבידני נפשות דכתיב והצילו העדה סגי בהכי כ"ש לאוסרה על בעלה.

**14. Urim Gedolim (R. Avraham Yisrael Ze'evi) 18:108**

We rely even on something that is far from conceivable and outside the natural order in order to maintain a woman's presumption of validity.

**15. Mishnat Avraham (R. Avraham Price) on Sefer Chasidim 1:291**

It would appear that when the Torah requires two witnesses in financial matters, this is for the purpose of confirmation ... But in a case in which there is definitive confirmation, the matter does not require witnesses. Therefore, if [the matter] is determined with definitive confirmation without witnesses, we can also obligate [the defendant to pay] money. And this test of Rabbeinu Saadia provides definitive confirmation because that which is confirmed by scientific knowledge is true.

**16. Talmud Bavli, Bava Kamma 74b**

How can the court ever determine with certainty that a given testimony is false based merely on contradictory testimony? **Abaye said:** The contradiction to which Rabbi Elazar is referring involves a case **where** the witnesses testified that they saw a certain person murdered, and subsequently the individual who was allegedly **killed came** to the court **on his feet**, conclusively disproving their testimony.<sup>3</sup>

**17. Rambam (R. Moshe b. Maimon, Egypt, 12th c.), Sanhedrin 20:1**

A court does not inflict punishment on the basis of conclusions which it draws, only on the basis of the testimony of witnesses with clear proof. Even if witnesses saw a person pursuing a colleague, they gave him a warning, but then diverted their attention, punishment is not inflicted on the basis of their testimony.

**18. Psak of Rav Asher Weiss (quoted in Headlines 2, pgs. 61–63)**

DNA is definitely not *eidus*. The Rambam twice in *Hilchos Yesodei Ha-Torah* (7:7, 8:2) says that we do not believe *eidim* because we know they are correct... I do not think that DNA testing is an אומדנא, which refers to circumstantial evidence. It is a סימן מובהק - a clear sign. The principle of סימנים is that it is totally unreasonable that two objects would have precisely the same features... I think *eidim* would override a סימן מובהק because are sufficient for everything. The only thing that overrides *eidim* is mentioned in Yevamot 88- ברגליו... My *psak* is that DNA does not suffice to declare a status of *mamzerus*... בא הרוג ברגליו is something natural, that is seen with the eyes, not scientific knowledge. Scientific knowledge

<sup>3</sup> תוספות יבמות פח: ד"ה "אתא גברא וכו'" - יש לומר דלגבי דבר הנראה וידוע לכל לא היה אומר רב

is not the same as seeing something with one's eyes. They don't see the person's face under a microscope... Scientific testing is not בלתי אמצעית ידיעה; it is based on scientific equations and mathematics... I would permit an *aguna* to remarry based on DNA testing. It is a great challenge to *pasken shaylos* in our changing world, and we need to begin every day with a tefilla to מקדש שם שמים and to be ולהגדיל תורה ולהאדירה *zocheh* HKB"ח, and we should always be נכשל בדבר הלכה HKB"ח.