

Vital Organ Donation & Determination of Death

Halakhic Tradition & the Modern Controversy

R. Daniel Reifman
Drisha Winter Week 5784

I. Rabbinic Sources

Mishnah Ohalot 1:6

A person does not convey ritual impurity until his life departs, even if his arteries are severed or he is on the verge of death... and so, too, cattle or wild animals don't convey ritual impurity until their lives depart; if they were decapitated, even if they're still convulsing, they convey ritual impurity, [for they are like] the [severed] tail of a lizard which continues to convulse.

משנה אהלות א:ו

אדם אינו מטמא עד שתצא נפשו, ואפילו מגוייד ואפילו גוסס... וכן בהמה וחיה אינן מטמאין עד שתצא נפשם; הותו ראשיהם אף על פי שמפרכסים - טמאין, כגון זנב של לטאה שהיא מפרכסת.

Tractate Semahot 8:1

We go out to the cemetery and examine the dead within three days and do not fear [being suspected of] superstitious practices [lit., "ways of the Amorites"]. It once happened that [a man who was buried] was examined [and found to be living], and he lived for twenty-five years and then died. Another [so examined lived and] fathered five children and then died.

מסכת שמחות ח:א

יוצאין לבית הקברות ופוקדין על המתים עד ג' ימים, ואין חוששין משום דרכי האמורי. מעשה שפקדו אחד וחיה עשרים וחמשה שנים ואח"כ מת. אחר והוליד ה' בנים ואח"כ מת.

Mishnah Yoma 8:7 (83a)

If a building collapsed on a person and it is uncertain whether he is there or not, or uncertain whether he is alive or dead, or uncertain whether he is a heathen or a Jew, we must clear the heap for him; if he is found alive, we [continue] clearing, but if he is found dead, we leave him.

משנה יומא ח:ז (פג).

מי שנפלה עליו מפולת, ספק הוא שם ספק אינו שם, ספק חי ספק מת, ספק עכו"ם ספק ישראל - מפקחין עליו את הגל; מצאוהו חי - מפקחין, ואם מת - יניחוהו.

Talmud Bavli Yoma (85a)

Our Sages taught: "How far must one examine? Until his nose"; and there are those who say: "Until his heart [*ad libbo*]" ...

Let us say that their argument is parallel to the following argument: "From where is an embryo created? From the head... Abba Shaul states: from the navel, and it spreads out in all directions." One may even say that [both of the above positions] follow Abba Shaul: Abba Shaul stated his position only regarding the creation [of the embryo], for everything is created from its center, but regarding saving a life even he admits that life is manifest primarily in the nose, for it is written: "All that has the breath of life in its nostrils" [Gen. 7:22].

R. Pappa states: The debate concerns only a case where [the victim is uncovered] from the feet up, but where [he's uncovered] from the head down, all admit that once you have examined up to his nose you don't need to examine any

תלמוד בבלי יומא (פה).

תנו רבנן: "עד היכן הוא בודק? עד חוטמו"; ויש אומרים: "עד לבו"...
נימא הני תנאי כי הני תנאי, דתניא: "מהיכן הולד נוצר - מראשו... אבא שאול אומר: מטיבורו, ומשלח שרשיו אילך ואילך"? אפילו תימא אבא שאול, עד כאן לא קא אמר אבא שאול התם אלא לענין יצירה, דכל מידי ממציעתיה מיתצר, אבל לענין פקוח נפש אפילו אבא שאול מודי דעקר חיותא באפיה הוא, דכתיב: "כל אשר נשמת רוח חיים באפיו".
אמר רב פפא: מחלוקת ממטה למעלה, אבל ממעלה למטה, כיון דבדק ליה עד חוטמו שוב אינו צריך,

further, for it is written: "All that has the breath of life in its nostrils".

Rashi ad loc.

N. France, 1040-1104/5

"How far must one examine?": If he is like a corpse in as much as he isn't moving his limbs, how far [down] must one uncover in order to ascertain the truth?

"Until his nose": And if there is no life in his nose, for he's not exhaling—he is certainly dead, and they should leave him.

This is how the text should read: **"R. Pappa states: The debate concerns only a case where [the victim is uncovered] from the feet up"**... and they examine him gradually as they approach the head; one opinion states: one should examine the heart area to see if there is life therein, since his *neshamah* beats there; and [the other] opinion states: [one must examine] up to his nose, since sometimes life isn't discernible in his heart but is discernible in his nose.

R. Isaac Alfasi Yoma (5a)

Spain/N. Africa, 1013-1103

Our Sages taught: "How far must one examine? Until his navel"; and there are those who say: "Until his nose"...

Talmud Bavli Berakhot 24b-25a

One whose garment made of cloth, of leather, or of sackcloth was strapped around his waist, he is permitted to recite *Shema*, but for prayer [i.e., the *Amidah*], [one may not recite it] until he covers his chest [*et libbo*].

Mishnah Sanhedrin 6:4

The stoning platform [from which the condemned man is pushed to his death] is twice the height of an ordinary person. One of the witnesses pushes him down by the hips. If he turned over onto his chest [*al libbo*, i.e., face down], he turns him over onto his hips [i.e., on his back]...

Mishnah Eruvin 5:4

One may measure [the Shabbat limit] only with a rope fifty cubits long, no less and no more; and one may measure the limit only at chest height [*ke-neged libbo*]...

Shulchan Arukh Orach Hayyim 329:4

Even if they found him crushed, such that he couldn't live more than a short time, we uncover him and examine up to his nose – if they can't don't detect life in his nose then he is certainly dead; and there is no distinction between whether they encountered his head first or his feet first.

דכתיב: "כל אשר נשמת רוח חיים באפיו".

רש"י שם

"עד היכן הוא בודק" אם דומה למת שאינו מזיז איבריו, עד היכן הוא מפקח לדעת האמת?

"עד חוטמו": ואם אין חיות בחוטמו, שאינו מוציא רוח - ודאי מת, ויניחודו.

הכי גרסינן: "אמר רב פפא מחלוקת מלמטה למעלה"... ובודק והולך כלפי ראשו, דמר אמר: בלבו יש להבחין אם יש בו חיות, שנשמתו דופקת שם; ומר אמר: עד חוטמו, דזימנין דאין חיות ניכר בלבו וניכר בחוטמו.

ר"ף יומא (ה')

תנו רבנן: "עד היכן הוא בודק? עד טיבורו"; ויש אומן[רים]: "עד חוטמו".

תלמוד בבלי ברכות (כד:-כה.).

היתה טליתו של בגד ושל עור ושל שק חגורה על מתניו - מותר לקרות קריאת שמע, אבל לתפלה - עד שיכסה את לבו.

משנה סנהדרין ו:ד

בית הסקילה היה גבוה שתי קומות. אחד מן העדים דוחפו על מותניו. נהפך על ליבו, הופכו על מתניו...

משנה ערובין ה:ד

אין מודדין אלא בחבל של חמישים אמה, לא פחות ולא יתר; ולא ימוד אלא כנגד ליבו...

שולחן ערוך אורח חיים שכט:ד

אפילו מצאודו מרוצץ, שאינו יכול לחיות אלא לפי שעה, מפקחין ובודקים עד חוטמו, אם לא הרגישו בחוטמו חיות אז ודאי מת; לא שנא פגעו בראשו תחלה, לא שנא פגעו ברגליו תחלה.

Rabbi Natan Slifkin

... Now, for a while it has been known that even if respiration has ceased, it is often possible to restart it via cardiopulmonary resuscitation – CPR. It is therefore commonly stated that the Gemara was not referring to a person whose breathing has merely stopped, but rather to a person whose breathing has irreversibly stopped. Of course, Chazal [the Sages] did not know about CPR, but, it is claimed, their words did not rule it out.

On Friday night, I realized that this is not true. Furthermore, I realized that everyone is very clearly overruling Chazal in this.

Why? Because in order to do CPR, you need access to the person's chest. Which means that you are clearing more rubble away! But the Gemara is completely unambiguous that if there is no respiration at the nostrils, it is forbidden to clear away any more rubble. The Gemara forbids clearing away any more rubble, and yet every single Posek would say that this is mandatory!....

[T]his case arguably shows that Poskim [halakhic authorities] today – even those who rely on respiratory death – are not following Chazal's exegesis. Chazal understood the passuk [verse] to mean that respiration equals life, and lack of respiration equals death. But these Poskim are understanding the passuk to mean instead that permanent lack of respiration means death... Chazal ruled that as soon as a person has stopped breathing, he has died. All Poskim today, on the other hand, rule that a person has not yet died until the period in which CPR is possible has elapsed.

Now, of course you can say that if Chazal would have known that pushing the chest can restart respiration, they would have interpreted the passuk differently and certainly they would have ruled differently. But, once you are going down that path, then you have to wonder what Chazal would have said differently had they understood the role of the brain and lived in a world where brain-dead people can have their heart and lungs maintained in operation for a while. Likewise, you have to wonder what we should infer from Chazal's words in light of their not having known those facts and not having lived in such a world.

“Missing the Obvious”, *Rationalist Judaism* (blog), Jan. 29, 2011, <https://www.rationalistjudaism.com/p/missing-obvious>.

Dr. Edward Reichman

... The theory of an "innate" body heat was first suggested by early Greek medical writers. This "innate heat" became the "single most important motive power in the animal system." It was responsible for growth, digestion, movement, sensation and thought. The maintenance of "innate heat" coincided with life; its destruction coincided with death. The source of this "innate heat" was the heart, more precisely the left ventricle of the heart. Galen, too, granted paramount importance to this principle...

The primary function of respiration according to Galenic physiology was to cool and conserve the "innate heat" of the heart. It was felt that this "heat" must be refrigerated by respiration and kept under control if life is to persist. If refrigeration is not provided, the heat will consume itself and the body will die...

The basic principle of life according to Galen was a spirit or pneuma drawn from the air into the body through the act of breathing. The idea of the pneumas or spirits probably originated with Erasistratus, but the theory underwent significant alteration by Galen. This nondescript air travels to the heart where it meets the "innate heat". At this stage, it becomes the "vital" spirit and serves to cool the "innate heat"....

A proper understanding of this Rashi hinges on the interpretation of the phrase "*nishmato dofeket sham*". The word *nishmato* can mean either "his soul", a derivative of *neshamah*, or "his breath", a derivative of *neshimah*. Elsewhere Rashi adopts the latter usage, and I believe this usage to be contextually appropriate here as well... In light of the above, Rashi claims that the heart is checked because the breath pulsates or is transmitted there. Therefore, when the heart is examined, its movement is a reflection of breathing; its *hiyut* a manifestation of respiration.

It follows that the heart is a respiratory organ and that Rashi scribed to the notion that the inspired air ultimately reached heart, ideas widely held throughout antiquity and the Middle Ages...

“The Halakhic Definition of Death in Light of Medical History”, *Torah U-Madda Journal* 4 (1993), pp. 150, 155-6

II. R. Moshe Feinstein and the Halakhic Debate over Brain Death

Responsa Iggerot Moshe Yoreh Deah 2:174

R. Moshe Feinstein (Russia/U.S., 1895-1986)

Regarding the matter of heart transplants — 19
Tammuz 5728 [July 15, 1968]...

Regarding the question of a heart transplant for a sick person which some doctors have begun to perform, I don't want to write at length with proofs and rationales and analysis, for [this would be counterproductive], for it [would] imply that this matter requires proofs because it's not straightforward, and [people] will come to be lenient by saying that one could challenge [some of these proofs]; and even if [such challenges] are worthless, they will have already weakened [the force of the law] since [people] will say that the rabbis are divided on this issue and therefore one may be lenient, God forbid. Therefore I set the issue forth here [clearly and succinctly].

For the heart transplantation that some doctors have begun to perform recently is absolutely the murder of two individuals, for they actively kill the heart donor who's still alive, not only according to Torah law which gives the standard of death, but even according to the words of the doctors, among whom there are those who tell the truth that [the donor] is still alive, but due to their wickedness they give no concern to his life, which is only of short duration, or might even last a few days. And they also actively kill the heart-diseased patient himself [in robbing him] of several years'—or even decades'—worth of life, for it's known that many patients with heart disease live for many years, but upon removing his heart and transplanting in him another person's heart, all of them have died shortly thereafter—most of them within hours, some of them within a few days. And even the one in Africa who's still alive after some six months¹, based on what I've heard they agree that he won't survive...

This is the responsum which should be publicized in this language—no more and no less.

שו"ת אגרות משה יורה דעה ב:קעד

בדבר השתלת הלב לחולה י"ט תמוז
תשכ"ח...

בדבר השאלה בהשתלת הלב לחולה מאיש אחר שהתחילו רופאים אחדים לעשות זה, איני רוצה להאריך בראיות ובסברות ובפלפולא, כי אני אומר שכל המוסיף לפלפל ולהביא ראיות הוא כגורע שמשמע שצריך על זה ראיות משום שלא פשוט כל כך ויבואו להקל לומר שאיכא למיפרך ואף שיהיו בדברי הבל מקליש זה כבר ויאמרו כי הרבנים חלוקים בזה שלכן שייך להקל ח"ו. ולכן אני אומר בתשובה להלכה ולמעשה דבר ברור ומוחלט ולא שייך כלל לדון ולפלפל בזה.

כי שתילת הלב שהתחילו הרופאים לעשות בזמן האחרון הוא רציחת שתי נפשות ממש, שהורגין בידיים את מי שלקחו ממנו הלב כי עדיין הוא חי לא רק על פי דיני התורה שנמסר לנו חשיבות מיתה, אלא אף לדברי הרופאים שיש מהם שמגידיים האמת אומרים שעדיין הוא חי, אבל מצד רשעותם אין חוששים לחיות זה שלו שהוא רק חיי שעה ואף חיי ימים. וגם הורגים בידיים מחיים ממש של הרבה שנים ולפעמים אף עשרות בשנים את החולה במחלת הלב, כי ידוע שהרבה חולי הלב מאריכין הרבה ימים ושנים, ובזה שנוטלין ממנו לבו ומשתילים בו לב של איש אחר הא כולם מתו בזמן קצר רובן בזמן של שעות, וקצתם מתו בימים מועטים, ואף האחד שבאפריקא שעדיין אף שעברו ערך ששה חדשים הוא חי, כבר הסכימו לפי מה ששמעתי שאי אפשר לו לחיות...

זהו התשובה אשר יש לפרסמה בלשון זה לא פחות ולא יותר מנידון זה.

ענף א: ועתה נשתעשע בדברי כ"ג בתשובתו הארוכה שדן בכמה דברים ואגיד הנכון לעניות דעתי כפי שעזרני השם יתברך החונן לאדם דעת...

¹ Philip Blaiberg, who received the second successful heart transplant in Cape Town, South Africa on Jan. 2, 1968 and survived for 19 months.

Section 1: And now we can discuss what you wrote in your lengthy responsum... and I will indicate what I think is correct, in my humble opinion...

Responsa Iggerot Moshe Yoreh Deah 2:146

On the issue of indicia of death—24 Av 5730 [Aug. 26, 1970]...

Regarding what the doctors say that indications of life and death are found in the brain, that if according to their assessment the brain isn't functioning [the patient] is considered dead even if he's still breathing... The truth is that cessation of brain function isn't death, since as long as one is breathing he's considered alive; rather the cessation of brain function is what causes death since [the patient] will stop breathing, and it's possible that since he's still alive [before respiration actually ceases] that there are types of drugs—either of those that are known to man or that are as-of-yet unknown—that would cause the brain to function again... Therefore it's clear that one who kills such an individual is a murderer and liable for capital punishment... for neither the Talmud nor the *poskim* mention that indications of life are found in the brain, and it's not possible to say that nature has changed, for even in the time of the Sages the brain worked as it does now and all human life depended on it and even so one wasn't considered dead upon cessation of brain function, and so it's clear that the same is true in our time.

And regarding your suggestion to be lenient in a case where the doctors see responses with an electric radiogram, to say that [these responses] are negligible as long as respiration has ceased; and you compared this to that which it's permitted to eat fermented foods even though it's known that they ferment due to micro-organisms which can be seen in a microscope, since the Torah only forbade those insects and crawling creatures that are visible to the [naked] eye... Truthfully there was no need for you to cite [the example of fermented foods] since the air is full of micro-organisms and with each breath a person swallows thousands or perhaps millions of them, so one is forced to conclude that they're not included in the crawling creatures that were prohibited by the Torah...

But to compare this to the determination of death to say that an individual is considered dead even if the doctors see cardiac activity on an electric radiogram, in my humble opinion it seems that this is incorrect. For the Hatam Sofer... interpreted that which it says in Semahot 8:5—"One should examine the dead for 3 days, and there was a case where they examined [one individual who was thought to be dead and found that he was alive] and he survived for another 25 years"—to mean that there's a very remote possibility that [a person could survive without breathing for up to 3 days]... but it's so remote that we need not be concerned for it and one may bury a person as soon as he

שו"ת אגרות משה יורה דעה ב:קמו
בענין סימני מיתה כ"ד מנ"א תש"ל...
מה שאומרים הרופאים שסימני חיות
ומיתה הוא בהמוח שאם לפי
השערותיהם אין המוח פועל פעולתו
הוא כבר נחשב למת אף שעדיין הוא
נושם... אבל האמת ודאי שלא זה שפסק
המוח לפעול הוא מיתה דכל זמן שהוא
נושם הוא חי, רק זה שפסק המוח לפעול
פעולתו הוא דבר שיביא למיתה שיפסק
לנשום, ואפשר כיון שעדיין הוא חי
שאיכא מיני סמים בעולם מהידועים
לאינשי או שעדיין אינם ידועים שיעשו
שהמוח יחזור לפעול פעולתו... שלכן
פשוט שההורגו הוא רוצח וחייב מיתה...
דהא לא הוזכר בגמ' ובפוסקים שיהיה
סימן חיות במוח, ולא שייך לומר נשתנו
הטבעים בזה, דגם בימי חז"ל היה המוח
פועל הפעולות כמו בזמננו וכל חיות
האדם היה בא ממנו ומי"מ לא היה
נחשב מת בפסיקת פעולת המוח, וכמו
כן הוא ברור שגם בזמננו הוא כן.
ומה שכתר"ה דן להקל באם הרופאים
רואים תגובות בעלעקטריק ראדיאגרם
לומר שאינו כלום ונחשב מת אם אך
הפסיק לנשום, ודימה זה למה שמוותרין
לאכול כל דברים שנתחמצו אף שידוע
שמתחמצים ע"י תולעים שרואים אותם
במיקראסקאפ, מפני שהתורה לא אסרה
אלא תולעים ושקצים ורמשים שנראו
לעינים... ובעצם לא היה צריך להביא
מדברים שנתחמצו דהא כל האויר מלא
משקצים ורמשים כאלו, ובכל נשימה
ונשימה בולע האדם כמה אלפים ואולי
מיליונים מהם ובהכרח שאינם בכלל
השקצים ורמשים שנאסרו בתורה...
אבל לדמות לזה חשיבות מיתה לומר
דהאדם לומר שאף שרואים הרופאים
על ידי עלעקטריק ראדיאגרם שאיכא
תגובות לב נחשב מת, נראה לעניות
דעתי שאינו כן. דהחתם סופר... כתב
דהא דאיתא במסכת שמחות ח:ה -
"פוקדין על המתים עד ג' ימים ומעשה
שפקדו אחד וחי כ"ה שנים" - הוא
שאיכא מציאות רחוק מאד... אבל הוא
רחוק אפילו ממיעוטא דמיעוטא דלכן

stops breathing, for even though there's a concern for saving a life we need not worry about such a distant possibility.

If so, in the case of one who shows signs of life on an electric radiogram, there's no majority—or even significant minority—of such people who are considered dead, and therefore he's considered to be alive even though he's not breathing...

Now I don't understand what you wrote that "one who examines the words of the Shulchan Arukh closely will see that he interprets Rambam to mean that the nose and respiration aren't the essence of life, rather Rambam is simply being stringent in life-saving matters to require checking up to the nose..." For if Rambam doesn't think that nasal [activity] is the primary [indication of life], how could he rule that one may always rely on examining the nose, as R. Pappa states: "where [he's uncovered] from the head down, all admit that once you have examined up to his nose you don't need to examine any further"? And even though Rambam doesn't mention explicitly [that his ruling should apply even to a case where the individual was uncovered from the head down], that's because by writing simply, "we uncover him and examine up to his nose—if they can't don't detect life in his nose then he is certainly dead", it's as if he wrote that nasal [activity] is always [the indication of life], both to be lenient and to be stringent...

However, it's abundantly clear that the nose isn't the organ that gives life to a person, nor is it the organ on which life depends. Rather the brain and the heart are the organs that give life to a person and enable him to breathe via the nose, and the nose is only the organ through which occurs the respiration that comes from the brain and the heart, and we have no indication of life other than nasal [activity]—even though the nose isn't what generates respiration—since we cannot easily detect activity in the heart or abdomen and all the more so in the brain. And the verse, "all that has the breath of life in its nostrils," isn't referring to the [source] of the breath of life—for that's definitely not in the nose, but rather [it's saying that] the breath of life that's visible to us is located in the nostrils, even if it's not visible in the larger, moving organs or in the heartbeat or abdomen; and therefore the matter of clearing the heap on Shabbat depends only on nasal [activity]. And there's no contradiction to this from the passage from the Zohar cited by the Hakham Tzvi, that the heart is that which gives life to all the limbs...

And there's no need to invoke the Hakham Tzvi's explanation that [the reason we always examine the nose is that] sometimes it's not possible to hear the heartbeat since the heart is beneath the chest [making a weak heartbeat imperceptible]... for even if we assume that the heart had actually stopped beating it would still be providing minimal life force to the body which is why the individual is still

אין לחוש לזה ומותר לקוברו תיכף כשפסקה נשימתו דאף שהוא ענין פקוח נפש אין לנו לחוש לדבר רחוק כזה.

ואם כן במי שרואין העלעקטריק ראדיאגראם שיש לו איזה חיות הרי על אופן זה ליכא שוב אפילו רוב לומר שהוא מת, ואולי גם מיעוט ליכא והוא החי ממש אף שאינו נושם...

והנה לא מובן לי מה שכתר"ה כתב שהמעייין היטב בדברי המחבר, יראה שמפרש דהרמב"ם אינו פוסק שהחוטם והנשימה עיקר חיות האדם רק שמחמיר בפק"נ שצריכים לבדוק עד החוטם... והא אם אין הרמב"ם סובר שהעיקר הוא בחוטם איך פוסק דלעולם הוא רק בחוטם כדאמר ר' פפא ד"מלמעלה למטה לכו"ע שוב א"צ לבדוק", ואף שלא הזכיר הרמב"ם בפירושו הוא משום דלפי מה שסתם "בדקו עד חוטמו ולא מצא בו נשמה מניחין אותו שם שכבר מת", הוא כהזכיר שבין לקולא בין לחומרא הוא עד חוטמו...

אבל ברור ופשוט שאין החוטם האבר שהוא נותן החיות בהאדם, וגם אינו מאברים שהנשמה תלויה בו כלל, אלא דהמוח והלב הם אלו הנותנים חיות להאדם וגם שיהיה לו שייך לנשום ע"י [חוטמו], ורק הוא האבר שדרך שם נעשה מעשה הנשימה שבאין ע"י המוח והלב, ואית לנו הסימן חיות רק ע"י החוטם אף שלא הוא הנותן ענין הנשימה, משום שאין אנו מכירים היטב בלב ובטבור וכ"ש שאין מכירין במוח, וכוונת הקרא דנשמת רוח חיים באפיו לא על עצם רוח החיים שזה ודאי ליכא בחוטם, אלא הרוח חיים שאנו רואין איכא באפיו אף שלא נראה באברים הגדולים אברי התנועה, וגם אחר שלא ניכר גם בדפיקת הלב ולא ניכר בטבור, שלכן נמצא שלענין פקוח הגל בשבת תלוי רק בחוטם. וליכא שום סתירה מהזוהר שמביא החכ"צ שהלב הוא נותן החיות והכח לכל האברים...

ואין צורך להסבר החכ"צ שפעמים א"א לשמוע דפיקת הלב מפני שהלב תחת החזה ומרוב חולשה א"א להכיר אם עודנו בחיים... דאף אם נימא שנפסק הדפיקה ממש עדיין הוא נותן כח חיות מעט להגוף דלכן הוא נושם בחוטמו עדיין. ואולי מה שהוצרך החכ"צ

breathing. But perhaps what drove the Hakham Tzvi to his explanation is his assumption that unless the heart stopped functioning [i.e., no longer gave any life-force to the body], [it would still be beating and] the heartbeat would still be perceptible; therefore he wrote that as long as there is nasal respiration the heart is certainly still beating, but since the heart is weak the heartbeat [would be] very faint to the point where it's imperceptible since it's beneath the chest; and even if this isn't necessarily the case [the heart would still be beating imperceptibly], it's a possibility. That's what the Hakham Tzvi's meant...

And I don't understand on what basis you concluded:

It emerges that for the Hakham Tzvi there is but one indication of life and that is the heart, so according to this an individual whose heart is beating is considered alive and an individual whose heart has stopped is considered dead, though without respiration the heart cannot function causing [the individual] to die immanently.

for this isn't the intention of the Hakham Tzvi, but rather as I wrote above that the heart provides life-force to all the organs... and even nasal respiration is [enabled by] the heart, and when heart stops functioning completely all limbs stop moving, and breathing through the nose stops as well. But as long as the heart is functioning—even with great weakness such that the rest of the limbs aren't moving—life is still present in respiration, since the nose is the last organ to cease...

Responsa Iggerot Moshe Yoreh Deah 3:132

Establishing the time of death—5 *Iyyar* 5736 [May 5, 1976]...

On the matter of determining when an individual is considered dead, it's stated explicitly in the gemara Yoma (85a) that if a building collapsed on an individual that we clear the heap even on Shabbat and uncover enough to examine his nose... for if they don't detect any life upon checking his breathing, he's considered dead, but even if the breathing is very shallow he's considered alive, and one can detect this with a feather or thin piece of paper placed by the nose, for if it doesn't move he's assumed to be dead. But they must perform this examination several times, as I explained in Iggerot Moshe, Yoreh Deah 2:174 §2, in explaining the words of Rambam, Laws of a Mourner 4:5, who wrote that "one must wait a short time in case [the deceased] has only fainted", meaning the amount of time where it would be impossible to survive without breathing...

All this is in reference to terminally ill patients who don't require a ventilator, but there are patients who can't breathe [independently] and are placed on ventilators,

לסברתו הוא מחמת שסובר דאם אך הלב לא הפסיק עבודתו היה ודאי נשמע הדפיקה, לכן כתב שכל זמן שנושם בחוטמו איכא ודאי דפיקה בלב אבל מאחר שעובד בחולשה הוי קול הדפיקה נמוך מאד עד שלא נשמע כלל מאחר שהוא תחת החזה, ואף שאין הכרח לזה אפשר שהוא כן. וזהו כוונת החכ"צ...

ולא מובן לי היכן ראה כתר"ה מה שמסיק:

נמצא שלהחכם צבי ישנו סימן אחד של חיות וזה הלב, ולפי זה אדם שהלב פועם דינו כחי ואדם שהלב נפסק דינו כמת, אולם בלי נשימה הלב אינו פועל והוא מת תיכף.

דאין זה כוונת החכם צבי אלא כדכתבתי שהחיות לכל האברים נותן הלב... וגם זה שאיכא ענין הנשימה על ידי החוטם הוא מהלב, וכשפוסק הלב מלעבוד לגמרי נפסק תנועת כל האברים וגם הנשימה מהחוטם נפסק, אבל כל זמן שעובד הלב אף בחולשה גדולה באופן ששאר אברים לא מתנועענים איכא עדיין חיות בנשימה דהחוטם שהוא אבר האחרון מלהפסיק...

שו"ת אגרות משה יורה דעה ג:קלב

קביעת עת המוות... ה' אייר תשל"ו...

הנה בדבר ידיעת מיתת האדם מפורש בגמ' יומא (פה.) בנפל מפולת על האדם שמפקחין את הגל אפילו בשבת ובודקין עד חוטמו... שאם לא הרגישו שום חיות הוא בדין מת שהוא בבדיקת הנשימה, שאף אם הנשימה קלה מאד נמי הוא בדין חי שרואין זה ע"י נוצה וע"י חתיכת נייר דקה שמשימין אצל החוטם אם לא מתנדנד הוא בחזקת מת, אבל צריך שיבדקו בזה איזה פעמים כדבארתי באגרות משה ח"ב דיו"ד סימן קע"ד ענף ב' בבאור דברי הרמב"ם בפ"ד אבל ה"ה שכתב ישהא מעט שמא נתעלף שהוא זמן דאי אפשר לחיות בלא נשימה...

זהו בסתם חולים שנקרב מצבם למיתה ולא הוצרכו למכונה שיעזרם לנשום, אבל איכא חולים גדולים שלא יכלו לנשום והניחו הרופאים בפיהם מכונה שנושם ע"י זה, שע"י המכונה הא שייך

which enable them to breathe even if they are already dead, since artificial breathing doesn't render one alive. [Regarding such patients,] if there are no other indicia of life, for [the patient] seems completely unresponsive—even to a pinprick—like the state referred to as “coma”, as long as the ventilator is attached it's forbidden to remove it from his mouth, lest he is still alive and this will kill him. But if the ventilator stops working because the oxygen runs out [i.e., the ventilator uses oxygen tanks which need to be replaced], they shouldn't put it back in his mouth for a short time—approximately 15 minutes, at which point if he's no longer alive he will have stopped breathing and they will be certain that he's dead...

But all this is in reference to people suffering from a disease, but regarding those who were injured in a car accident or a fall from a window and the like, it may occur that they can't breathe due to the contraction of the nerves near the lungs and respiratory organs, but after breathing for some time by means of a ventilator these contracted nerves will expand and they will begin to breathe independently. Regarding these individuals, even if they can't breathe independently and no other indicia of life are visible, it's possible that they're still not considered dead. And since you say that there's now a test with which expert doctors can determine—by means of injecting [a radioactive nucleotide solution] into the blood vessels—whether the connection between the brain and the body has been severed, for if [the radioactive solution] doesn't reach the brain, it's clear that the brain has no more bearing on the body and also that the brain has lysed completely, and it's as if the head was forcibly severed from the body; if so, we must be stringent with such a patient such that even if he's completely unresponsive—even to a pinprick—and even if he doesn't breathe independently at all, we may not determine that he is dead until they perform this test. For if they see that there *is* a connection between the brain and the body—even if he's not breathing—they should put the ventilator in this mouth, even for a long time; and only when they determine by means of this test that there is no longer a connection between the brain and the body, then they may determine—based on lack of independent respiration—that he is dead...

שינשום אף שהוא כבר מת דנשימה כזו
הא לא מחשיבו כחי. הנה אם לא ניכר
בו בענינים אחרים ענין חיות שנראה
כלא מרגיש בכלום אף לא בדקירת מחט
וכהא שקורין קאמא כל זמן שהמכונה
עובדת עבודתה אסור ליטול מפיו דשמא
הוא חי ויהרגוהו בזה. אבל כשפסקה
מלעבוד שנחסר העקסינזען שהיה שם,
לא יחזירו לפיו עוד הפעם עד עבור זמן
קצר כרבע שעה, שאם אינו חי כבר
יפסיק מלנשום וידעו שהוא מת...
אבל זהו באינשי שנחלו בידי שמים
באיזו מחלה שהיא, אבל באלו שהוכו
בתאונת דרכים (בעקסידענט ע"י
הקארט) וע"י נפילה מחלונות וכדומה,
שאירע שע"י התכווצות העצבים באיזה
מקומות הסמוכים להריאה ולכלי
הנשימה אינם יכולין לנשום, וכשיעבור
איזה זמן שינשומו אף רק ע"י המכונה
יתפשטו מקומות הנכווצים ויתחילו
לנשום בעצמם, שאלו אף שאין יכולין
לנשום בעצמן וגם לא ניכרין בהם עניני
חיות אחרים אפשר שאינם עדיין מתים.
וכיון שאתה אומר שעתה איכא נסיון
שרופאים גדולים יכולין לברר ע"י זריקת
איזו לחלוחית בהגוף ע"י הגידים לידע
שנפסק הקשר שיש להמוח עם כל הגוף,
שאם לא יבא זה להמוח הוא ברור שאין
להמוח שוב שום שייכות להגוף וגם
שכבר נרקב המוח לגמרי והוי כהותו
הראש בכח, שא"כ יש לנו להחמיר באלו
שאף שאיננו מרגיש כבר בכלום אף לא
ע"י דקירת מחט ואף שאיננו נושם כלל
בלא המכונה שלא יחליטו שהוא מת עד
שיעשו בדיקה זו שאם יראו שיש קשר
להמוח עם הגוף אף שאיננו נושם יתנו
המכונה בפיו אף זמן גדול, ורק כשיראו
ע"י הבדיקה שאין קשר להמוח עם הגוף
יחליטו ע"י זה שאיננו נושם למת...

III. Contemporary Arguments in Halakhic and General Bioethics

Rabbi J. David Bleich

The position that irreversible cessation of respiration is the sole determining factor in pronouncing death leads to a conclusion that would be dismissed by everyone as absurd. Polio, fortunately, is not the scourge that it was some years ago. But the memories of polio victims who were forced to live in iron lung machines for their survival are very vivid. If respiratory activity is regarded as the sole determining criterion of the presence of life it would follow that a polio victim who is entirely dependent on upon an

iron lung machine or a similar device in order to live would be regarded as dead despite the fact that such an individual is fully conscious and is indeed capable of engaging in intellectual activities requiring a high degree of cognition. Even if the polio victim's loss of respiratory activity cannot be positively diagnosed as irreversible, were respiratory activity to be accepted as the sole indicator of life, his subsequent demise would retroactively establish that death actually occurred upon loss of spontaneous respiration. The response, as might be anticipated, is that irreversible cessation of respiration is designed to be applied as the determining criterion of death only in cases in which the patient is no longer conscious. The problem, however, is not resolved thereby. Nowhere in rabbinic literature is there the slightest hint that consciousness is an indicator of life or that its absence is an indication that death has occurred. Moreover, even if that caveat is accepted, this position yields the conclusion that any nonsapient patient who has suffered irreversible respiratory arrest is dead regardless of the presence of other vital signs including cardiac activity and neurological functions as evidenced by a positive electroencephalogram...

There is clear talmudic evidence establishing that cessation of respiration is itself not an absolute criterion of death. The Gemara, *Gittin 70b*, states that a person whose esophagus and trachea have been severed continues to enjoy legal capacity to execute a bill of divorce on behalf of his wife. Such an individual is described as "alive," albeit facing imminent death. The individual in question is regarded as living despite his obvious inability to breathe... Clearly the individual in *Gittin 70b* remains in full possession of his cognitive faculties, otherwise he could not signal his desire to execute a divorce... However, as has been earlier noted, consciousness, while assuredly absent in an organism meeting halakhic criteria of death, is nowhere posited as a condition negating otherwise dispositive criteria of death...

"Of Cerebral, Respiratory and Cardiac Death", *Tradition* 24:3 (1989), pp. 57-58

Rabbi Moshe David Tendler

... Rabbi J. David Bleich... accuses the Israeli Rabbinate of relying on respiration as the sole criterion of death, and he argues on this basis that it would be consistent for them to declare a polio victim dead. Such an individual cannot, and will never, Rabbi Bleich points out, breathe on his own. But for that matter, a person who has a pacemaker could be declared dead by cardiac criteria. All this proves is that death is never determined by breathing or heart-beat. The fact that a polio patient cannot breathe, but is yet alive, is based precisely in the fact that he is an organized system. Indeed it is based on the fact that he has a functioning brain. The question isn't whether a person can or cannot breathe, but only *why* he can't breath[e]. Why can a fellow who is under debris and not breathing be declared dead? Because the brain died. Otherwise we would have an obligation to try to revive him using C.P.R. ... C.P.R. is effective only when the brain has not died; it is only when C.P.R. does not work that the patient is, indeed, dead. In such an instance, the individual suffers from an irreversible respiratory failure when stems from an irreversible cause – the death of the brain...

"Halakhic Death Means Brain Death", *Jewish Review* (Jan.-Feb. 1990), p. 7

Dr. Alan Shewmon

...The concepts of death variously proposed as instantiated by BD [= brain death] fall into three main categories:

1. Essentially biological, predicated of the "organism as a whole" by virtue of loss of somatic integrative unity, and species-nonspecific...
2. Essentially psychological, predicated of the human person (equated with mind) by virtue of irreversible loss of consciousness, and species-specific...
3. Essentially sociological, predicated of legal persons by virtue of cessation of societally conferred membership in the human community, and culture specific...

The first category can justifiably be regarded as the "standard," "official," or "orthodox" rationale for BD...

This paper focuses exclusively on the “orthodox,” biological rationale – specifically, the notion of “somatic integrative unity” or “integrated functioning of the organism as a whole” and the empirical evidence for its purported dependence on the coordinating activity of the brain. Despite its intuitive appeal and the illustriousness of proponents, this explanation for why death of this particular organ should be equated with death of the entire organism has achieved much less universal acceptance than that equation itself...

If “breathing” is interpreted in the “bellows” sense – moving air in and out of the lungs – then it is indeed a brain-mediated function, grossly substituted in BD patients by a mechanical ventilator. But this is a function not only of the brain but also of the phrenic nerves, diaphragm and intercostal muscles; moreover, it is not a somatically integrative function or even a vitally necessary one (e.g., fetuses in utero and patients on cardiopulmonary bypass or extracorporeal membrane oxygenation are quite alive and somatically unified without movement of air driven by either brain or ventilator). It is merely a condition for somatic integration to take place under ordinary circumstances, not an essential aspect of somatic integration itself. On the other hand, if “breathing” is understood in the sense of “respiration,” which strictly speaking refers to exchange of oxygen and carbon dioxide, then its locus is twofold: (1) across the alveolar lining of the lungs, and (2) at the biochemical level of the electron transport chain in the mitochondria of every cell in the body (hence the synonym, “respiratory chain”). Such respiration is not mediated by the brain, yet it participates much more intimately in somatic integration than does movement of air through the trachea...

A second main counter to the litany-of-integrative-functions argument is that one could cite an equally long (if not longer) list of truly somatically integrative functions not mediated by the brain and possessed by at least some BD bodies, raising the perfectly reasonable question why the one list should be given such explanatory weight and the other virtually ignored...

The category of biochemical homeostasis, for example, can be subdivided almost endlessly down to every particular species of chemical, enzyme, and macromolecule, for each one of which the regulation of its synthesis, degradation and functioning involves indescribably complex interactions among multiple organs, cells and tissues. Why should all these non-brain-mediated integrative functions be selectively ignored in discussions of BD, especially when they are undeniably immanent, “emergent,” non-localized, “anti-entropic,” and more truly somatically integrative at the level of the “organism as a whole” than those in the brain-mediated list?

“The Brain and Somatic Integration: Insights Into the Standard Biological Rationale for Equating ‘Brain Death’ With Death”, *Journal of Medicine and Philosophy* 26 (2001), pp. 458, 464, 467-9

Dr. Alan Rubenstein

The patient who has suffered total brain failure is closed off from the world, and this closure will never be overcome; not even the very limited recovery that a patient in a persistent vegetative state achieves can be hoped for. The marks of this closure are complete coma – unresponsiveness to pain, to light, and so on – and complete termination of the drive to breathe. Does closure of this sort have any significance to an organism? Here is where the [President’s Council on Bioethics’] discussion of an organism’s fundamental, defining work is useful. Openness to the world and the power and drive to interact at the whole organism level is what makes a living thing what it is. “Integration” was certainly never the point. After all, a complex machine is integrated: when assembled and functional, it is more than the sum of its parts. But it is not alive.

Shewmon reasonably asks why breathing and minimal awareness should be singled out as signs of an organism’s life and interaction with its environment. He suggests that the council’s argument would have difficulty accounting for the embryo, which is alive but does not breathe. According to the council’s argument, however, it is not breathing as such that is the fundamental work of an organism, but rather its purpose driven interaction with the world to support the metabolic mode of being. Breathing is one way that this deeper sort of work manifests in higher organisms beyond the embryonic state. Simpler organisms (an amoeba, for instance) and higher organisms at early stages of development do not

manifest the fundamental powers of awareness, appetite, and engagement in the same way, and so in these cases, we would have to look for other signs to judge whether each is alive or dead.

It is difficult to discern what policy steps would follow from Shewmon's position. At the end of his review he suggests providing more information about the issue to potential donors so that consent can be more informed. This is a laudable suggestion, but it seems to imply a circumvention of the dead donor rule if one really believes that the patients in question are not dead. To put the point baldly: if, as Shewmon believes, the patient is alive, no amount of information provided prior to consent will make the patient dead.

"Letter to the editor", *Hastings Center Report* 39:5 (2009): 4-5

Drs. Amir Halevy & Baruch Brody

A review of published reports about brain death shows that many patients who meet the standard clinical tests for brain death still maintain some brain functioning and therefore do not satisfy the whole-brain criterion of death. Three areas of persistent functioning are neurohormonal regulation, cortical functioning as shown by significant nonisoelectric electroencephalograms, and brain stem functioning as shown by evoked responses...

We consider six responses, each of which has certain advantages and disadvantages...

The fifth suggestion, advocated by the Israeli Rabbinate in its recent decision to allow heart transplants, is [that]... because patients meeting the standard clinical tests of brain death have irreversibly lost the capacity to attempt to breathe on their own as a result of the destruction of their brain stems, they are dead because part of the classic criterion for death (irreversible cessation of spontaneous respiratory function) is met. The fact that they have continued functioning by other parts of the brain (for example, hormonal regulation) and by other parts of the body (for example, continued circulation) is therefore irrelevant.

The problem with this approach... is its lack of a justifying definition. It cannot appeal to the classic definition because the continued circulatory functioning means that a permanent cessation of the flow of vital bodily fluids has not occurred. This approach has no other justifying definition. It lacks any grounding except for those, such as the Israeli Chief Rabbinate, who can ground it in a long-standing legal tradition to which they adhere.

"Brain Death: Reconciling Definitions, Criteria, and Tests", *Annals of Internal Medicine* 119 (1993), pp. 520-522