

Rabbi Rosenfeld, a frequent contributor to these pages, is Professor of Computer Science at the University of Maryland.

## REFRIGERATION, RESUSCITATION AND THE RESURRECTION

In recent months, considerable publicity has been given to a startling proposal which, if it came to be widely adopted, could have a profound effect, not only on society, but on the very concepts of life, death and immortality. The proposal is that a person who has just died of an incurable disease should not be buried, but rather stored in a vault at a very low temperature, so that the body does not decay appreciably even over a period of many years. When a cure is found for the disease, the body can be thawed out, revived, and cured.

It must, of course, be pointed out that the key steps in implementing this drastic proposal are as yet beyond the abilities of medical science. True, the technology required to freeze and store a body at liquid-air temperatures exists today. When the body is thawed out, it can even be revived; at least, this has been done successfully with animals. However, these animals have lived only for short periods, before dying of cell damage caused by the freezing process itself.

But although successful revival from the frozen state is not yet an accomplished fact, research in this area is now in active progress, and the proposal may well become a practical one within the next few years. In fact, a few individuals have already been frozen immediately after their deaths on the assumption that a way may be found to thaw them out without damage. One such case which has received much publicity is that of James H. Bedford, a 73-year-old professor of psychology, who was frozen after his death from cancer early in January (see *LIFE*, January 27, 1967, p. 16). The possibilities for and implications of revival after freezing are also receiving close attention in the scientific press (e.g., *Physics Today*, November 1966,

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pp. 45-48, and correspondence in the January, February and March 1967 issues).

The potential consequences of a successful system of refrigeration and resuscitation are almost frightening. These consequences span the range from sociological to theological. If everyone who died could be frozen until medical progress found a cure for the cause of death, it might become possible to prolong life almost indefinitely. How would the state, the intellectual community, the family, be affected by the prospect of greatly extending the lives of elder statesmen, scholars, parents? Would the prospect of indefinite prolongation of life in this world undermine belief in the hereafter?

No less disturbing are the legal — and specifically, the halakhic — problems raised by these possibilities. Is it permitted to freeze a person who has just died, or would it constitute *halanat ha-met*, holding back a corpse from burial? Is there any possibility that freezing a terminal patient just *before* his death, which might increase the chances of successful resuscitation, could be allowed? For that matter, with all the new techniques for keeping a patient clinically alive (heart-lung machines and the like), are we allowed to let a terminal patient die to begin with? What would be the halakhic status of a frozen patient, not only with regard to the laws of burial and mourning, but with respect to such basic problems as marriage and inheritance: Can his wife remarry? Does his estate pass to his heirs? Finally, is not the very concept of life prolongation by refrigeration and resuscitation a denial of our belief in *techiat ha-metim*, the resurrection of the dead?

### *Natural death*

The problem of the permissibility of freezing cannot even be raised until our third question above has been resolved: Are we ever allowed to let a terminal patient die a natural death, or is it our duty to keep him alive by artificial means as long as this is physically possible — at which point, presumably, his body would be so far gone as to make freezing pointless? Are we perhaps halakhically required to keep a dying person connected

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to a heart-lung machine indefinitely, or at least as long as the machine can keep some semblance of life in his body by maintaining circulation and respiration?

At first glance, it might appear that this question must be answered in the affirmative, since the Halakhah clearly states that the commandment to preserve life — *pikuach nefesh* — applies even as regards “temporary life,” *chayei sha’ah*. In *Orach Chayim* 329,4 we read, regarding the rescue (on the Sabbath) of a person who has been buried under a fallen building:

Even if they find him so crushed that he can only live for a short time, they continue to dig. . . .

on which the *Mishnah B’rurah* (*Biur*) *Halakhah* s.v. *l’fi sha’ah*, writes:

Know also, that even for a dying person (*gosses*) one must violate [the Sabbath] by digging . . . or if a physician says that certain medicines will be able to prolong his life for a minute . . . one must violate [the Sabbath] because of *chayei sha’ah* . . .

True, this point has been questioned by R. Ya’akov b. Shemuel (*Responsa Bet Ya’akov*, No. 59), who ruled that the Sabbath must not be violated for a *gosses*; but this is contrary to the prevailing opinion (*Responsa Shevut Ya’akov*, Pt. I, No. 13; *Eliyah Rabbah* and *Peri Megadim*, *Orach Chayim ad loc*; *Responsa Chatam Sofer*, Y.D. 338). Now if we even violate the Sabbath to prolong the life of a dying person for a single minute, how can we ever allow a patient to die a “natural” death?

The situation becomes even more perplexing if we turn to *Yoreh De’ah* 339,1, which deals with the treatment of a *gosses*. One is not permitted to move or even touch a dying person, since this may cause or hasten his death. However, concludes Rabbi Moses Isserles,

If there is some factor which prevents the soul from departing — for example, a loud noise nearby . . . — one is permitted to remove it, since this is not direct action [as touching the dying person would be], but only removal of an obstacle.

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This *pesak* is based on a passage in the *Sefer Chasidim* (No. 723), which seems to imply that it is not only permissible, but even mandatory, to remove extraneous factors, such as loud noises, which are delaying a person's death. Compare also *ibid.*, No. 234:

One should not cry out at the moment of death, lest the soul return and [the patient] suffer unduly . . . for he will only be able to live for a few days [at most], and during those days he will suffer greatly.

Here we have what appears to be a direct contradiction to the Halakhah cited earlier, which permits violating the Sabbath to prolong the life of a dying person even for a moment. If this is the case, how can we be permitted — or even commanded — to remove anything which is preventing death? On the contrary, it should be mandatory to *make* loud noises near a dying person, if this can prolong his life!

Evidently, there must be some basic difference between the case in *Orach Chayim* and that in *Yoreh De'ah*. Such a difference has been suggested by Rabbi Immanuel Jakobovits in a responsum on the problem of euthanasia (*Ha-Pardes* 31, No. 1, pp. 28-31, and No. 3, pp. 16-19, 5717). In the case of a loud noise which prevents the soul from departing, we are dealing with an external factor which causes life to be prolonged only so long as the factor remains in operation. On the other hand, when we give medical treatment to a dying person, we expect that the medication will give the patient a few more moments of "natural" life — not just keep him alive for the duration of the act of administering the medicine. Prolonging *natural* life is *pikuach nefesh*, but it is not mandatory to prolong the life of a hopeless case by *artificial* means.

This distinction certainly seems valid, but difficulties still remain. For example, artificial hearts which can be implanted in a person's body are currently under active development. In a few years it should be possible to replace a worn out heart and give the patient years of normal, functioning life. Would this not be mandatory as *pikuach nefesh*, even though artificial means are being used to sustain life? Would we not violate the Sab-

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bath to repair or replace an artificial heart which was in danger of breaking down?

This example suggests that the Halakhah in *Yoreh De'ah* cannot be applied indiscriminately. If a hopeless patient has sunk into terminal coma, it is presumably permissible to let him die, and even to remove any artificial influences which are keeping him clinically alive. However, if he is still conscious and rational, it seems clear that any and all means — including loud noises, if necessary — should be employed to keep him that way. Even a few moments added to his life span may give him an opportunity to repent (Meiri on *Yoma* 85a: "In that short hour he may repent in his heart, and confess") or to settle his affairs (*Av. Zar.* 12b: "He may live a short while until he instructs his household").

To summarize: It is mandatory to prolong life as long as the patient is conscious, or as long as there is any chance of his recovery. But if his case is hopeless, and he can no longer be restored to consciousness, it is permitted — and perhaps even required — to remove any obstacles to his natural death. And once he is dead, it is certainly not mandatory to resuscitate him as long as there is no hope of his regaining consciousness or recovering. We can now legitimately consider the halakhic status of refrigeration.

### *Status of the patient*

Is a refrigerated patient legally dead? Since he has presumably died before being frozen, and in any event is certainly dead — by any ordinary definition — once he has been frozen, it would seem as though this question, too, must be answered affirmatively. At the same time, it seems clear that when the patient is later thawed out and revived, he is legally alive. But as already pointed out, the concept of a person being alive again after having been legally dead has very disturbing implications, particularly with respect to the laws of marriage and inheritance. The complex consequences of legal "life after death" could be avoided if it were possible to rule that the frozen patient is legally alive. Are there any precedents relevant

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to this question?

At first glance, the precedents on the subject of life after death seem to point inescapably in the direction of legal complications. Thus, in *Sifrei Zuta* (on Num. 19,11) we read

One who touches a corpse is unclean, but the son of the Shunnamite woman [brought back to life by Elisha, II Kings 4] was not unclean. . . . When he died, everything that was in the house became unclean . . . when he came to life again, he was clean, but then he touched [things that were in the house], and they made him unclean.

According to most commentators, the same interpretation should be given to the discussion in *Niddah* 70b:

The men of Alexandria asked R. Yehoshua' . . . "Was the son of the Shunnamite woman unclean?" He replied, "A corpse is unclean, but a living person is not."

[Admittedly, some Rishonim interpret this question and answer as implying that the boy was not actually dead, and so was never unclean. This view is particularly prevalent with regard to the boy who was brought back to life by Elijah (I Kings 17); see 'Anaf Yosef on 'Ein Ya'akov *ad loc*, *Shitah Mekubetzet* on B.K. 114a, and Rambam in Moreh, I, 42, according to Shem Tov. However, this interpretation is dismissed by Meiri (*Niddah ad loc*) and Abarbanel (on Moreh *ad loc*) as verging on the heretical; as RaDVaZ (Responsa, No. 2203) points out, it is taken for granted by the Talmud and Midrashim *passim* that Elijah and Elisha actually revived the dead — though see NeZIV on *She'eltot*, No. 167, who suggests that the Midrashim differ on this.] In any event, we see from this case (at least from the *Sifrei Zuta*) that even though the boy was later brought back to life, he was still regarded as halakhically dead — in particular, he had the uncleanness of a corpse — during the period of his death.

Indirect evidence for the same conclusion can be derived from the case of the dry bones which were brought to life by Ezekiel (Ezek. 37). In *Sanhedrin* 92b we read:

R. Eliezer said, "The dead who were revived by Ezekiel stood up, sang [a hymn of praise], and died." . . . R. Yehudah said, "Actually,

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it was only an allegory." . . . R. Eliezer the son of R. Yosi ha-Galili said, "The dead who were revived by Ezekiel went to the land of Israel, married wives, and fathered sons and daughters." R. Yehudah b. Betera stood up and said, "I am one of their descendants, and these *tefilin*, left to me by my father's father, were theirs." And who were the dead whom Ezekiel revived? Rav said, "They were the descendants of Efrayim who miscalculated the date of the redemption [from Egypt, and died in an attempt to reach the Promised Land]." . . . R. Yochanan said, "They were the dead in the valley of Dura [who were killed by Nebuchadnezzar]."

Now in *Pesachim* 3b we find that R. Yehudah b. Betera did not go up to Jerusalem for the Passover. In explanation, Tosafot suggests (among other possible reasons) that he was exempt because he had no land (see *Pesachim* 8b). At first glance, this would seem to contradict the principle laid down by Tosafot (B.B. 44b, s.v. *delo*) that "There is no man who does not have four cubits in the Land of Israel." However, it may well be that R. Yehudah b. Betera was an exception to this rule because of his direct descent from the dead who were revived by Ezekiel. This is certainly clear if these dead were the Efrayimites who left Egypt before the Exodus, since they had no share in the division of the Land by Joshua; but what if they were persons who had been killed at the time of the Exile? This difficulty disappears if it is realized that when they died, their share in the Land passed to their heirs, so that in most cases, their descendants from children born after they were revived would indeed have no share. Here again, then, the indications are consistent with the concept that even though a dead person has later been revived, he is not regarded as never having died; in particular, his estate passes to his heirs, and he does not recover it on reviving.

There is another source, however, which points to the opposite conclusion (*Kenesset Ha-Gedolah, Even Ha'Ezer*, 17, 2):

In my opinion, if a married woman dies and later comes back to life through the intervention of a prophet like Elijah or Elisha . . . her marital status is not abrogated, and she is not permitted to marry anyone else. This view is supported by the story of the wife of R.

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Chanina b. Chakhinai [who died of shock when he returned home after a long absence, but was revived in response to his prayers (Ketub. 62b); the implication is that after her revival she was still married to him].

A similar conclusion is reached by Azulai (*Birkhei Yosef ad loc*):

We are told (*Megillah* 7b) that [in the excitement of a Purim feast] Rabbah killed R. Zeira; the next day he prayed for him and brought him back to life. One may ask [with regard to] R. Zeira's wife: When her husband was killed, was her marriage dissolved, so that she was free to marry anyone, and when he revived the next day, did he have to remarry her, like a man who takes back his divorced wife? . . . Or perhaps a woman obtains her freedom upon the death of her husband only if he dies and remains dead; but when he was not buried, and is brought back to life by a prophet or pious man, it becomes apparent that his death was not like ordinary death, and the original marriage is not dissolved, so that no one else can marry her, and when her husband revives, he can take her back immediately. . . .

A proof can be brought from *Yer. Gitin* (7, 3) . . . that if a person who has died is miraculously revived, his wife is still his; it makes no difference that he was definitely dead, since afterwards he revived. And we can say that our Talmud, too, agrees that if such a thing happens, his death can be ignored. The two Talmuds differ only as to whether we need suspect that it may have happened; according to our Talmud, we need not be concerned about unlikely possibilities . . . but if such an event did happen, all would agree that when he revives, the original state of affairs is restored: she is his wife, he her husband. So it seems to me at first glance. . . .

Later authorities differ in their reactions to Azulai's conclusion. Some disagree (e.g., R. Avraham Teomim, *Chesed le-Avraham*, II, No. 14), pointing out that when the dead arise at the resurrection, their marriages will not be renewed. Moreover, if (according to *Yer. Gittin*) one had to be concerned for the possibility of a dead man being brought back to life, how could any widow ever remarry? A possible solution to these difficulties, suggested by R. Ya'akov Pardo (*Apei Zutrei ad loc*), is that if the dead man has been buried, his marriage is dissolved even if he is later miraculously disinterred and revived; but if he comes back to life before having been buried, the marriage still stands. This idea is supported by the story of



the widow of R. Eleazar b. R. Shim'on [who remained unburied for many years, B.M. 84b]; only after he was finally interred did R. Yehudah Ha-Nasi propose marriage to his widow. However, this distinction still leaves a contradiction between the marital problem and the case of the Shunnamite woman's son, since he, too, had not been buried. If a marriage is reestablished when the dead husband revives, why did the things that were in the house with the dead boy not lose their uncleanness when he was revived? Evidently, a distinction must be made between widowhood and other halakhic consequences of death; the Torah's permission for a widow to remarry (Kid. 13b) may, in fact, apply only as long as her husband *remains* dead.

In any event, all of the cases considered above deal with a dead person who is revived miraculously; at the time of death, there were no grounds for suspecting that he might come to life again. In the case of a frozen patient, on the other hand — assuming that techniques for successful resuscitation have been perfected — there is every reason to believe that he will eventually be revived. It seems clear that under such circumstances the objections to Azulai's view do not apply, and the patient's wife would not be allowed to remarry. In fact, the frozen patient would very likely not be considered legally dead in any respect; otherwise, great legal complications would arise whenever a person dies for a few moments and is resuscitated — as happens very often in accidents, or during surgery. Since questions of this type do not seem to have been raised, it is safe to conclude that as long as restoration to life by natural means remains possible, a person cannot be halakhically regarded as dead.

*Is freezing allowed?*

A key question still remains to be answered: When a patient has died, or has been pronounced hopeless, is it permitted to freeze him in the anticipation that a cure for his condition may some day be found?

There appear to be good grounds for answering this question in the affirmative. In B.M. 114a-b we read:

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Rabbah bar Abuha found Elijah standing in a cemetery. . . . He asked, "Are you not a priest? Why are you standing in a cemetery?"

and Tosafot (s.v. *amar*) comments:

How did he revive the widow's son if he was a priest? (As it says [I Kings 17, 21] "And he stretched himself out upon the boy. . . .") One can answer, that he was certain that he would be able to bring him back to life; therefore, it was permitted because of *pikuach nefesh*.

This seems to imply clearly that the commandment to preserve life applies even after death, if there is a possibility that life can be restored. Similarly in the case of the dead patient, if there are grounds for believing that a cure may be found, it should be permissible to freeze him — or take any other necessary steps to preserve his body — so that he can later be restored to life. Just as *pikuach nefesh* overrides the prohibition for a priest to come in contact with a corpse, so should it override the prohibition of keeping a corpse from burial.

Later authorities, however, have differed with the view of *Tosafot*. Thus, RaDVaZ (Responsa, No. 2203) writes

You have asked me: According to those who hold that Elijah is Pinechas [the priest], how could he become unclean in order to revive the son of the Tzarafit?

Many things have been said about this matter. Some say that he was not really dead. . . . R. Bachya writes that the Tzarafit was not Jewish. . . . *Tosafot* explains that he was certain that he could bring him back to life, and it was, therefore, permissible because of *pikuach nefesh* — but this is difficult. To begin with, one must not rely on a miracle taking place; moreover, if he was certain that he could bring him back to life [he could have done so without having to become unclean (?)]. . . . One can also say that it was special ruling (*hora'at sha'ah*) . . . and on [this explanation] I rely. . . .

[A similar answer is given by Abarbanel (on *Moreh*, I, 42).] Another question about *Tosafot*'s ruling, in connection with the problem of whether a priest who is a physician may attend a dying patient, is raised by R. Ya'akov b. Shemuel (Responsa *Bet Ya'akov*, No. 130):

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[Tosafot] answered, that Elijah was a prophet and knew that he could bring him back to life; therefore he became unclean because of *pikuach nefesh*. This implies that if he had not been certain that he could bring him back to life, he would not have been allowed to become unclean. . . .

Nevertheless, the principle of *pikuach nefesh* should still be applicable in the case of the frozen patient. In fact, neither of RaDvaZ's objections applies to this case, since there is no reliance on miracles, but only on natural means of restoring life, which surely can be classified as *pikuach nefesh*. As for the *Bet Ya'akov's* point, we find it set aside by later authorities; e.g., in *Nachlat Tzevi* (by the author of *Pitchei Teshuvah*) on Y.D. 370:

. . . Tosafot definitely did not mean to imply that it was only because Elijah was certain; but only to imply that if he had *not* known, [there would have been no grounds for permitting him to become unclean, since] it is almost impossible [for the boy to revive] once he is completely dead; this is obvious.

Evidently, then, if we do have grounds for believing that a frozen patient can be resuscitated, *pikuach nefesh* *does* apply.

The permissibility of freezing a hopeless patient finds further possible support from yet another source (*Av. Zar*, 27b):

R. Yochanan said, "If the patient's case is not hopeless, he is not permitted to be treated by an idolator [since we suspect that the idolator will kill him]; but if the case is hopeless, such treatment is permitted." Why [should it be permitted even in] a hopeless case — what about *chayei sha'ah*? [Even in a hopeless case, the patient still has some time to live, whereas the idolator may kill him immediately.] — We are not concerned about *chayei sha'ah*.

Here Tosafot (s.v. *l'chayei*) asks:

What about the case in Yoma where we dig out a person from under the rubble on the Sabbath so that he can live a little while longer — does this not imply that we *are* concerned about *chayei sha'ah*? One can answer, that in both cases we do what is best for the dying person. There, if we were not concerned [about *chayei sha'ah*], he would die [under the rubble]; while here, if we *were* concerned, he would not be treated by the idolator and would certainly die. Therefore here we enter into uncertainty in order to avoid the certainty [of death].

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This suggests that in a hopeless case it might even be permitted to turn the patient over to others who would freeze him before he has actually died. If he is not frozen, death is certain, but if he is frozen, there is a possibility that he may be revived and cured. A similar view is accepted *lehalakhah* by R. Ya'akov Reisher (*Shevut Ya'kov*, III, 75):

(The question:) A certain sick person is mortally ill, and all the doctors judge that he will certainly die within a day or two; but . . . there is another treatment which may cure him, and on the other hand if he takes it and it does not succeed, he will die within an hour or two. Is it permitted to administer this treatment?

(The answer:) At first glance it would seem better to do nothing, since we are concerned about *chayei sha'ah* even in one who is already a *goses* . . . and it is permitted to violate the Sabbath because of *chayei sha'ah*, as I have explained at length in my Responsa, Pt. I, No. 13. But on closer consideration it appears permissible. True, when there is any chance that death will be hastened, and this is not being done in an attempt to cure the patient, it is certainly like murder, and we are concerned about *chayei sha'ah*. . . . But if it is possible that through this treatment he will be completely cured, we are certainly not concerned about *chayei sha'ah*. This distinction finds clearcut support from *Av. Zar*, 27b . . . and the *poskim* concur. . . . So, too, in this case, since he will certainly die, we [must take advantage of] any chance that he may be cured . . . but this should be done only upon the concurrence of a majority of the doctors and with the approval of a rabbinical authority.

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But when we attempt to prolong life by refrigeration, are we not rebelling against the curse of Adam — “You are dust, and to dust you shall return”? When we resuscitate the frozen dead, are we not denying the resurrection of the dead at the end of days? It seems to me that this need not be the case. When Ezekiel revived the dry bones, we are told (*Pirkei d'R. Eliezer*, 33) that they wept and said “We were hoping to arise with all Israel at the resurrection, but now our hope is lost.” The prophet was therefore commanded to reassure them that they too would be raised up at the future resurrection.

In *Pesachim* 68b we read, “The righteous will some day have the power to revive the dead.” Let us hope that in our own day

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we may see mankind achieve some measure of this power. And just as at the end of days the blind, the dumb and the lame will be raised up from the dead and then healed — *'omedin bemuman u-mitrapin* (*Sanh*, 91b), so may we hope to learn how to preserve the incurable from irreversible death until they can be revived and cured. But above all, let us bear witness to our faith that there will come a time when “death is swallowed up forever, and the Lord God has wiped away all tears.”