

The Trolley Problem at a Crossroads: Halacha and NeuroEthics

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Questions of ethical consideration in the medical field benefit greatly from the discussions within halacha. Conversely, legal-halachic debates in hard decision-making cases are revitalized by the ethical¹ problems presented by medical situations.

In this article, we will observe a popular ethical dilemma – “the trolley problem” – and the current research into its practical aspects. With the aid of neuroscience, light can be shed on some of the ethically challenging medical-halachic questions, such as allocation of scarce medical resources², triage decisions³ and other “either/or” scenarios⁴ with which doctors often must deal. In general terms, these questions comprise an intrinsic part of the public health-care systems that must prioritize limited resources.

We will first outline the ethical structure of the trolley problem and its use as a measuring rod for decision-making strategies and pragmatic ethical programs. Current research into this dilemma will introduce the growing field of *Neuroethics*.⁵

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The halachic version of the trolley problem will then be presented, through the lens of past rulings in such cases, and more recently the attention of halachic-medical research. New neurological-ethical (*Neuroethical*) research illuminates these classical avenues of investigation. Examining the problem in these different conceptual and disciplinary spheres can be illuminating. The “trolley” problems are ethically irreducible to simple directives, pushing the envelope of different ethical and legal systems, prodding an introspection of their own fault lines. A multi-faceted view of ethical problems (including: abstract concepts, legal and even “pedestrian” lay angles) gives the dilemma its deserved appreciation of depth and scope. Such a consideration is fruitful in a joint ethical-halachic conceptual scheme, and in an examination of halacha’s uniqueness as a legal and ethical system.

1. The Trolley Problem⁶

The classic bifurcation in medical ethics is between two modes of deciding about the ethics of

¹ See Avraham Steinberg *Medical Ethics in an Inter-Religious Comparison: Judaism*, in: Ethik in der Medizin, Volume 10, Supplement 1, September, 1998.

² The Allocation of Scarce Medical Resources: A Philosophical Analysis of the Halakhic Sources ; Moshe Sokol ; AJS Review, Vol. 15, No. 1 (Spring, 1990), pp. 63-93. Rabbi Shabtai Rappaport, “The Allocation of Limited Resources on a National Scale” (Hebrew), ASSIA 51-52 pp. 46-53, 1992.

³ Shlomo Steve Jackson, M.D. ; Lifesaving while Under Fire: Medical Halakha in Battle (Hebrew); ASSIA 16, 3-4 (63-64), pp. 101-120 (1998)

⁴ Prof. Steinberg’s application of the Halachah and Jewish ethical approach to triage in the wider scope as paralleled with other renowned ethicists and doctors is shown in *Principles of Health Care Ethics*, Raanan Gillon (ed.) London University, U.K.

⁵ Neil Levy; Introducing Neuroethics, *Neuroethics*, Volume 1, Number 1 March 2008. For a review of such experiments and their ramifications in a generalized moral analysis see Mihai Avram et al,

Neural correlates of moral judgments in first- and third-person perspectives: implications for neuroethics and beyond, BMC Neuroscience 2014: 15:39. Following a decade and a half of research, this review advocates the “first tradition” of neuroethics, i.e. appreciating neural correlates of moral cognition, and the prudent “second tradition” of pragmatic evaluation of outcomes, applications and limitations of neuroscientific techniques and technologies.

⁶ First introduced by Philippa Foot : *The Problem of Abortion and the Doctrine of the Double Effect* in *Virtues and Vices* (Oxford: Basil Blackwell, 1978). An extensive analysis of the subject was done by Judith Jarvis Thomson: *Killing, Letting Die, and the Trolley Problem*; *The Monist* 59, 204-17 (1976); *The Trolley Problem*.; *Yale Law Journal* 94, 1395-1415 (1985). Generalizations to global resource allocations are brought by Peter Unger: “Living High and Letting Die”, Oxford: Oxford University Press, 1996. Also see Francis Myrna Kamm, *Harming Some to Save Others*, 57 *Philosophical Studies* 227-60 (1989).

action – *deontological* and *consequentialist* (a.k.a. *teleological* or *utilitarian*) ethics⁷. Whereas deontological ethicists focus on the intrinsic rightness or wrongness of actions themselves, consequentialist ethics judges conduct by the end result. In the field of Jewish medical ethics, the different strokes of general ethical and halachic rulings are mutually instructive (in instances of compatibility or discord alike).

For example, in many medical situations, a pragmatic strategy is applied for optimizing the over-all end result. Such is the case with combat medicine⁸ and natural disasters⁹ requiring triage decisions. But even the pragmatic medical practitioner will not always have a clear-cut directive for a proper decision. As we will see, in such matters there is no universal compatibility,¹⁰ a common voice of ethics in medicine and in law regarding this problem or even its efficacy for moral analysis.¹¹

1.1 The classic trolley dilemma

We will discuss a famous ethical thought experiment (that deals with extremes but is pertinent to every-day situations), one which rabbis and doctors are often confronted with. The evidence provided by

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neurological examination of laymen exposed to moral dilemmas, can provide insights into professional decision-making in medicine, law and halacha.

At the core of the problem is a situation where someone is going to get hurt, and the range of open possibilities present a choice between different undesirable outcomes. For example, the “classic” problem consists of a trolley headed toward a group of people, and the only available action to save them is pulling a lever that will maneuver it onto another track – where it will hit and kill a single person.

The trolley problem forces both utilitarian (measurable end result) and deontological (an action’s intrinsic merit) ethicists into their respective corners. An optimal decision in the utilitarian sense is to sacrifice the one for the many; but what is the quantitative borderline? What is the calculus for an optimal result? On the other hand, there are claims to the unique value of human lives independent of the circumstances¹². That approach leaves the decision maker in the position of letting many people die for the sake of one, or attempting to employ an absolute deontological value system in a military situation where people are putting themselves at risk to begin with.

Thus, the theoretical problem intensifies when applied in actual decision-making. Even among ethicists, the answer to the question may change according to its presentation. When asked, in over 90% of the time, a group of participants in an experiment decided in favor of deflecting the trolley towards the one person. A variation of the same problem changed the response:

As before, a trolley is hurtling down a track towards five people. You are on a bridge under which it will pass, and you can stop it by dropping

⁷ For a view of ethics in relation to Medical-Halachic deliberations, see Rabbi A. Steinberg M.D., *Encyclopedia of Jewish Medical Ethics*; Feldheim Publishers (Jerusalem – New York, 2003) Vol. I pp. 40-50.

⁸ An overview of the ethics and mechanics involved in military (and civilian) triage medicine, is given by Thomas Repine et al, “Dynamics and Ethics of Triage: Rationing Care in Hard Times”, *Military Medicine*, Jun 2005

⁹ The ethics of triage under such circumstances is not fully systematized or agreed upon. A suggested system including a categorization into four (medically derived) groups is proposed: Domres B et al, “Ethics and Triage”, *Prehosp Disaster Med.* 2001 Jan-Mar;16(1):53-8.

¹⁰ See Virginia A. Sharpe, Justice and care: The implications of the Kohlberg-Gilligan debate for medical ethics, *Theoretical Medicine and Bioethics* Volume 13, Number 4 / December, 1992

¹¹ Guy Kahane, Sidetracked by trolleys: Why sacrificial moral dilemmas tell us little (or nothing) about utilitarian judgment, *Social Neuroscience*, Vol. 10, Iss. 5, 2015. Kahane claims that the kind of moral bifurcation as deontological or pragmatic is not useful for understanding commonsensical moral notions since people are not deciding between opposing utilitarian and deontological solutions. However note the relevance for halachic deliberation and thought-experiments precisely on this point. Also See the beginning of chapter 2, the halachick trolley problem, and the past American and English cases brought there.

¹² This falls under the subject of ‘the incommensurability of values’. Cf. Wiggins, David 1997. “Incommensurability: Four Proposals.” In Chang, Ruth 1997a. (Ed). D’Agostino, Fred 2003. *Incommensurability and Commensuration: The Common Denominator*. Aldershot: Ashgate *Incommensurability, Incomparability, and Practical Reason*. Cambridge, MA: Harvard University Press. , pp. 52-66.

a heavy weight in front of it. As it happens, there is a very fat man next to you - your only way to stop the trolley is to push him over the bridge and onto the track, killing him to save five. Should you proceed?¹³

Most people who answered positively (pulling the lever) in the first case, object to pushing the person in the second story-line, dubbed “the footbridge” version of the trolley dilemma. Of course, there is ample rational backing for each side, and to switching between them.¹⁴ It seems as if the first version of the trolley problem evokes a utilitarian response, while the footbridge scenario prompts a deontological response.

No matter how ethics is perceived, the trolley problem forces one to pick a side or admit to being torn between sides. The ethical charge of the situation cannot be explained away.

1.2 The neurology of tackling moral dilemmas

In recent years, researchers have investigated the neurological nature of actual human reaction to the

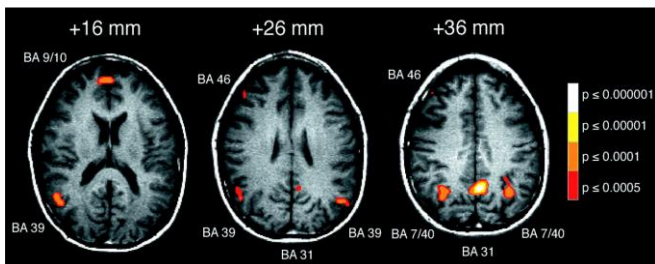


diagram a – brain activity in activated areas, Greene et al, Science 2001

trolley problem.¹⁵ Different versions of the trolley dilemmas provoked activities in different areas of the

brain: In order to understand the differing results in answers and correlating brain activity, a discrimination between “a-moral”, “moral-personal”, and “moral-impersonal” was employed. A-moral questions are baseline questions containing no ethical dilemmas.

Personal-moral dilemmas such as the footbridge version, showed activity in areas BA 9/10 (medial frontal gyrus) and BA 39 (angular gyrus). Impersonal-moral dilemmas such as the classic version or an even more remote “button pressing” or “driving by” scenarios, showed activity in areas BA 7/40 (parietal lobe) and BA 46 (middle frontal gyrus). These results are visually apparent in the fMRI scan (diagram a).

This neuroelectrical response to the dilemmas, can account for the different answers given to the two versions of the trolley problem, as well as more complex scenarios, such as a case in which the track leading to the one person loops around to connect with the track leading to the five people. Here we will suppose that without a body on the alternate track, the trolley would, if turned that way, make its way to the other track and kill the five people as well. In this variant, as in the footbridge dilemma, you would use someone’s body to stop the trolley from killing the five.¹⁶

Attempts to understand the decision in this version like that of the classic dilemma, and distinguishing it from the footbridge scenario, include¹⁷ a Kantian (absolute deontological) refrain from “making use” of people. But it is clear that this scenario is not fully accountable on utilitarian or deontological grounds. Most cases in real life are of this sort – an

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¹³ J. J. Thomson, *Supra*.

¹⁴ The difference between these two versions of the dilemma, positioned in a wider class of such questions, revitalized the actual ethics of actions, their moral weight. At a time when ethics was being treated on a “meta-ethical” level of semantics and analytical philosophy, this dilemma is a reminder of a more basic level to the ethical deed.

¹⁵ Joshua D. Greene *et al*, “An fMRI Investigation of Emotional Engagement in Moral Judgment”, *Science* Vol. 293 (Sep. 2001) pp. 2105-2107. Some research programs point to a deliberative neurological processes (Cushman, F. A., Young, L., & Greene, J. D. (2010). Multi-system moral psychology. In J. M. Doris, & T. M. P. R. Group (Eds.), *The Oxford handbook of moral psychology*, pp. 47-71. New York, NY: Oxford University Press.). Others point to a distinctive neural subsystem (Greene, J. D., Morelli, S. A. Lowenberg, K., Nystrom, L. E., & Cohen, J. D., Cognitive load selectively interferes with utilitarian moral judgment, *Cognition*, 107, 2008, 1144-1154.) Yet another approach is of a salience network that modulates the activity of other large-scale networks in the brain

(Pascual L, Rodrigues P, Gallardo-Pujol D., “How does morality work in the brain? A functional and structural perspective of moral behavior”, *Frontiers in Integrative Neuroscience*. 2013;7:65)

¹⁶ *Ibid*, p.2105

¹⁷ Other than strictly philosophical motifs, there are psychological explanations that form a more general research paradigm in which Green et al fit in as the reductionist-scientific method. See Jennifer Nado et al, “Moral Judgement”, *Routledge Companion to the Philosophy of Psychology*, ed. John Symons & Paco Calvo, London-New York, 2009, 621-633.

intermediate comprised of deontological and utilitarian components.

Run-of-the-mill ethical theorizing simply does not give the solid basis for understanding people's actual reactions to these situations. Rules like Kant's imperative or a doctor's training go only so far, and then comes the inner-workings of the mind, disclosing some other kind of moral parsing. The original research saw this as different levels of personalization of the problem. This theory brought on much of the ethical wrath directed "against those who claim the emotional tail wags the ethical dog", and the reciprocal replies.

We must clarify the role such research plays here so as not to waste the potential of this research on the aforementioned debate – it is no substitute for ethical analysis of situations and actions – it serves a different angle, a research device to be employed in Jewish medical ethics. Neuroethics has a different take on moral decisions than does a classic ethical explanation, exposing the inner structure of the situations (including the actors themselves) and the measures taken in them. Looking at people's reaction (in verbal and neurological levels) to ethically challenging situations offers something different.

The working hypothesis of the neurological investigation into ethical action and thought is that there exists an inextricable connection between moral action, logical processing and emotive faculties:

We maintain that, from a psychological point of view, the crucial difference between the trolley dilemma and the footbridge dilemma lies in the latter's tendency to engage people's emotions in a way that the former does not. The thought of pushing someone to his death is, we propose, more emotionally salient than the thought of hitting a switch that will cause a trolley to produce similar consequences, and it is this emotional response that accounts for people's tendency to treat these cases differently. This hypothesis concerning these two cases suggests a more general hypothesis concerning moral judgment: Some moral dilemmas (those relevantly similar to the footbridge dilemma) engage emotional processing to a greater extent than others (those relevantly similar to the

trolley dilemma), and these differences in emotional engagement affect people's judgments.¹⁸

The ramifications of this type of experimentation and its conceptual background is far-reaching. It has been hailed as the end of ethics on the one hand,¹⁹ a reasonable extension of the ethics field,²⁰ and even birth of a new and exciting field of *Neuroethics*²¹ on the other end.²² Either people are no more than automatons (or emotional trolleys on the loose) reacting on chemical impulse rather than taking an active ethical role in things; or on the contrary, we now can show that the ethical realm cannot be reduced to some logical algorithm, and an emotional personal engagement is inseparable from ethical conduct. Expounders of the latter direction in neuroethics point out the cases of frontal cortex damage cases,²³ wherein the logical capacities may be left intact while damage is sustained to emotional faculties. Such patients exhibit extreme difficulty in reaching even the most rudimentary decision making, when confronted with practical multiple-choice questions. They become a real-life example of the famous stalled decision thought experiment - Buridan's Ass²⁴,

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¹⁸ *Ibid*, p.2106

¹⁹ Haidt, J., *The emotional dog and its rational tail: a social intuitionist approach to moral judgment*, *Psychological Review* 2001, 108: 814-834.

²⁰ Haidt, J. 2003. The emotional dog does learn new tricks: A reply to Pizarro and Bloom. *Psychological Review* 110: 197-198.

²¹ See N. Levy, "Introducing Neuroethics", *Ibid*, introduction.

²² "Theorizing on the psychology of moral decision-making has pitted deliberative reasoning against quick affect-laden intuitions". Some attempts have been made to resolve the differences: Benoît Monin, et al., "Deciding versus reacting: Conceptions of moral judgment and the reason-affect debate" *Review of General Psychology*, 2007 Jun Vol 11(2) 99-111

²³ Such as the Phineas Gage incident (circa 1848) depicted by Damasio Antonio R., *Descartes' Error: Emotion, Reason and the Human Brain.*, Putnam Publishing, London 1994. Damasio introduces the "somatic-marker hypothesis" (SMH), which basically suggests that emotional processes can guide (or bias) behavior, particularly in decision-making

²⁴ Named for the Parisian philosopher of the fourteenth century John Buridan, it is a conceived animal with only hunger and instinct driving it. When confronted with two pails of hay. It will in this

According to the neuroethical analysis, it is not a lack in reasoning ability that will kill the "Ass" but an impaired emotional capacity, or rather an "affective faculty"²⁵.

Emotional capacity, often described as a handicap to well formulated decision-making, may turn out to be a prerequisite for the mind's intentional character, or at least an important and productive²⁶ aspect of decision-making, especially in trolley-problem situations, which take place in many forms, often in medical crises. Such extreme circumstances can easily stump people that have no trouble in everyday decisions. It is not uncommon to find oneself in extreme situations unable to make a decision. However, emergency, military and medical professionals face such problems constantly and must develop a working approach to the problem (be it a cold algorithmic guideline or an emotional fortitude). We now turn to the Halachic treatment of the problem.

2. The trolley dilemma in Halacha – "diverting the arrow"

This section of the article is an overview of the halachic perspectives on the trolley problem. It is only descriptive, with no attempt to extrapolate a final halachic ruling on the subject. Moreover, it will show that the subject does not lend itself to absolute directives. The halachic discussions show the different aspects of the problem. The goal here is to examine how halacha deals with problems that are an ethical Gordian-Knot. More specifically, the Halachic rulings illuminates the

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conceptual depiction starve to death.. See Rescher, Nicholas. "Choice Without Preference: A Study of the History and of the Logic of the Problem of "Buridan's Ass"", *Kant-Studien* 51 (1960), pp. 142–75.

²⁵ I thank Professor Joshua Werblausky for discussing the affective aspect of the healthy human psyche. This structure can be gleaned from a combination of modern psychology and Talmudic sources.

²⁶ An example of actual gain from emotional response is shown in the Iowa Gambling Test, see: Bechara A. et al; *Deciding Advantageously Before Knowing the Advantageous Strategy* ;Science 275: 1293-1295. 1997

current neuroethical investigation of the trolley problem with a different perspective.

There has always been a place reserved in Halacha for dealing with "hard-cases" that strain the limit of "optimal solutions". The *posek* is no stranger to lose-lose situations. The most famous example for this kind of halachic debate is the Mishnaic case of limited resources – two people in the wilderness, coming upon enough water for saving one of them.²⁷ The halachic analysis of these situations far predates that of common law treatments.²⁸

Other cases involve a demand by enemy forces to hand over a few where the alternative is mass murder,²⁹ or forcing one person to hurt another under pain of (personal or group) death. The basic problem is the direct confrontation of two supreme directives: preservation of personal life, and absolute prohibition of taking another's life.³⁰ In these cases, these two halachic vectors clash.³¹ The key term is "*Ein Dochin Nefesh Mipnai Nefesh*" (a life is not set aside for the survival of another),³² although sometimes there is a measuring of soul versus soul (the life of a murderer can be forfeited to save the community), or the level of directedness taken by the people giving away the

²⁷ Tractate BM 62a. Ben Petora rules that no man is allowed to withhold water from his fellow. They will therefore both die. Rabbi Akkiva invokes the demand for self preservation as primary (through Deut 25:36 - וְהָיָה אִתְּךָ עֵקֶבךָ). In more modern times, the opinion of Ben Petora was articulated by Judge Benjamin Cardozo in *U.S. v. Holmes* (1842) Fed. 15'383. A shipman who lightened the lifeboat of a sunken ship by throwing 16 people overboard was accused of manslaughter: "Where two or more are overtaken by a common disaster, there is no right on the part of one to save the lives of some by the killing of another. There is no rule of human jettison." (Law & Literature, Harcourt, Brace & Co 1931, p. 113)

²⁸ See previous footnote regarding the Holmes case (1842). Also, see *R. v. Dudley and Stephens* ([1884] 14 QBD 273 DC), an important English criminal case that established a "common law" precedent - necessity does not excuse murder. In that case, two survivors of a shipwreck killed and ate a third, weakened, survivor.

²⁹ Yerushalmi Trumot 8:4. In this source, the basic ruling is that the whole group must die rather than give up a single member, unless there is due cause for the person to be given up.

³⁰ A full and comprehensive explanation of the subject is presented [in Hebrew] by Judge Zvi Tal: "אין דוחין נפש מפני נפש בהלכה", על "א טל", "אין דוחין נפש מפני נפש בהלכה", על "א טל", "אין דוחין נפש מפני נפש בהלכה" (תשס"ב)

³¹ Another example of a direct confrontation between personal preservation and refrain from inflicting harm, is Din Rodef, *Mishma, Sanhedrin* 8:7. See Halperin Mordechai, "Modern Perspective on Medical Halacha", *JME Book* Vol. I, pp.120-141 (2004), p.134: "...when one individual pursues another with intent to kill him – it is proper to save the victim. If no other means are available, one may save the victim by killing the pursuer."

³² Ohalot 7,6.

one person.³³ In any case, it is clear that legal tools exist for the *posek* to deal with the life-for-a-life scenario, and still the problem is not a-priori resolvable.

Modern responsa bring up the question in a form closer to the trolley problem. For example, Rabbi Avraham Y. Karlitz (the *Chazon-I'sh*):

“The case should be considered, of one that sees an arrow (in point of fact – a grenade) moving on a trajectory to kill many people, and he can divert it to another side so that only one will be killed on that side and those on this side will be saved, and if he will do nothing many will die and the one shall live”³⁴

The *Chazon-I'sh* deliberates the case: One is obliged to do no harm and yet to achieve an end result of minimal casualties. He ponders on the definition of the situation – is the mortal end result inherent to the saving action, or just a side effect?³⁵ He remains inconclusive - the different sides of the theoretical problem investigated (the question is not raised in a responsum but in a commentary on the Talmud), but not fully resolved.

Rabbi Eliezer Y. Waldenberg, in his Responsa *Tzitz Eliezer* refers to this question and describes it as a trolley problem proper:

Let it be known, that this investigation by the *Chazon-Ish* is not theoretical, an imaginary picture of seeing an arrow about to kill, with the possibility to deflect, as the *Chazon-Ish* depicts, but rather it is an actual practical question, with ramifications on similar situations, like vehicles that drive as in said example and suddenly come upon a group of people blocking the road so that a sudden stop must be achieved by changing course backwards, but there stands an individual that will

clearly be killed, etc. The question at hand is what is to be the choice in such a circumstance, whether to stay passive (sitting and not doing – *shev ve'al ta'ase*) and letting the ones in front die, or actively change course (standing up to action – *kum ve'ase*)³⁶

The *Tzitz Eliezer* (unlike the *Chazon-I'sh*) rules for a *consciously passive tact* (*Shev V'al Ta'aseh*): not to change the course of the car, for *any* involvement will be an actual destructive deed, an active killing that cannot be excused in any way halachically or logically.

In an article focused on the legal, *Rabbi S. Dichovsky* analyzes³⁷ the structure and content of the halachic trolley problem within the broader context of public prioritized treatment. He shows the *poskims'* deliberations to emphasize different attributes of the same action: According to this analysis, The *Chazon-Ish* concentrates on the “natural” result of the action. It is only permissible to perform an act of which harmful consequences are *not* an integral part.

Let us remember such a condition is logically sound, but the case does not supply such an alternative,³⁸ leaving no final practical conclusion.

Another approach is to see if the action is done directly on the harmful agent (as in the classical situation familiar from *Rodef*), the person hurt (in which case it is an actual killing) or an indirect manipulation.³⁹ Again the Trolley problem cannot be parsed into neat options since every setting of the question can be interpreted in either direction.

A third view is that even if the action taken as well as the results, are indirect or passive, a different consideration is necessary: if the harmful agent is already present, affecting the result in any way makes

³³ The Meiri on Sanhedrin 72b distinguishes between an extradition (Mesira) and an execution (killing with the hand- as we will see in the next section). Rashi qualifies this differently, by defining Sheva son of Bichri as a “dead-man-walking”- doomed to be killed soon.

³⁴ *Chazon-Ish* Yoreh De'ah, Hilchot Avodat Kochavim 69; Sanhedrin, Sec. 25

³⁵ The analytical question at the core of the discussion is the very identity of the action, and the point of departure from well-defined distinctions of deontic and pragmatic ethics: Is the saving action inherently also the harmful one, or is the second result just a side-effect? Is an inherently harmful action nevertheless permitted to save lives

³⁶ *Tzitz Eliezer* Responsa, Vol 15, Chap. 70

³⁷ Priorities in Public Lifesaving ; Beracha Le' Avraham; A Collection of Articles in Honor of Rabbi Professor Avraham Steinberg, p. 187- 201, especially pp.198-199

³⁸ It is important to note that the fact there is no optimal possibility, does not lead to the same conclusion the *Tzitz Eliezer* reaches (passive “do-no-harm”). Perhaps this is because a non-action simply does not exist here

³⁹ The direction alluded to the *Imrey Binna* responsum, Orach Chayim, with regard to harming someone directly or indirectly - in the 5;13 context of escaping the camps in the holocaust

one a complicit⁴⁰ in manslaughter. This type of rule is also logical, but its application is problematic: when is the trolley considered “already present”? this is not simply resolved either.

The analysis above is of the *identity of the action itself* – is it an act of saving, harming or both? As we

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will explain in the following section, this level of analysis is in accord with the deontological view of ethics,⁴¹ and that

is not our final aim here. The actual actions taken by people in extreme situations, and the halachic understanding of those actions, are closer to home: halachic considerations are not pure jurisprudence. There are contingent elements, ethical considerations that make cases like this flush out the shortcomings of abstract static codex of law.

Understanding the ethical and halachic definitions of action, harm, consequence and affinity are at the core of Jewish medical ethics. In a comparison between neuroethics and halacha, a different but still important illumination is presented. Comparing the human reaction (on as many levels as possible), to that of Jewish law, can help put into pragmatic context some halachic deliberations. It can also provide surprising results pertaining to the relationship between halacha and ethics in general.

3. A Twofold Connection

We will first acknowledge the classic method of exploring halacha and ethics. Then we will go on to examine the neuroethical slant on the halachic trolley problem.

3.1 Halacha and ethics

The analysis done by R. *Dichovsky* shares a common ground with the ethical work on the subject. A halachic understanding of the action as a “wrong”

or a “right” is important for deontological purposes. The end result is the guiding light of the utilitarian ethicist. As we have seen, deciding the nature of the action in and of its own is done by some of the *poskim*, without neglecting the goal of saving lives.

This can lead some to a theoretically non-decisive conclusion that ricochets back and forth from one position to another. A thoroughly committed acceptance (pragmatic *and* abstract) of the problem by the posek, acknowledging the complexities that cannot be shrugged away with a simple one-size-fits-all rule, is the hallmark of Jewish law.

The extended version of the problem, the allocation of scarce resources is a central, growing and dynamic branch of Jewish medical ethics. In it, many large scale situations are generalized trolley problems where investing in one end of a situation inevitably harms people on the other end.⁴²

3.2 Halacha and Neuroethics

Our main focal point is observation of the way people react to the trolley problem. As shown above, the answers given to different scenarios are affected by the personal involvement of the participant. This could spell out the end of “pure” ethics, or at least make ethicist agree on the anti-naturalism of ethics. On the other hand, decision-making on the whole, is fraught with the emotional and subjective sides of the psyche. As shown in the works Kahneman and Twersky, we rely on heuristics that are not strictly rational (or productive) in every instance. It may be claimed that in truth no-win situations, where calculated decision does not relieve the tension by producing a final conclusion, the a-logical decision making capacity is central, not merely as an emotional “background noise” for ethical conduct.

An ethical appendix to Rabbi *Dichovsky*’s halachic work, is supplied by his son, Rabbi Jacob *Dichovsky*.⁴³ The main issues of different ethical systems is presented, with an application of these

⁴⁰ The *Damesek Eliaser* responsum by Rabbi Perlmutter (Pieterkof 1905) in the introduction (p.4)

⁴¹ Although as we have pointed out, the *Chazon-Ish* also took into account teleological concerns.

⁴² For a review of the problem and its dimensions, see Steinberg Avraham, Allocation of Scarce Resources, JME Book Vol. II, pp.301-316 (2006); JME 2,2 pp.14-21 (1995).

⁴³ Rabbi Jacob *Dichovsky* L.L.B. Ibid, pp. 201-206

systems to the difference between harming one directly or overtly in order to save many.

In treating the ethical dilemmas presented historically, halacha provides ethical decisions that cannot be pinned down to a single ethical system, though ethical depth is present in each decision, even the most mechanistic judgment of an act. So much for a purely analytical approach in ethics (teleology vs. deontology) and halacha (the mechanism of an act). But when the trolley problem strikes us, it is not only through the calculus of logic and ethics. Something *more* happens, something which is not captured in the abstract concepts.

An important backdrop of many halachic discussions regarding ethical dilemmas, is casuistic in nature, as is the basic structure of *Torah She'be'al Peh*. Cases are debated and form the strata of halachic analysis. In the moral issues, decisions made by non-professionals are an important part of the halachic process. That is to say, tough decisions are made, often by laymen, they are later analyzed⁴⁴ and internalized halachically⁴⁵ to become the foundation for legal and moral credence.

This brings us to another issue at the crossroads of halacha and ethics: the personal judgment call of the halachically obligated layman. In many cases, such moral actions are undertaken in actuality, while the deep inspection of the *posek* may prevent it from reaching a conclusion because of its obligation to an absolute solution.⁴⁶ Halacha decided by *poskim* in actual cases, (not just theoretical suppositions) has

The ability to employ detached rationality is itself a fallacy

both the theoretical structure required by law, and the personal investment in the case.⁴⁷

The intricacies of law are of course still there – the extreme halachic view quoted often, states that man's moral drive cannot effectively lead him through crisis, being essentially a blind force without the guidance of halacha, as the *Chazon-Ish* put it:

"Moral obligations are sometimes of a piece with halachic rulings; halacha determines the right and wrong of ethics..."⁴⁸

One must take care not to look for a crass annulment of ethics in these words,⁴⁹ but the careful consideration of the human condition that the *posek* must strive for.

The relationship between halacha and ethics is a complicated one. Gauging it through the meter of absolute good versus absolute divine will, the entire spectrum of opinions between the two poles has been held throughout halachic history. It is well known that there is no abstract fully formulated Jewish dogma. What is left morally in real-world tough cases like the trolley problem (medical, combat or social situations) is the bare human reaction,⁵⁰ faced with impossible decisions and consequences. Halacha steps in as the directive for action.

The connection and distinction between official *psak* and every-day religious-ethical decision making is a central aspect of halacha itself. Neuroethical research can illuminate rabbinic ruling in diverse ways, since it deals with the way ethics is *done* rather than what an ethical act *is*. This allows for more insight than provided by classic ethics given that like halacha, neuroethics touches the "person on the street" and the actual ethical performance.

⁴⁴ As was done for example in the crusades of the 13th century by Asfcenazi jews, and more recently in the Holocaust. See the halachic discussion in the following (retroactive) response, where actual evidence is expressed as sorely lacking: אליהו בן-זמרה, קדושת החיים: ומסירות נפש בימי השואה, עפ"י ההלכה (מבחר שו"ת); סיני פ, תשלז

⁴⁵ Such as the case recorded in Sifra Emir 8, of Papus and Julianus that martyred themselves rather than the whole community in Lydia. Also the famous case of Sheva son of Bichri that was given up by the decision of the wise woman in Shmuel II, 20:22 and discussed in Tractate *Sanhedrin* (72b). The Yerushalmi later adapts this into a formulated dictum in Tractate *Trumot* Chap. 8, 46b. This is solidified by Rambam, in *Laws of the Foundations of Torah* 5:5

⁴⁶ For example, an explanation of the decision taken by flight 93 passengers to crash the plane, is brought in the response section of Aish.com. If such a question were asked theoretically, the answer differs from a ruling pertaining to actions taken. This is the inherent asymmetry between apriori and aposteriori rulings (L'chatchila and B'diavad).

⁴⁷ For example, the Siamese twin separation, depicted in: Tendler Moshe D., "So One May Live", *JME Book* Vol. II, pp.415-421 (2006); *JME* 4,1 pp.22-25 (2001)

⁴⁸ Avraham I. Karlitz, *Kuntres Emuna Ubitachon*, Chap. 3. חזון אי"ש (הרב ישעיהו קרליץ) - ספר חזון איש על ענייני אמונה וביטחון, מהדורת הרב גריינמן י-ם תשי"ד

⁴⁹ See Rabbi Dr Aharon Lichtenstein; "Does Jewish tradition recognize an ethic independent of Halakha?", *Modern Jewish Ethics* (1975) 62-88 [Appeared also in *Contemporary Jewish Ethics* (1978)].

⁵⁰ In a halachic scheme this must be qualified by the prohibition against deliberating mortal punishments by intuition and doxa. See Rambam, *Yad Hachazaka*, *Sanhedrin* laws chap. 20 a.

a. Cutting through the haze.

As we have seen, the *Tzitz Eliezer* acknowledges the deliberations of the *Chazon-I"sh*, which prevented the latter from reaching a unified conclusion. The *Tzitz Eliezer* determines that those aspects of the problem notwithstanding, an answer is still achievable. According to him intervening in the trolley's trajectory is only entertained under false perception that there is no active killing in this course of action. He argues that this is an illusion; there is no intervention that is not an active participation, a direct action (*Maase Beyadaim*). Halachic considerations supersede the human tendency toward assuming there is a correct course of action.

This line of reasoning is contrasted with the results from people's reaction to the question: when confronted with a clear direct-responsibility situation (like the footbridge, or the man blocking the cave), an emotional response is involved in the decision to refrain from saving the group, making the case deontological-oriented. In a classic trolley case, a detached calculative faculty comes into play enabling a utilitarian result of minimal death. Neuroethics exposes the impact of the situation and its affective impact on people.

The *Tzitz Eliezer's* approach shows the counterintuitive result that coincides with what can be seen through the fMRI monitored questioning: the ability to employ detached rationality is itself a fallacy. Calculated actions are not a guarantee of ethical correctness, nor are emotional responses.

b. common-sense

The reliance on common (ethical) sense as a genuine⁵¹ halachic consideration (at least as a supplementary to the rest of the legal issues) has been used before in responsa, for example the *Ridba*"z⁵²

uses the *pasuk* "*Deraceha Darchei No'am*" ('Her ways are pleasant') to require common sense compatibility with halacha in decisions of health and mortality. However, in the same breath, his "common sense" goes on to exclude the very feasibility of giving up his own limb to save another's life. Perhaps asking this question under an fMRI will show different "common sense" faculties employed in different people, a difference due to profession. This is very relevant in the realm of organ donations which represent a scenario of the trolley problem that goes a step further than the footbridge scenario:

A brilliant transplant surgeon has five patients, each in need of a different organ, each of whom will die without that organ. Unfortunately, there are no organs available to perform any of these five transplant operations. A healthy young traveler, just passing through the city the doctor works in, comes in for a routine checkup. In the course of doing the checkup, the doctor discovers that his organs are compatible with all five of his dying patients. Suppose further that if the young man were to disappear, no one would suspect the doctor⁵³.

Taking the choice of optimal life-saving that allows for murder is at the opposite end from the common-sense unwillingness to part from an organ to save a life.

According to the *Chazon-Ish*⁵⁴, moral impulse is in fact intrinsically *good*, but directionless without halachic guidance, and therefore potentially *bad* in practice. This becomes all the more clear when considering the neuroethical research: common sense can perceive the same moral question in different ways⁵⁵. There is

There is no set rule of correct (deontic) action or (pragmatic) result

⁵¹ The two opposite poles of morality as an independent object, and divine will as the core of any moral framework, are set at opposite ends and Rabbis over the ages have positioned themselves all along the tension lines between these opposites. See the extensive review of the subject by Avi Sagi ;*Religion and Morality*, New York , 1995 (a more thorough analysis of the way rabbis have adopted different attitudes along these coordinates is done by Sagi in the Hebrew version of the book, Tel Aviv 1998)

⁵² Rabbi David Ben Shlomo 'ibn Zimra, 16 century Spain-Israel-Egypt: Responsa, III:627 (שו"ת רדב"ז חלק ג סימן תרכז): דכתיב דרכיה דרכי נועם:

וצריך שמשפטי תורתנו יהיו מסכימים אל השכל והסברה ואיך יעלה על דעתנו שיניח אדם לסמא את עינו או לחתוך את ידו או רגלו כדי שלא ימיתו את חברו

⁵³ Judith Jarvis Thomson, "The Trolley Problem", *Yale Law Journal* 94, 1985, pp. 1395-1415.

⁵⁴ Ibid

⁵⁵ The example given by the Chazon-I"sh is of the moral instinct misinterpreting to distinct situations as the same one, however the lesson is symmetrically similar

no set rule of correct (deontic) action or (pragmatic) result in moral choice.

Sometimes halacha defines the structure and content for moral imperatives to be actualized. But this does not mean there are not truly undecidable moral problems. The arrow problem (the original form of the grenade/trolley problem), is theoretically an inconclusive problem in the *Chazon I"sh*. Article of law alone does not solve the moral problem⁵⁶.

This side of the halachic structure and method is brought here to illuminate the limit of insight that any finite dataset of neuroethical research can provide⁵⁷, and on the flip side of the ethical loop, a strict logical analysis of law and its objectives (saving lives, taking correct action) can get stuck without an affective capacity for decision. This capacity is shown by recent scientific examination to have emotional sides which were previously thought to be a hindrance. An awareness to the progress of neuroethical work is called for by researchers in medical ethics, where the doctor's work in cases of moral tension demand practical decisions.

Conclusions

The trolley problem is a useful theoretical tool for exposing core dichotomies in ethics and law. It is also a common occurrence demanding constant resolutions. These decisions are never easy, taxing every framework (medical, legal and halachic) on a very basic level.

As we observed, the halachic approach to the trolley problem differs from both medical⁵⁸ and legal approaches, and shares much with both. It is obligated to all angles of the problem- deontological and utilitarian, public and personal. The neuroethical research provides some insight into the atypical nature of halachic consideration⁵⁹. Some rulings return to

common-sense intuitions, while others expose our natural reactions to situations as requiring qualification.

Halacha does not concentrate solely on a utilitarian mode (prevalent in many health-care professions) or a deontological mode (adopted by common law in many legal cases). The posek is obligated by both sides of the ethical dilemma. Neuroethical methodology can help understand how such a paradoxical approach is achieved.

International Responsa Project

Attending a conference over the weekend

I'm a resident in medicine and have been sponsored to attend a conference that goes from Friday to Sunday. I was wondering if you can guide me on if I am able to attend the conferences on the Shabbat and what the procedure should be for me now and in the future when presented with a conference on the Shabbat. I'm not sure there will be a Minyan in the area where the conference is scheduled to be. Thank you

Answer:

In principle, you may attend the Conference, even if there is no Minyan that you can attend, only if you do not Mechallel Shabbat. However, there is a problem of Marit Ayin (the appearance of doing wrong) in that non-religious Jews who are there will surprised to see you there, especially if they know you or can tell from your appearance that you are religious. My advice to you is not to attend - you can always buy the tapes afterwards

Answered by: Prof. A.S. Abraham at 13/7/2008

⁵⁶ See Rabbi Dr Aharon Lichtenstein; Does *Jewish tradition recognize an ethic independent of Halacha?*; Modern Jewish Ethics (1975) 62-88 [Appeared also in "Contemporary Jewish Ethics" (1978)].

⁵⁷ Neuroelectric information is adjunct to ethics, as are historical and cultural contingencies

⁵⁸ It would be interesting to see the difference in neuroethical data gathered from decision making in professional emergency personell from that of laypeople.

⁵⁹ In the setting of large-scale allocation of scarce resources, the proximity of saving different people carries distinct halachic weight.

See Rappaport Shabtai, the allocation of limited resources on a national scale, ASSIA 51-52 pp. 46-53, 1992