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Halakhic Responses to Artificial Intelligence and Autonomous Machines

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**Question:**

With rapid advances in the development of artificial intelligence and autonomous machines have come calls for “moral machines” that integrate ethical considerations into analysis and action. What halakhic principles should apply to the conduct of such machines? Specifically:

1. Are Jews liable for the halakhic consequences of actions taken by machines on their behalf, for example, Sabbath labor?
2. Should ethical principles derived from halakhah be integrated into the development of autonomous systems for transportation, medical care, warfare and other morally charged activities, allowing autonomous systems to make life or death decisions?
3. Might a robot perform a mitzvah or other halakhically significant action? Is it conceivable to treat an artificial agent as a person? As a Jew?

The responsum opens with a survey of machine ethics, the development of autonomous vehicles and weapons, after which I examine five halakhic discourses: the laws of agency (שליחות); damages caused by one’s property (נזקי ממונו); the prioritization of lives (חייד קודמין/סומק טפי); the rules of indirect action (גרמא/גרמי); and the status of a *golem*. This study sheet includes selected sources and then the halakhic conclusions of the responsum. The full responsum is available at this URL:

<https://rabbinevins.files.wordpress.com/2019/06/nevins-ai-moral-machines-and-halakha-final.pdf>

**I. A Question of Agency: Can a Non-Person Represent a Person?**

**a. Eruvin 31b**

דתניא: נתנו לפיל והוליכו, לקוף והוליכו - אין זה עירוב. ואם אמר לאחר לקבלו הימנו - הרי זה עירוב. - ודילמא לא ממטי ליה? - אמר רב חסדא: בעומד ורואהו. - ודילמא לא מקבל ליה מיניה? - אמר רב יחיאל: חזקה שלוח עושה שליחותו.

For it is taught in a *beraita*: If he gave it [i.e., an item to be used to extend the sabbath boundary] to an elephant and it carried it, [or] to a monkey and it carried it—this is not a [valid] *eiruv*. But if he arranged for another [person] to receive it from him [the animal]—this is a [valid] *eiruv*. But perhaps [the animal] won’t deliver it? Rav Ḥisda says, it is [a case] when he [the sender] stands and watches him [the animal]. But perhaps he [the receiver] won’t accept it from him [the animal]? Ravi Yehiel says, agents are presumed to fulfill their agency.

## b. Bava Metzia 10b

אמר רבינא: היכא אמרינן דאין שליח לדבר עבירה - היכא דשליח בר חיובא הוא, אבל בחצר דלאו בר חיובא הוא - מיחייב שולחו. - אלא מעתה, האומר לאשה ועבד צאו גנבו לי דלאו בני חיובא נינהו הכי נמי דמיחייב שולחו? - אמרת: אשה ועבד בני חיובא נינהו, והשתא מיהא לית להו לשלומי. דתנן: נתגרשה האשה, נשתחרר העבד - חייבין לשלם.

Ravina says, when we said that “there is no agency for a transgression,” that was **only when the agent themselves was obligated** [for that transgression]. But as for a courtyard, which is not itself obligated, the principal is liable. If so, when a man tells his wife or slave, “go steal for me,” since they are not obligated to pay [the “double” penalty] shall we say that the principal is liable? You could say, wives and slaves are [after all] responsible [not to steal] but are not obligated [to pay the fine for theft, since they do not control their own assets]. For it is taught in a Mishnah, if the woman is divorced or the slave is freed, then they become liable to pay [their own fines].

רב סמא אמר: היכא אמרינן אין שליח לדבר עבירה - היכא דאי בעי עביד, ואי בעי לא עביד. אבל חצר, דבעל כרחיה מותיב בה - מיחייב שולחו.

Rav Sama says, when we said that “there is no agency for a transgression,” that was **only in the case when if [the agent] wanted, he acted, and if [the agent] didn’t want, he didn’t have to act**. But as for a courtyard, where items are placed without its consent, the principal is liable. [Emphasis added in both quotes]

## II. Indirect Damages Caused by an Animal. Ramban, *Hiddushim to Shabbat 153a*.

ונאמר בזה שמפני שהחורש בבהמה הוא נותן עליה עול והוא כובש אותה תחת ידו וברשותו היא עומדת, כל המלאכה על שם האדם היא ובו היא תלוי' ואין הבהמה אלא ככלי ביד אומן, ואינו דומה למחמר שהבהמה היא הולכת לנפשה אלא שיש לה התעוררות מעט מן המחמר.

This [liability] is stated because when a person plows with his animal, he places a yoke on it, and he controls it by force of his hands, and it remains under his control. Any labor is done for the person, and it depends on him, and the animal is no more than a tool in the hands of an artisan. This is not comparable to the donkey driver, because the animal walks of its own accord, even if it is somewhat mindful of the donkey driver.

## III. Whose Life Comes First?

### a. Bava Metzia 62a.

שנים שהיו מהלכין בדרך, וביד אחד מהן קיתון של מים, אם שותין שניהם - מתים, ואם שותה אחד מהן - מגיע לשוב. דרש בן פטורא: מוטב שישתו שניהם וימותו, ואל יראה אחד מהם במיתתו של חברו. עד שבא רבי עקיבא ולימד: וחי אחיך עמך - חייד קודמים לחיי חבריך.

Two people were walking on the path, and one held in his hand a canteen of water. If they both drink from it, they will die, but if one of them drinks it s/he may reach the settled area. Ben Petora explained—Better that they both drink and die, that one not (passively) observe the death of the other. But then Rabbi Akiva came and taught that the verse, *Let*

*him live by your side* (Lev. 25:36) means that your life precedes the life of your fellow.

#### b. Pesahim 25b

ושפיכות דמים גופיה מנלן? - סברא הוא; כי ההוא דאתא לקמיה דרבא, אמר ליה: מרי דוראי אמר לי זיל קטליה לפלניא, ואי לא - קטלינא לך. - אמר ליה: ליקטלוך ולא תיקטול. מאי חזית דדמא דידך סומק טפי? דילמא דמא דההוא גברא סומק טפי?

How do we know that murder is forbidden, [even if necessary to save one's own life]? It is logical, as seen in the case of one who came before Rava, saying, "the lord of my town told me to kill so-and-so or if not, I will kill you." [Rava] said to him, "Let him murder you, but you must not murder. Why do you think that your blood is redder than his? Perhaps that fellow's blood is redder than yours!"

#### c. Rabbi Moshe Isserles, Shulhan Arukh, Hoshen Mishpat 388:2

היה רואה נזק בא עליו, מותר להציל עצמו אף על פי שע"י זה בא הנזק לאחר

If a person sees that he is about to be injured, he may save himself even though in so doing the injury will come to another person.

### IV. A Golem in the Minyan?

#### a. Sanhedrin 65b

אמר רבא: אי בעו צדיקי ברו עלמא, שנאמר כי עונותיכם היו מבדלים וגו'. רבא ברא גברא, שדריה לקמיה דרבי זירא. הוה קא משתעי בהדיה, ולא הוה קא מהדר ליה. אמר ליה: מן חבריא את, הדר לעפריך. רב חנינא ורב אושעיא הוו יתבי כל מעלי שבתא ועסקי בספר יצירה, ומיברו להו עיגלא תילתא, ואכלי ליה.

Rava said, if they wished, the righteous could create a world, for it says, *But your iniquities have been a barrier [between you and your God]* (Isaiah 59:2). Rava created a man and sent him [to appear] before Rabbi Ze'era. He [Rabbi Ze'era] spoke to him, but he [the man] did not reply to him. [Rabbi Ze'era] said to him: You came from the fellowship [of magicians], return to your dust! Rabbi Hanina and Rav Hoshaya used to sit each Sabbath eve and study the Book of Creation, and created for themselves a third grown calf, and they ate it.

#### b. Rabbi Zvi Ashkenazi, "Hakham Tzvi" Responsum #93

נסתפקתי אדם הנוצר ע"י ספר יצירה כאותה שאמרו בסנהדרין רבא ברא גברא וכן העידו על זקני הגאון מוהר"ר אליהו אבדק"ק חעלם מי מצטרף לעשרה לדברים הצריכין עשרה כגון קדיש וקדושה מי אמרינן כיון דכתיב ונתקדשתי בתוך בני ישראל לא מיצטרף או דילמא כיון דקיי"ל בסנהדרין המגדל יתום בתוך ביתו מעה"כ כאילו ילדו [...] ה"ג כיון שמעשה ידיהם של צדיקי' הוא הו"ל בכלל בני שמע"י של צדיקי' הן תולדותם ונ"ל דכיון דאשכחן לר' זירא דאמר מן חבריי' את תוב לעפרך הרי שהרגו ואי ס"ד שיש בו תועלת לצרפו לעשרה לכל דבר שבקדושה לא היה ר' זירא מעבירו מן העולם דאף שאין בו איסור שפיכת דמים דהכי דייק קרא (אף שיש בו דרשות אחרות) שופך דם האדם באדם דמו ישפך דוקא אדם הנוצר תוך אדם דהיינו עובר הנוצר במעי אמו הוא דחייב עליה משום שפכ"ד יצא ההוא גברא דברא רבא שלא נעשה במעי אשה מ"מ כיון שיש בו תועלת לא היה לו להעבירו מן העולם א"ו שאינו מצטרף לעשרה לכל דבר שבקדושה כד נ"ל וכו'.

צבי אשכנזי ס"ט:

I have wondered regarding a person created by means of the *Sefer Yetzira*—such as that one mentioned in Sanhedrin [65b], "Rava created a man," and also such as the one attested to my [great]

grandfather our teacher Rabbi Elijah, Chief Justice of the holy community of Chelm—whether [such a man] could be included in the [minyan] of ten for matters which require ten such as kaddish, kedushah. ... It seems to me that since Rabbi Ze'era said, "you are from the fellowship of magicians—return to your earth," that he killed him. And if it had occurred to him that [the golem] could be included among the ten needed for matters of sanctification, Rabbi Ze'era would not have removed him from the world. Even though [killing the golem] is not considered murder, for we explain [the verse, Gen. 9:6] *Whoever spills the blood of a person by a person his blood shall be spilled*—this means a person who was formed in a person, namely a fetus in his mother. Only killing such a person would be considered murder, thus excluding the man made by Rava, who was not formed in his mother's womb. Nevertheless, since the [golem] had some utility, [Rabbi Ze'era] should not have removed him from the world. But certainly, he would not count among the ten. Thus it seems to me, Zvi Ashkenazi, S"t [either "a pure Sephardi" or "he came to a good end"].

### ***Piskei Din***

1. *Are Jews liable for the halakhic consequences of actions taken by machines on their behalf, for example, Sabbath labor?* Perhaps, but only at the lowest level of *shvut*. During Shabbat or Yom Tov, a Jew should not request that a smart machine initiate or complete forbidden labor unless there is a mitigating factor such as illness or frailty (חולה שאין בו סכנה), threat to human dignity (כבוד הבריית), or specific need to facilitate a commanded act (לצורך מצווה/שבת) on that day. Arranging for such activities prior to the onset of Shabbat or Yom Tov, even absent such mitigating factors, would be permitted if it is understood that these services were pre-arranged, and if they did not undermine the general experience of Shabbat (שבות).
2. *Should ethical principles derived from halakhah be integrated into the development of autonomous systems for transportation, medical care, warfare and other morally charged activities, allowing autonomous systems to make life or death decisions?* Autonomous systems may have capacities to process and communicate information that exceed those of humans, and they may help humans avoid common failures as moral and religious actors. That said, only humans have the right and the responsibility to make life and death decisions. Humans must supervise AI systems and authorize lethal actions, whether in transportation, medicine or in warfare.
3. *Might a robot perform a mitzvah or other halakhically significant action? Is it conceivable to treat an artificial agent as a person? As a Jew?* Artificial agents may be used to facilitate the performance of mitzvot, for example in conveying ritual objects to a person. They may follow commands, but they do not become humans, much less *b'nei brit*. This distinction is not to diminish their value, which can be vast, but it is to recall the very purpose of the mitzvot that have been revealed to and developed by the people of Israel—to bless God Who, despite our frailty and fallibility, has sanctified our lives through the commandments.