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How Jewish is Artificial Intelligence?

An Essay

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Abstract

This essay explores the intersection of artificial intelligence (AI) and Jewish law, tradition, and customs, also known as “Halakhah,” and raises important questions for religious Jewish communities, about how to incorporate AI while maintaining fidelity to tradition. It explores the application of AI in various scenarios, and draws insights from Jewish scripture, including reference to the *golem*, to shed light on assigning personhood to AI within a Jewish and religious framework. The essay examines the ethical implications of AI and its impact on spirituality. Overall, the essay explores the complex relationship between AI and Jewish law, addressing the challenges and opportunities presented to Jewish people by this rapidly advancing technology.

Keywords: Artificial Intelligence, Halakhah, Jewish Law, Jewish tradition

The Jewish Mother’s Guide to Artificial Intelligence

Intelligence is personal, and artificial intelligence (AI) doubly so. If AI is to improve the quality of our lives, then perhaps personalization is the key.

Rosie the Robot glides into the room “It’s about time you came home! Shabbat is nearly in. I’ve got the eye signal switch ready for dinner, and tomorrow’s cholent programmed. You looked a bit thin this week, so I have dialed up the chicken soup settings. You also look tired, so I have also put in that extra spice you like. Your coffee will be ready in the morning and the news will stream on

the wall automatically before the Rabbi-Bot comes online at 9. I know you would forget, but I haven't – your prayer book preference is now changed to sing the new tune you heard and enjoyed last week. Everything is programmed. You've got a couple of minutes left for your shave and clean, so hurry along and don't dawdle. You'd think you have all the time in the world!"

While there are probably an infinite number of jokes about robots mimicking the archetypal Jewish mother, the more serious question about the Jewish future concerns how Jewish law, tradition, and custom—what is collectively termed “Halakhah”—is coming to grips with the greatest change to our society since the Industrial Revolution: artificial intelligence.

In the beginning, there was industrialized automation—the ability of machines to perform jobs humans have typically performed. It is not all that long ago that 99 percent of the population was engaged in agriculture. We now have less than 1 percent of the population work in agriculture because we have automated much of the back-breaking labor previously performed by humans. Artificial Intelligence takes automation several large steps further. Early developments in the 1950s and 1960s—for example, Turing's work in the 1950s, and Weizenbaum's Eliza system (trying to emulate a conversation with a psychotherapist) in the 1960s—were very simple systems. AI then was based on expert's rules, which depended on how the software was set up and what the rules for operation were going to be.

Until 1980, AI was largely a question of implementing these human-devised rules. So, in the Sabbath (“Shabbat”) context you could have a rule about automatically turning on lights at 6:00 p.m. and turning them off at 11:00 p.m., then turning them on at 6:00 a.m. the next day, because manually turning on and off lights is otherwise forbidden on Shabbat. Whilst an automated light switch is a useful aid, this approach has its limitations. For example, Shabbat times change every week and so therefore the automation requires consistent manual input to maintain functional convenience. Can we have customized systems that learn our preferences and adapt accordingly? The answer is yes, and it already arrived with the next technological leap following automation: high speed computer processing that led to machine learning (ML).

ML is an approach to solving problems that is not bound by our human ability to conceive the appropriate rules. It instead makes predictions based on large amounts of data it has been fed (which humans can do, albeit, much slower and less efficiently than computers). These predictions are then used to create goods and services beyond human capabilities. By predicting what you are interested in, for example, it can help you search the internet for a story, picture, or person. AI can even predict book purchase choice, as we are now used to seeing. It can also create whole new process chains and industries around technologies we have never seen before like autonomous vehicles and personal natural language assistants built into our smart phones. With ML, the software gets better in terms of its accuracy as it learns from more data. Our smartphones become more accurate and faster at working with us the more they are used and learn from our preferences. The vista of AI is expanding at exponential rates with new advances measured in months or even weeks. The impact of ChatGPT, for example, has created a competitive race to bring newer and more advanced systems at an ever-faster rate.

AI is changing every aspect of our lives. For religious communities who value tradition and maintaining a connection with a past way of life, this presents a unique challenge. How

do we incorporate immense change into a lifestyle that retains fidelity to past traditions, while remaining engaged with this changing world? For Judaism, this is the fundamental question which Jewish law seeks to answer.

Jewish Law and AI

Halakhah is the collective body of Jewish religious laws derived from both written and oral sources. Written religious law is composed of the Tanach (the canonized Torah—the Five Books of Moses—the Prophets and the Writings) together with the Oral Law – much of which was written down and codified over 700 years into a body of writings known as the Talmud. It contains debates between Rabbis over a 700-year period (from 200 BCE to 500 CE) and covers topics as varied as law, sex, tradition, food, custom, legend, history, culture, and theology. It is the foundational text of what we call today Rabbinic Judaism, as opposed to the God-given Biblical Judaism of the Torah. Together they form the field guide through which contemporary religious Judaism is interpreted, lived, and passed on to the next generation.

A good example of the difference between written and oral law is in observance of the laws of kosher. The Torah has less than two chapters devoted to the injunction of maintaining a kosher diet. Most famously, the injunction to not eat pork or like animals that do not have a split hoof and do not chew their cud. The Talmud goes on at detailed length expounding and expanding on the biblical injunction about prescribed foods and then at great additional length on how to prepare foods which are acceptable. Similar to English Common law, the injunctions and precedents of old give a firm foundation for the application and practice of keeping kosher in the twenty-first century.

Similarly, the Shabbat laws dictate that one may not travel by vehicle during Shabbat or travel too far from one's domicile. Yet the overriding concept of "Pikuach Nefesh," translated as "saving of a life," prevails over Shabbat restrictions, so a person may, and indeed should, go to a hospital in a vehicle under life-threatening situations during Shabbat. It seems obvious that a person may therefore consult AI systems on the Shabbat to assist in arriving at a more accurate diagnosis of a patient facing a life-threatening situation. In addition, utilizing AI to find the shortest route to a hospital, for example, using a maps application on one's phone (which would necessarily be turned off during Shabbat), not only minimizes risk to the patient, but minimizes too the necessary violation of Shabbat.

During COVID lockdowns, many speculated about the problem-solving tendencies AI could offer when coming together as a group was not an option: can an artificially intelligent robot that has learnt the entire prayer book and learnt to respond verbally in appropriate places, become part of a "minyan" (a prayer quorum of 10 men)? After a lot of debate, at heart, the solution follows the much-deliberated issue of assigning personhood. Can an artificial intelligence be a person, with rights and responsibilities like a human, and therefore be included as a Jewish person with the rights and obligations of Jewishness? If personhood is assigned, this then leads to ancillary questions such as what should the penalty be for one who terminates or kills an artificially intelligent robot? Who is responsible if an artificial intelligence kills a human?

In Halakhah, there is both recent and ancient precedent for grappling with this topic. The key textual source is in the Talmud, Sanhedrin 65b:

Rava created a *Gavra* (loosely translated as a *Golem*, an inanimate object like a clay statue that is brought to life through magic) and sent it to Rav (a Talmudic word that abbreviates the word “Rabbi” to “Rav”) Zeira. Rav Zeira spoke to it and it did not respond. Rav Zeira said: “You are a creation of one of my colleagues and [you do not have speech], return to your dust.”

This *gavra* was an artificial anthropoid created, so the Talmud illuminates, utilizing a mystical process that recombined the letters of God’s name. In contemporary language we can say that the *gavra* was built by an algorithm. But it lacked the power of speech, hence it was in no way considered a true humanoid and Rav Zeira’s action to return it to dust is not considered murder. One conclusion drawn from this conversation is that a *golem* therefore cannot be counted as part of a minyan as (through interpretation of this Talmud precedent) it does not have the attributes of personhood. A question is consequentially raised, however, when following this precedent’s logic. If AI can speak and verbalize instructions, unlike the *gavra*, would that demonstrate a significant difference and endow personhood, or is speech only one of several factors of personhood, rather than a determining factor?

The relevance of this and all the *gavra* stories provides us with two foundational principles: First, the story of Rava’s creating a *gavra* informs us that it IS permissible in Jewish law to create artificial entities that assist us as we go about our lives. Second is the insight brought to bear on understanding the role and extent of human power controlling nature and technology. While the Jewish *golem* is created to animate a human desire for action, it is understood from the Talmud that it is always done so under human control and, consequently, is tame. Contrast this with Shelley’s Frankenstein, a *golem* that runs amok, and through its wild and uncontrollable behavior instructs us about the consequences of scientific irresponsibility. In other words, technology can be a threat as much as a boon.

This has direct bearing on the future of artificial intelligence. The larger questions of exactly how much we are, and are not, in control of AI, and the moral questions involved in the technology we have created, is a centrally significant issue. There is much literature on the moral dimensions of AI, what is now termed responsible AI, and much of it has very practical ramifications (for example, the decisions reached regarding the responsibility for any casualties caused by the new hybrid *golem*, the autonomous vehicle). From a purely Jewish perspective though, how does AI help and guide daily Jewish activities to ennoble our spiritual lives? Can AI spiritually elevate the material world— a theological first principle of Judaism?

Can AI Enhance the Shabbat Experience or Detract from It?

At its most basic, for many Jews, keeping faith with tradition means maintaining a contemporary lifestyle while keeping Shabbat and the Jewish festivals. In going back to the example of the Jewish mother-bot, an AI-bot built on an ML platform will increasingly learn your personal preferences and automatically deliver them to you without asking. For example, when I arise on Shabbat morning, the AI-bot must first identify it is the Sabbath and then recognize I am up. It may then open the window or turn on the air conditioning as appropriate and obtain for me a cup of coffee exactly the way I enjoy it. All this is normally forbidden for me to do if I undertake the manual labor involved. But if the labor is automated by AI, is all this permissible? The guiding rules and principles of Halakhah involved in these issues are fascinating.

There is an argument in the Talmud, Beitza 23a, about pushing a chair on Shabbat that, through being pushed, digs a furrow or hole in the ground. Digging a hole on Shabbat is forbidden, and Rabbi Yehudah takes an uncompromising strict position and says you therefore should not push the chair. Rabbi Shimon, however, says it is permissible to push the chair because the hole is only an *indirect* consequence of the action and not something you intended to do. It is a complicated Talmudic discussion, and interestingly the law ends up following Rabbi Shimon. If something happens through you conducting a permitted act on Shabbat, and you did not intend for the consequence to be so, then it can be okay to keep doing (or to have done) the original act. This verdict was reaffirmed by the great medieval commentator Rabbi Solomon ibn Aderet (otherwise well known by the acronym “Rashba”) who said if your main goal is to do something that does not break Shabbat, and something happens you did not intend, then you have not necessarily broken Shabbat. Your action has an unintended consequence and therefore is permissible. We caution, however, that we are summarizing a large debate here that developed on the principles of unintended consequences as they relate to one’s intention.

In today’s world, the outcome of this debate means that if you want to walk down the street on Shabbat to, say, visit a friend, and you happen to walk past a sensor-driven automatic door on your way that would otherwise be forbidden to activate, then that is fine. You have not broken Shabbat. The electricity activation caused by walking past the sensors is an unintended consequence of your main goal, which is walking.

But where damage occurs as a result of an unintended consequence, the law is different again. For example, one action that is rare today but prohibited on Shabbat nonetheless is winnowing, the agricultural process of separating wheat from chaff by throwing it in the air and the wind blowing away the lighter chaff while the heavier grain falls. If someone were to intentionally winnow on Shabbat, but the wind blew the chaff to a place where it caused damage, they would be held responsible for violating Shabbat, but exempt from paying damages, as the cause is deemed to be the wind, not the person. In simple terms, we learn through this example that the intention of religious matters matter more. In laws concerning damages, it is about identifying the actual cause of the damage.

An illuminating contemporary view is that of Rabbi Shmuel Wosner, who passed away in 2015. He took the Rashba’s position further and, in a brilliant insight that directly affects our view of AI, he wrote that if it is in society that a door will open or lights will turn on automatically just by you walking down the street, and it is not your intention to activate the electricity behind these actions (which is forbidden on Shabbat), then your walking is okay.

Rabbi Wosner may well be preparing us for the time when AI, like electricity, becomes equally pervasive. Walking by sensor-driven automatic doors is a common occurrence today. When every home is an automatic smart home, the lights will come on, and things will whir in the background. When your home AI-bot eventually learns your personal preferences and automatically sets things going for you, without you setting it up to do so, then there *may* be grounds to argue that allowing AI generated activity on Shabbat, which would otherwise be considered “muktzeh” (the breaking of Shabbat laws), is going to be permissible under Jewish law. In an automated world, the way we observe Jewish law will have to adapt to the new realities, just as we observe Shabbat in somewhat different ways than our forebears did.

Other recent advances in Jewish law have further paved the way for preserving the Shabbat in a world of ubiquitous technology. This has been achieved through new forms of law categorization. Rabbi Osher Weis and Rabbi Nachum Eliezer Rabinowitz, two great Jewish thinkers and deciders, have categorized the use of electricity on Shabbat as something that is only in violation of the law when done with intention. This goes beyond the previous discussion where a prohibition was downgraded because it was consequential without intent. Here, these Rabbis claim that when there was no intention, no prohibition was violated at all.

But what about *asking* my personal home assistant—my Alexa, Echo, or Google Assistant—to turn on lights for me on Shabbat. Is this okay? The Talmud in Baba Metzia 90b says speech is considered to be an action. This was confirmed by Maimonides (also known as “Rambam”), considered one of the greatest Halakhists of all time. He said that when you are speaking to someone and ask them to do something, it is considered that you are still doing that action yourself. Prima facie it seems that you cannot tell your device to do something on Shabbat forbidden to you.

Let us take this one step further with devices that are just over the next horizon. When I *think* about something I would like done on Shabbat, and then that thought creates an action, is that considered to be the same as speech, forbidden? A possible answer may lie in the oldest of Jewish documents—the Ten Commandments. The actual 10th commandment says: “You will not covet your neighbor’s house. You will not covet your neighbor’s wife or servant or maid, or ox or donkey or anything your neighbor has.” Rather than prohibit any kind of action, this commandment prohibits thoughts. Such thoughts are banned because they lead to acts already forbidden in the previous four commandments: murder, adultery, theft, and bearing false witness. While these commandments are purposeful and explicit in halting the undermining of the very fabric of human community, the general principle is that thinking of actions, which in their doing break religious law, will be unacceptable.

The (Jewish) Limits of AI

The enduring relevance of the Ten Commandments highlights one of the key ideas underpinning Jewish law. To live an observant Jewish life is to necessarily respect boundaries. As the late and great philosopher Rabbi Lord Jonathan Sacks often said, Judaism consists, amongst many things, of creating and respecting limits to appreciate what we have, and what we can and cannot do.

The greatest living example of the need for limits today is that our affluence is destroying the environment. Unrestrained consumption is exhausting our resources. Human activity has a direct bearing on the environment and there are limits to what we should be doing when the natural environment is being degraded. Has not the COVID-19 pandemic also shown us that nature can find a way to assert control, and consequently that there are limits to what we can do? That sometimes the simpler life is the more appropriate during times of environmental change and chaos.

The cultures and traditions surrounding the observance of Shabbat may have changed in its form over the millennia, but at heart it is still Shabbat—a separation in space and time from every other day to create a day of rest and holiness. This is what it means to be a Jew in the modern world. To balance the full and complete immersion in the world with separating the

mundane from the spiritual at least once every week. There are also days where we reign in our appetites for our own betterment, and it may be that while we think of something we would like, and our AI-bot will do it for us, it may not actually be accordingly good for us.

The last and most profound issue regarding the intersection of AI and Jewish observance is even more controversial: can an AI-bot “pasken,” that is, advise, opine, or even decide on Jewish law? If you ask a rabbi a question of Jewish law on, for example, whether something is kosher, or about doing something on Shabbat, then often that rabbi will seek an answer from an expert in that specific area. Asking an AI-bot that has learnt all Torah, all Talmud and Halakhah, all commentaries, in fact all Jewish knowledge created over 4000 years, will indeed be a great expert to work with. Does that mean it is a useful tool that rabbis could utilize, or could it be considered an outright oracle? The basis of deciding Jewish law is not just the letter of the law in black and white. The determination of law comes from its application. When law is applied with nuance and emotional sensitivity, we need men and women deciding the answers. The “social imperative,” according to Rabbi Lichtenstein, is to understand the applicability of law to the actual human condition.

There is a famous story about the greatest rabbi of our generation, Rabbi Moshe Feinstein. He was teaching a pupil the laws of kashrut and they visited a butcher shop. A woman presented a chicken that had something wrong with it and she asked Rabbi Feinstein, who was in the shop, if the chicken was kosher. He looked at the chicken and said it was unkosher (“trief”). Later on, another woman came in with a chicken that had the same issue, asking if her chicken was kosher. Rabbi Feinstein said it was. The pupil then asked the Rabbi what was going on because the 2 chickens were identical.

The pupil asked, “Rabbi, how could one chicken be kosher and one be trief?”

“Ah”, answered Rabbi Feinstein, “you were looking at the chickens, but I was looking at the women.”

Jewish law recognizes human need as a significant factor. If one woman could afford to replace the chicken and another could not, Halakhah would have different answers for them. It takes human sensitivity to evaluate human need.

So, what does this all mean for how we proceed forward with a Jewish response to artificial intelligence? It seems that while AI presents new challenges, Jewish Law has the rigor, capacity, experts, and humanity to deal with them. AI presents many challenges to all humanity. Yet despite its ancient origins, Jewish law is ready to forge a path through the unknown future by preserving technology-free space, valuing limits, and tackling the ethical dilemmas AI poses. We can take heart that our legal and ethical experts do have the capacity and the tools to deal with the quantum leap into the world of AI.