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Artificial Intelligence, or: How I Learned to Stop Worrying and Love Humanity

Centuries before Mary Shelley gave us Frankenstein, the Maharal of Prague gave us the Golem. 16th century Prague was both a regional center of Jewish life, and a focal point for pogroms against the Jewish community. During those difficult times, the community turned to its rabbi, the Maharal, for answers. The Maharal was a trained mystic, curious about the idea that when God created humans, God imbued us with our own creative potential. So in response to threats of violence, the Maharal put this belief to the test by creating a golem to protect his community. Just as God formed Adam from the dust and animated it by breathing a soul into its mouth, the Maharal also took clay from the ground and created a human-like form - a golem.[1]

To animate his creation, the Maharal wrote a mystical name for God on a slip of paper, placed it in the Golem's mouth, and the creation came to life. And so, six days of the week, the Golem served and protected the Jewish community, and on Shabbat, the Maharal removed the slip of paper so the Golem could also get its rest. One Shabbat, the Maharal forgot to remove the slip of paper, the Golem lost control, and began to wreak havoc on the community. The Maharal was forced to destroy his creation. Some say he died in the process.[2]

If we have learned anything awe-some - in the true sense of the word - about humanity, it is about our sheer creative potential to affect our world. While there are many examples of human creativity positively impacting our world, we know that our creations also come with risk. When it came to humanity's attempts to unleash the power of the atom, Oppenheimer and others knew there was a non-zero chance that the nuclear fission reaction would never stop - that their creation, the atomic bomb, would keep uncontrollably reacting until it destroyed the world. Like the Maharal and Oppenheimer, and generations of myriad human creators, we wonder: What control do we have over what we create? Once we have created something, what power do we have to stop it? What if we fail?

In this current moment, when it comes to human creations, we have reached an inflection point concerning artificial intelligence (AI) and machine learning. Self-driving cars are everywhere in San Francisco, most of us talk to Alexa or Siri at least once a day, we see personalized ads on

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[1] *Encyclopedia Judaica*, 1st ed. vol. 7, ed. Cecil Roth (Jerusalem: Keter Publishing House, 1971), s.v. "Golem," 753-756.
[2] Encyclopedia Judaica

social media, unlock our phones with face ID, bank online with AI-utilizing technology, and on and on - aspects of AI are present throughout our lives, whether we realize it or not.[3]

The most notorious machine learning algorithm, ChatGPT, can have fascinating, surreal, and sometimes downright terrifying conversations with us. Just like the impact of the internet grew exponentially when so many of us got smartphones, now that we can communicate with AI, its potential will grow at a rapid pace.[4] This is happening in real time - computer scientists now understand that ChatGPT's "brain" has jumped from the equivalent of a honeybee brain to that of a squirrel brain in its latest iteration.[5] According to these experts, this recent jump is why ChatGPT really began to make us pay attention and ultimately, scare many people.[6]

Read most favorably, Artificial Intelligence (AI) is a transformative force, enhancing various aspects of society by enabling machines to analyze data, learn from patterns, and make informed decisions. With increased efficiency, and new, data-driven insights, AI enhances medical diagnosing, predicts disasters, personalizes learning, and optimizes resource management. Ultimately, AI automates tasks and augments human capabilities, freeing our potential for creativity and innovation while contributing to societal well-being.[7] ***And most importantly, it helps rabbis write paragraphs about the benefits of AI for a Rosh Hashanah sermon (just to clarify… ChatGPT wrote that paragraph, not me)!***

At the same time, we've become increasingly aware of AI's challenges. In the education space, ChatGPT and predictive language models have completely upended conventional wisdom on plagiarism. Students are using AI to circumvent tasks that usually require deep thinking, analysis, and time. An undergraduate at Columbia recently wrote an op-ed in the Chronicle of Higher Education to give college educators a student perspective. He writes, "if you ask ChatGPT for a finished product, you will probably get an [amateur] essay. The more effective, and increasingly popular, strategy is to have the AI walk you through the writing process step by step."

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https://www.forbes.com/sites/bernardmarr/2019/12/16/the-10-best-examples-of-how-ai-is-already-used-in-our-everyday-life/?sh=462d53fb1171

[4] Kevin Kelly, as cited in "Will A.I. Make Us Smarter?", *People I Mostly Admire Podcast,* Episode 106, https://freakonomics.com/podcast/will-a-i-make-us-smarter/, Accessed August 29, 2023.

[5] Lydia Chilton, as cited in "Can A.I. Take a Joke," *Freakonomics: The Hidden Side of Everything Podcast*, Episode 554, https://freakonomics.com/podcast/can-a-i-take-a-joke/, Accessed August 29, 2023.

[6] Lydia Chilton, as cited in "New Technologies Always Scare Us: Is AI any different?," *Freakonomics: The Hidden Side of Everything Podcast*, Episode 555. https://freakonomics.com/podcast/new-technologies-always-scare-us-is-a-i-any-different/

[7] The bulk of this paragraph was generated by ChatGPT-4 on Monday, August 22, 2023.

I decided to test out this theory by asking ChatGPT my own question - I am delivering a sermon to a Reform Jewish community about the challenges and benefits of AI. Give me some options for very specific thesis statements. Here is one of its examples: **"AI presents us with both the promise of scientific advancement and the challenge of maintaining our commitment to community and human connection. We must find ways to embrace technology while remaining rooted in our Jewish values of 'Kehillah' (community) and 'Gemilut Chasadim' (acts of loving-kindness)."** Not great, but also not that bad! As I realized, and the author shares in his article, "With one snap of the fingers and almost zero brain activity, I suddenly had [completed] one of the main challenges of writing an essay,"[8] or a sermon in my case. The student continues to share how ChatGPT, with specific questions, will also create a strong outline and offer supporting examples. You just need to fill it in with words in your own voice. While editing would certainly be involved, I must admit that AI's ideas and words were pretty usable… even if I didn't personally use them for this sermon, minus that one paragraph!

If AI can help students overcome some of the most challenging academic tasks without using critical thinking, how will the next generation of learners develop critical language and analytical skills?

AI has also created problems in the professional world, including in the court of law. A few months ago, an attorney admitted to using ChatGPT "to help him find legal precedents supporting a client's case against a Colombian airline." The only problem was, the chatbot's suggestions of several legal precedents- included some that "…weren't real, misidentified judges or involved airlines that didn't exist."[9] The arguments sounded so accurate that law clerks spent days trying to find the cases and judges cited, until they realized the source of the legal brief was no true source at all.

But both of these problems - generating essays step by step, or sloppily doing a lawyer's homework - are actually human in nature. Each of us and many of our professional industries will need to determine the limitations and benefits of machine learning… how we use these tools to enhance or streamline our work while also figuring out new ways to assess knowledge.

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[8] Owen Kichizo Terry, "I'm a Student. You Have No Idea How Much We're Using ChatGPT," *The Chronicle of Higher Education, May 12, 2023,* https://www.chronicle.com/article/im-a-student-you-have-no-idea-how-much-were-using-chatgpt, Accessed May 19, 2023.

[9] Larry Neumeister, "Lawyers submitted bogus case law created by ChatGPT. A judge fined them $5,000," *APNews,* June 22, 2023, https://apnews.com/article/artificial-intelligence-chatgpt-fake-case-lawyers-d6ae9fa79d0542db9e1455397aef381c, Accessed August 25, 2023.

However, in my mind, the bigger issue of these cases is actually that, as a predictive algorithm, ChatGPT cannot cite its sources, even if it is completely correct about something. The program is not designed to give you citations at all. Because the algorithm pulls information from multiple sources at once to predict the next-best word or phrase, the specific source cannot be determined.[10] I find this particular feature of ChatGPT so problematic because it is counter to Jewish tradition. Our tradition is obsessed with citing its sources. Any page of Talmud, one of Judaism's central texts of law and lore, shares not just legal opinions - the majority and the minority, but also the chains of transmission. *Rava said that Rav Seḥora said that Rav Huna said:*[11] The citation from teacher to student is just as important as the actual teaching itself.

We too understand the value of knowing a chain of transmission from our own experience. From our earliest age, our web of knowledge and understanding of the world is built on relationships with those we trust. We hear a piece of information, and the first thing that we ask is often: "where did you hear?" or "who told you?" In fact, we're better able to process or trust information based on what we <u>know</u> about <u>who</u> told us.

If I hear someone say, "I heard it from Eric," a trusted study partner and friend of mine, my relationship with and knowledge about this person enables me to determine how much I trust the information I hear. And if he's wrong, I can hold him accountable for his mistake and provide him with accurate information. I might be able to have a personal conversation with ChatGPT, but I don't have, and don't want to have, a relationship with it. I cannot hold a predictive machine learning algorithm to account for feeding me incorrect information. Unlike Eric, who has an incentive to be accurate for the sake of our relationship, AI has no similar motivation.

Undoubtedly, AI will continue to grow and develop, algorithms will improve, and machine learning will get better at approximating the things that humans do, maybe even doing some of these actions better. And unlike the Maharal, there will be no proverbial slip of paper to remove to stop the experiment before it's too late.

So why do I share this on Rosh Hashanah, in this season of examining our own mortality and humanity? Precisely because this technology, in its cold **inhumanity**, actually holds up a mirror to the essence of what it means to be a human. It forces us mortal thinkers to wonder: in relation to a power, artificial intelligence, that has access to more information than any individual, what is uniquely human?

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[10] Aaron Welborn, "ChatGPT and Fake Citations," March 9, 2023, Duke University Libraries, https://blogs.library.duke.edu/blog/2023/03/09/chatgpt-and-fake-citations/
[11] B. Berachot 26a

Paradoxically, one thing that makes us human is our imperfect memory. Rather than storing every moment in our lives with equal clarity, "humans have <u>some</u> memories that are sharp and can be recalled with great accuracy, <u>some</u> memories that are hazy and uncertain, <u>some</u> that seem to have disappeared but can be recalled when prompted, and <u>some</u> that are effectively gone."[12] Many of our most human experiences align with this reality.

For me this year, this feels particularly aligned with my experience as a first-time dog mom - Remembering the cuddles and playtime while largely forgetting the ripped up mail, inopportune barking, apologies about others' destroyed property, and more. While Ruby almost forced me to move because of her barking and has destroyed more than one pair of beloved shoes, just one look of her adorable eyes and big wag of her tail when I come home and I melt, letting that very dirty mouth of hers lick my face yet again.

Of course, remembering and forgetting can have negative consequences as well. We remember grudges that may not serve us, or hold onto fears and limit ourselves. And humans are uniquely capable of forgetting history while being doomed to repeat it.

But with memory, however imperfect, comes meaning. There is a reason our tradition reminds us that we were once slaves in the land of Egypt. Each time the Torah invokes that memory it justifies our ethical action in the world, our imperative to care for others. Our sacred texts cry out "Al Tishkach" - do not forget - and "Zachor" - remember - over 200 times.

When we tell our critical stories through the observances and festivals in our Jewish calendar, as author Danny Schiff writes in his recent exploration of Judaism and our digital age, "there is a clear expectation that those [of us] doing the recalling should appreciate the core significance of past events, take personal responsibility for them, and act accordingly."[13] We **remember** we were strangers in the land of Egypt so we do not **forget** those on the margins, we **remember** the Sabbath to find a place for Judaism in our lives, we remember, we remember. We shape our memories and our memories, in turn, shape us.

Another facet of our humanity lies in the deep connection between our **memories and experiences - and our emotional life.** Think back to a meaningful moment in your life - time with a close friend or family member, experiencing a holiday, visiting a favorite place for the first or hundredth time… think about how that experience engaged your senses and how it made you feel…

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[12] Danny Schiff, *Judaism in a Digital Age: An Ancient Tradition Confronts a Transformative Era* (Cham, Switzerland: Palgrave Macmillan, 2023), 173.
[13] Schiff, 173.

The sense of awe we feel in those moments, the emotion these memories bring to our faces, cannot be quantified or created by an algorithm - it can only be experienced. We cannot teach AI what it feels like to sit under a waterfall, witness a rainbow, hold a baby for the first time, dance at a wedding, or say goodbye to a loved one. Because these moments are not defined by the technicalities - the binary 1s and 0s - of the experience, but by the totality of what is happening in our senses, emotions, and memory. While we can experience much of the world through the available technologies, it's not the same as experiencing it for ourselves, with all of our senses and soul activated. The awe of our lives - defined in Hebrew with the term *yirah*, the same term we use for these high holy days, *Yamim Noraim* - this overwhelming awe makes us truly human.

And a final factor of our humanity is also connected to these Holy Days. To be human is to be **vulnerable**. To be human is to confess, to make teshuva, to do all that is required within these Day of Awe. To be human is to admit feeling lonely, or confused, or unsure about our next steps. We struggle with our imperfections, the reality that we cannot do or know it all. Yes - for some problems or questions, machine learning can provide data-driven solutions, but we need other people to hold our deepest vulnerabilities and help heal our deepest wounds, the parts of ourselves we lean into on these Holy Days in particular. We first learn this from Torah: God created **two** humans in the Garden of Eden, each to support and challenge the other because to be human is to exist in community - to build relationships, to seek the support of those around us, to find others to navigate the complexities of our lives. We build those relational webs upon trust - trust that machine learning algorithms haven't earned for many of us.

And while technological progress will continue to ameliorate the impact of some of our human shortcomings, Judaism views these vulnerabilities as part of our Godly essence - God did not create humans to be perfect, finished beings, but, as Schiff writes, "raw material with untold potential to fashion ourselves and our world into something exalted, something Godly. Jewish tradition regards vulnerability as that feature of human life that propels us to do something of lasting value."[14]

So, AI may render some of our jobs obsolete and may soon play a role in the creation of our favorite TV shows, but it cannot replace our relationships, our sense of awe, or our ability to tap into the vulnerability that helps us grow as people. Instead of getting overwhelmed by what AI can and might do, we can instead focus on who we are and what it means to be human. What we are uniquely suited to do and experience as individuals and as a community. How our human efforts, supported by the golems or educated machines we get to create and hopefully

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[14] Schiff, 178.

contain, can continue to iterate and adapt to our ever changing world and create a legacy we are proud of.

At the end of the *Barbie* movie, which brought together the real and created worlds in many fascinating ways, our lead character, debating her future choices says, "I want to be a part of the people that make meaning, not the thing that is made." Meaning making is our special human gift. Beyond any physical achievement we can dream up, our creative power comes through the stories we tell. Our creative power generates the values that we weave into telling and retelling those stories. Our creative power builds the community among people who share these values. Our creative power inspires the actions we take as individuals and communities to live out this meaning.

Machines may be learning, but so are we. May we be granted the wisdom to understand and remember the difference.

Shana Tova.