Tikkun Olam, Saving the Earth

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Fire in Maui last month. Flooding in Libya this week. *Mi va'esh umi vamayim,* we will read later from the Unetaneh Tokef prayer, who by fire and who by water? These ancient fears have become exponentially more looming as our planet continues to heat up. We can feel that global warming. We see it in these catastrophe headlines even if we ignore the smaller ones. I felt it personally for a week in July when Alla and I went to Rome for the special Hebrew Manuscripts seminar I attended at the Vatican—more about that on Kol Nidrei—and the temperature was about 106 Fahrenheit every day. The conference organizers told us in preparation for the trip that "the lovely weather in Rome in July never exceeds 87 degrees Fahrenheit." Right. Europeans suffer more and more each summer now as they do not have the same air conditioning infrastructure as our buildings have. And then we all felt it here earlier in the summer. I walked outside my house one day, smelled smoke and saw the reddish haze in the air, and immediately rushed over to the synagogue to make sure there was no fire here. There was a fire, but it was in Canada. Huge wildfires sent smoke over the northeastern United States, causing extremely poor air quality. Outdoor sports were cancelled and swimming pools were closed. I sat on my porch reading until my son Ariel rightly told me to go inside as I should not breathe in too much of that air.

Our children comprehend what is happening better than we do. As Greta Thunberg, the Swedish activist and hero of their generation, spoke out at the 2019 United Nations Climate Action Summit: "You have stolen my dreams and my childhood. And yet I'm one of the lucky

ones. People are suffering. People are dying. Entire ecosystems are collapsing. We are in the beginning of a mass extinction, and all you can talk about is money and fairy tales of eternal economic growth. How dare you!"

"Mass extinction" are strong words, but they are not Greta's invention. Scientists write about the "biological annihilation" taking place across the planet, of a "cascading erosion of biodiversity" and "co-extinctions affecting all levels of flora and fauna." What is being called "the sixth mass extinction event" on Earth is unique because it is the only one caused by an animal species—humans. According to one recent review penned by seventeen biologists and environmental scientists, "The scale of the threats to the biosphere and all its lifeforms—including humanity—is in fact so great that it is difficult to grasp, even for well-informed experts."[1]

Even "well-informed experts" have trouble fathoming the dangers we are just beginning to experience. Perhaps it is easier for our children to grasp because they grew up hearing about climate change, and they grew up with recycling. We come to synagogue each year on Rosh Hashanah, we hear the shofar—tomorrow, tomorrow, I promise—and then we read *hayom harat olam,* "today the world was born!" We might debate God's role in the creation. I gave a sermon years ago speaking out against "creationism." We might debate God's nature. But we take for granted that we inherited the earth. We need to start asking ourselves if we will bequeath the earth.

The climate crisis facing the planet is a result of "anthropogenic" or human-caused factors. It starts with the Industrial Revolution and the large-scale burning of fossil fuels like coal and oil.

[1] See citations from Peter Frankopan, *The Earth Transformed,* p. 20.

The carbon dioxide and other gases released into the atmosphere causes the "greenhouse effect" that is raising the temperature across the Earth. While I try to read some popular science when I can, I am basically a history guy. I started reading this 700-paged book by one of the most respected historians today, Peter Frankopan of Oxford, called *The Earth Transformed.* It is a global history of how climate change and other environmental factors have affected human history. (Footnote: the book should have been 900 pages long but he kept the scholarly notes online on the publisher's website so as not to make the book too heavy. Or maybe to save paper?) His goal is to give some perspective on how the environment has driven and influenced history in the past so we can better understand how to respond to today's challenges. But today's challenges are unprecedented. As he explains the greenhouse effect: "For 800,000 years until the start of the industrial revolution, there were around 250 parts of CO_2 for every million air molecules. In 2018, this had risen to over 408 parts per million—levels that have not been so high since the Pliocene era, over 3 million years ago, when sea levels were almost twenty-five meters higher than today and when average temperatures were 2-3 degrees Celsius warmer than today. By the summer of 2022, levels were higher still, measured by the Mauna Loa Atmospheric Baseline Observatory in Hawaii at a monthly average of 421 parts per million" (pp. 15-16). The most dramatic effect of rising temperatures that was literally visible from space was the melting of the iceberg known as A68 "that broke free from the Larsen-C ice shelf in Antarctica in 2017 [that] was dumping 1.5 billion tons of fresh water into the ocean every single day before it disappeared in 2021." And that is not and will not be the only big piece of ice breaking off of Antarctica into the sea. "This has obvious implications for the world's largest cities, many of which are located on the coast. Modelling using artificial intelligence and highly accurate readings of elevations suggests that land

that is currently home to 300 million people will flood at least once a year by 2050, with Asian populations most heavily affected. As it is, around 1 billion people already live on land less than ten meters above high-tide levels, and 230 million live in coastal communities at less than one meter's elevation above water" (p. 16). How many people died this week in Libya from last Sunday's September 10th catastrophic flooding? Every time I look the number goes up. Over 6,000. More than double those killed on September 11th. And potentially much more. Up to 20,000 according to a BBC estimate. Who by fire, who by water?

And then there are the less dramatic but more massive numbers of death by air pollution. We were reminded to not take our air for granted earlier this summer with the Canadian smoke. But air pollution is lethal. It is estimated that 1.6 million people die in India every year from air pollution and about 3.2 million worldwide. An estimated 9 million premature deaths each year are caused by air pollutants. There are many different kinds of pollutants, some burned into the air, others dumped into the rivers and oceans, with plastics being the most concerning. "One survey of the Arctic found forty pieces of microplastics particles on average for every cubic meter of seawater" (p. 19). Americans are estimated to consume 74,000 to 121,000 pieces of microplastics every year, with evidence of plastics in the placentas of pregnant mothers, high concentrations in infant stool, and in human blood. Here in Ridgewood the Village has invested in purifying our groundwater of plastics. Plastics are one of the most extraordinary but dangerous inventions of human industry. I am thrilled to share that after significant deliberation we at Temple Israel have purchased an industrial dishwasher for the synagogue kitchen. And in this case, "industrial" is not a bad word. We throw out at least three giant garbage bags of plastic and paper every Saturday following kiddush. And don't get me wrong, our crowds could be bigger!

Now with our new dishwasher we can cut down on our own pollutants, making this space more of a sanctuary for life.

Last May the Rabbinical Assembly approved a Jewish legal opinion I wrote with my colleague Rabbi Barry Leff encouraging the use of electric vehicles on Shabbat. The paper was a year in production through our deliberating process and focused more on the questions of what is permissible and not permissible on Shabbat. If I could write the paper again, I would focus more on the mitzvah to better preserve the environment. Rabbi Leff and I were focused on disputing a position put forward by our more right-wing colleagues on whether or not it is okay to get into a car at all on Shabbat. Yes, drive to synagogue if it's too far to walk, we said. But an electric car is better. Easier to justify on Shabbat because you are not burning fuel. But also easier to justify in general, because you are not burning fuel. On Shabbat and holidays especially, as we are more mindful of being creatures of God, we need to remember our responsibilities to the earth we inherited and the life it contains. I pledge in front of all of you today, as my Rosh Hashanah resolution, that my next car will at least be a hybrid.

The negative effects of human behavior since the industrial revolution on life on this planet are mind-boggling. Why do scientists call this a "mass extinction"? Because "40 per cent of the world's plants are considered endangered." Because "the average population sizes of vertebrate species that have been monitored closely have fallen by almost 70 percent in the last fifty years." One statistic that I found baffling is that "bird numbers in North America have declined by nearly 3 *billion* since 1970" (p. 19). Three *billion* fewer birds in North America in my lifetime!

Much of the bird losses are due to a pollutant we don't usually consider as such: light pollution. An estimated 7 million birds are killed every year in the United States and Canada by flying into communication towers. Scientists believe that the blinking red lights on the towers, intended to warn off airplane pilots, disorient nocturnal birds. Another fascinating book I read this summer, *An Immense World* by Ed Young, describes the extraordinary senses that different animals employ, from sight, hearing, smell and touch to sensing vibrations and echoes, and electric and magnetic fields. It is ironic that we have learned so much about animals in recent years even as their worlds get smaller and more dangerous. "Light at night," Young explains, "is a uniquely anthropogenic force." The Tribute in Light, he explains, those two towers of light that shine from Gound Zero in Manhattan commemorating September 11th, can waylay up to 1.1 million birds, distracting them from their migrations, sometimes fatally. After learning of this, the city shuts the lights off for about twenty minutes when the number of birds flying in the light exceeds a few hundred. Other species suffer from "light pollution" as well, like the thousands of baby turtles who die every year because of artificial lighting on the Florida coast distracting them from their migrations out to sea. The sounds of cities are just as harmful as the lights, and not just cities. The noise of shipping in the sea causes havoc to much of marine life, disrupting the ability of whales, for example, to hear each other's songs, and to navigate safely through the deep. But there are ways of responding to these types of pollution. Different types of light and intensities can reduce the interference our lights cause to nocturnal species. Sound can be better muffled, especially on the seas. The Navy knows how to run ships on the quiet. Container shipping and the cruise industry could do that as well if the market demanded.

The key is to demand it. We know the changes that need to be made in energy production and consumption; the key is to demand it. We need to understand how critical things are, and yet the dangers are so unfathomable that we tend to just put it aside. The problem is too big for us to solve, we say. Even though we are all part of the problem. "We normalize the abnormal," Ed Young writes in *An Immense World,* "and accept the unacceptable" (p. 352). That is what we need to wake up to, what we need to think when we hear the shofar ring through our ears. Complacency leads to collaboration. Just as we know we must speak out when we see injustice committed between human beings, so must we speak out for other living creatures, and for the health of the planet.

But the call to justice that Rosh Hashanah demands is not a personal and individual matter. We come together in synagogue because we know that we must hear these calls together. And that we must act together. Writing about environmental responsibility, Ed Young writes that "personal responsibility cannot compensate for societal irresponsibility" (p. 351). We can each individually reform our behavior to act more responsibly toward the environment, but the real change happens when we do so collectively, in concert. Working with other people is always more challenging than working alone. But that is also what humans do best. We created a technological civilization that is on the verge of destroying so much. But we have evolved from the other species of life on earth to work in collaboration with each other. President Biden loves to say this about Americans but I would apply it to all humanity: when we work together and put our minds to something, there is nothing we cannot do.

Every Jewish prayer service ends with the Aleinu, when we bow before God, acknowledging God's sovereignty over us and all the world. The Aleinu began as a Rosh Hashanah

prayer, and we will recite it formally before the open ark during the Musaf. We recognize God as *Adon Hakol,* the Ruler of all the world. *Shehu noteh shamayim veyosed aretz,* who spreads out the heavens and establishes the earth. And then later in the prayer we say: *Al ken nekaveh lekha,* that we therefore hope in you, *lir'ot meheirah betiferet uzekha,* that soon we may behold your strength revealed in full glory, *letaken olam bemalkhut Shaddai,* to establish in the world the Kingdom of God. We can pray and we can hope, but we need to understand that *letaken olam bemalkhut Shaddai,* that to establish, or fix, or repair or heal the world, to achieve the sense of God's kingdom on earth, we must do more. The concept of *tikkun olam*, to repair the world, taken from this prayer, is reflective of our actions. God gave us the earth as an inheritance, but God's glory is held back, understands the poet, because the world must be repaired. Only we can do that. Only we can bequeath the earth. And only together can it be achieved.

Prayer is the beginning. We say Aleinu today, on the first of the year. Then we have the rest of the year to act.