

NASA's \$10 Billion Lessons for Us on Rosh Hashanah

Monday, September 26, 2022 | 1 Tishrei 5783

(between Shofar-Malchuyot and Barchu)

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After acknowledging God's majesty with the sounding of shofar, and before we continue in our machzor with the rest of this morning's liturgy, I offer this sermon as an invitation for how we might approach the New Year, as individuals and collectively, despite the chaos many of us are feeling in our lives.

I remember the first time I looked up and saw the stars. It was the middle of the night and I was running between cabins at summer camp with a group of my friends. For this boy who grew up in New York City, I remember first feeling frightened and surprised by the brilliance of the stars above.

The world experienced something similar this past July on a much grander scale, when the James Webb Space Telescope captured the deepest views of the universe to date. Suddenly we saw celestial bodies like never before; many nebulae and galaxies for the first time ever. Just like when, many summers ago, I noticed the Milky Way majestically arrayed across our sky for the first time, the Ultra Deep Field images that NASA released this past summer have stunned researchers and opened everyone's eyes to the vastness of the universe.

Of note, the images we received appear still and serene, but of course we know they are anything but! Remember, the nebulae and stars originated in a 'Big Bang' and continue to explode and expand, fiercely interacting. The laws of science dictate that anything far away will always look like it is moving slowly, or not at all. Consider an airplane taking off in front of you: up close it takes just a second or two to whiz past, but an airplane going the same speed or faster at altitude looks to us on the ground like the plane is hovering still in the sky. Because the James Webb Space Telescope is so far away from the images it captures, they appear to be still. This illusion gives us a false impression of the fluidity and chaos of the natural universe, filtering how we perceive Creation unfolding all around us.

The word 'universe' is also misleading. Containing the Latin roots *unus*, 'one,' and *versus*, which means 'revolving,' the literal meaning of the word 'universe' refers to "that which is turned wholly in the same direction." In his recently translated work, *Genesis: The Story of How Everything Began*, Guido Tonelli writes about the dissonance between the literal meaning of the word 'universe' and the chaotic swirling reality of the great beyond. As Professor Tonelli explains, the word universe is "a residue of all the ancient beliefs that invariably involve a stable and ordered system of rotating bodies."¹ The James Webb Space Telescope has affirmed that much of the universe is not ordered or stable at all, but an ever-expanding collection of matter in flux. Much of the universe is, as *our* book of Genesis describes, *tohu va'vohu*, "chaotic and unformed."²

¹ Guido Tonelli, *Genesis: The Story of How Everything Began*, p. 20.

² Genesis 1:2.

The distant chaos in our stars mirrors the chaos many of us are feeling in our lives here on Earth. We have all, each and every one of us, been through so much recently: over the last two and a half years, and even over the last 2 and half months. For so many of us, the depths of life's burdens and struggles no doubt weigh heavier than they have ever before. We are living through incredibly challenging times, individually and collectively, locally, nationally and globally. Beyond the trauma from July 4th and the continued physical, mental and spiritual suffering of so many in our community: beyond the Pandemic and its societal long haul symptoms, there is so much that can make us feel like the ground upon which we walk is not steady. Whether it be continued antisemitism and security concerns, Russia's war on Ukraine and violence here at home, issues of injustice, worries about the economy, the ever-increasing toxic polarization of our society, and the list goes on and on. It all can feel like too much. I feel it too.

Today I want to suggest that the James Webb Space Telescope is more valuable to us than NASA ever could have imagined. The telescope's incredible technical design offers us wisdom into how we could better take in the chaos all around us in our everyday lives, and then work to transform that chaos into blessing this New Year.

The first lesson that the Webb Telescope teaches us is about patience. Positioned one million miles out beyond our moon, the space telescope orbits at a distance away so that the light from Earth, our moon and even the sun will not interfere. In its optimal position, the telescope is directed at precise points in space for its instruments to capture the infrared light waves that we cannot see but we feel as heat emanating from the early universe. The massive telescope peers out at a swath of space equivalent to the amount of sky covered by a grain of sand held at arm's length. And then it sits and waits the amount of time requested by its programmers on the ground. Photon by photon, it gathers data that are compiled together to create those majestic images we have enjoyed in these first months of its mission.

As countercultural as the notion has become, "patience is a virtue,"³ for NASA's telescope and us. As one contemporary business leader reflects:

"Nowadays, when we're feeling hungry, we don't have to go through the painstaking process of preparing ingredients, mixing or sauteing them in a pan, and washing the dishes afterward. A few taps on our phones is all it takes to get food delivered to us within the hour.

If we're missing someone and want to see them right away, we no longer have to wait for one or both of our schedules to clear up or travel great distances to see them. We have [Zoom] and FaceTime.

With advanced technology, we enjoy instant gratification and have come to expect it like a basic right. At the same time, unfortunately, we are slowly forgetting what it means to be patient."⁴

We know that cultivating patience is even more difficult when we are experiencing chaos, faced with real emergencies or just scenarios that present like emergencies in the moment. Let's be real, who can differentiate between the two anymore?

³ Origin unknown. Some attribute this centuries-old colloquialism to Cato the Elder in the third or fourth century. Others attribute it to *The Canterbury Tales*.

⁴ Andres Pira, *Forbes Business*, "The Importance of Being Patient," 20 February, 2020, <<https://www.forbes.com/sites/forbesbooksauthors/2020/02/20/the-importance-of-being-patient/?sh=744a25993ca9>>.

Jewish tradition offers us step-by-step directions for navigating these stressful situations with patience. The insight comes in the quick succession of 5 verbs in Exodus when Moses is faced with the stressful task of leading the frenzied Israelites across the Sea of Reeds and eventually onward to safety in the Promised Land. In English, the verse begins: “Moses said to the people, ‘...collect yourselves.’”⁵ First, knowing that something must be done, stop running — *al tira-u* — don’t be frightened. Second, with a deep breath, perhaps many, stand still and reorient yourself to the world — *hityatzvu* — collect yourselves. Next, really see the situation with a clearer mind — *uru* — see. And only then, after stopping and quieting our racing thoughts, are we able to bring ourselves, as Moses invites — to be still — *tacharishun* — better prepared to decipher the chaos and make our next right move. Rather than reacting right away to that chaos, we can resist the urge and allow ourselves time to take in as much information as possible before making an informed decision.

Which brings me to a second lesson that NASA’s telescope teaches: Sometimes enough is enough. First, consider that in this pioneer year of the telescope’s inquiry, there is only a possible 10,000 hours of observation time — not that much considering the number of research proposals submitted and the sheer magnitude of space that remains uncharted. So it is up to 200 scientists to determine what is studied and what to postpone for another time based on three criteria: “How much the proposal will impact knowledge within a subfield, how much it will advance astronomy in general, and whether the proposed idea requires the unique capabilities of [this particular telescope] to be successful.”⁶ The intention is to study a diverse range of topics and not focus too long on any single matter. It is an approach that researchers hope will yield a more holistic understanding of space. Over time, the diversity of findings will help paint a broad picture. The decision was made to spend a set period of time on many tasks rather than just exploring a few parts of space for longer, because too focused a look can yield too narrow a scope of conclusions.

That is a second lesson for us: Sometimes we need to simply cut ourselves off or redirect our focus in order to maintain a broader perspective of reality, and at times, to maintain sanity. This has been discussed a lot in relation to trends in social media use and its negative impact on mental health. Professor Jeremy Tyler of the Perelman School of Medicine reflects, “Originally, it was thought that people with social anxiety might benefit from social media use since it could serve as a stepping stone for social interaction... In many cases, however, the pressure of gaining more ‘likes’ or more ‘friends,’ has had the opposite effect. Instead of making people who feel socially anxious more connected, it forces them to realize how disconnected they are.” That was a problem for many of us who used social media during the Pandemic, often much more than in the before-times, because like the Professor says, our use just reminded us how disconnected we were. Now “more than a year later,” warns Nicole Fullerton of Penn Medicine News, “pandemic-related challenges have slowed down, and social media feeds are swinging back to many of the same old pitfalls that have made them difficult for mental health for years, such as misinformation and heavily edited photos.”⁷ For those reasons, many professionals suggest limiting social

⁵ Exodus 14:13-14.

⁶ Loren Grush, The Verge, “How Astronomers Decided Where To Point The Most Powerful Space Telescope NASA Ever Built,” 20 December 2021,

<<https://www.theverge.com/22789561/nasa-jwst-james-webb-space-telescope-priorities-astronomy-astrophysics-exoplanets>>.

⁷ Penn Medicine News, “Instagram vs. Reality: The Pandemic’s Impact on Social Media and Mental Health,” 29 Apr 2021, <<https://www.pennmedicine.org/news/news-blog/2021/april/instagram-vs-reality-the-pandemics-impact-on-social-media-and-mental-health>>.

media use for the sake of our own wellness, inviting us to demonstrate more compassion for others whose profiles we view as well as compassion for ourselves to know when enough is enough.

Again, Jewish tradition supports this teaching too. As our Sages taught, “Compassion is an extremely noble trait. It is one of the thirteen traits attributed to [God].”⁸ Of course they are referring to the verse in Exodus, “*Adonai, Adonai — El rachum v’chanun*, — God, compassionate, gracious,” which the High Holy Days machzor borrows as an introduction to the Torah service:⁹ Atop Mount Sinai the second time, God reminds Moses that The Eternal is “compassionate and gracious.”¹⁰ A Divine reminder that as God’s creations, formed in God’s image, we, too, must always strive to be gracious and compassionate as well; to ourselves, to each other and to all things.

As our clergy said in the video message that we shared with the congregation before the holiday, we invite you to bring with you to these High Holy Days a deepened sense of patience, kindness and compassion — first and foremost for yourself, and also for your fellow congregants as well as the NSCI staff. Extending our kindness towards each other will undoubtedly go a long way towards all of our healing in what has been a most challenging time for us all.

Just as our t’shuvah and the soul-work asked of us this season is not supposed to end on Yom Kippur, we can also bring the practice of kindness and compassion with us into the New Year. Cultivating such a practice, as all intentional rituals are designed to do, will help make it easier for us to deal with the inevitable chaos of our lives. As my teacher, Rabbi Aaron Panken, of blessed memory, taught, “Our actions may not change the ultimate outcome one iota, but they alter our attitude, bolster our ability to withstand challenges, help us handle unavoidable misfortunes better, and see life’s value amid chaos and dismay.”¹¹ In other words, Jewish tradition offers us tools, namely patience and compassion, to help us navigate life’s most uncertain or chaotic times. They are what we can rely on in order to transcend the harshness of life right now.

There is something comforting about the longevity of the stars. Sure stars die, as all things do, but given their lifespan relative to ours, it is remarkable how the same stars we will see tonight in our sky are the same that I saw those many years ago at summer camp, and the same light that has illuminated the night sky since the beginning. They shine on, steadfast and enduring despite the chaos all around. Both the stars and the James Webb Space Telescope designed to capture their light, are models for us today: As we step into the new year of 5783, may we, too, utilize the gifts of patience and compassion for ourselves and others, as we individually and collectively navigate the uncertainty and chaos here on Earth.

Shanah Tovah — May the New Year be one of blessing and healing for us all.

⁸ Orchos Tzaddikim, quoted by Alan Morinis in *Everyday Holiness*, p. 75.

⁹ *Mishkan HaNefesh: Rosh Hashanah*, p. 228.

¹⁰ Exodus 34:6.

¹¹ Rabbi Aaron Panken, “Study Texts for Untaneh Tokef” in *Mishkan HaNefesh: Rosh Hashanah*, p. 173.