

Ode to E Pluribus Unum for Sunday March 31 2024

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Phobos: Moon over Mars

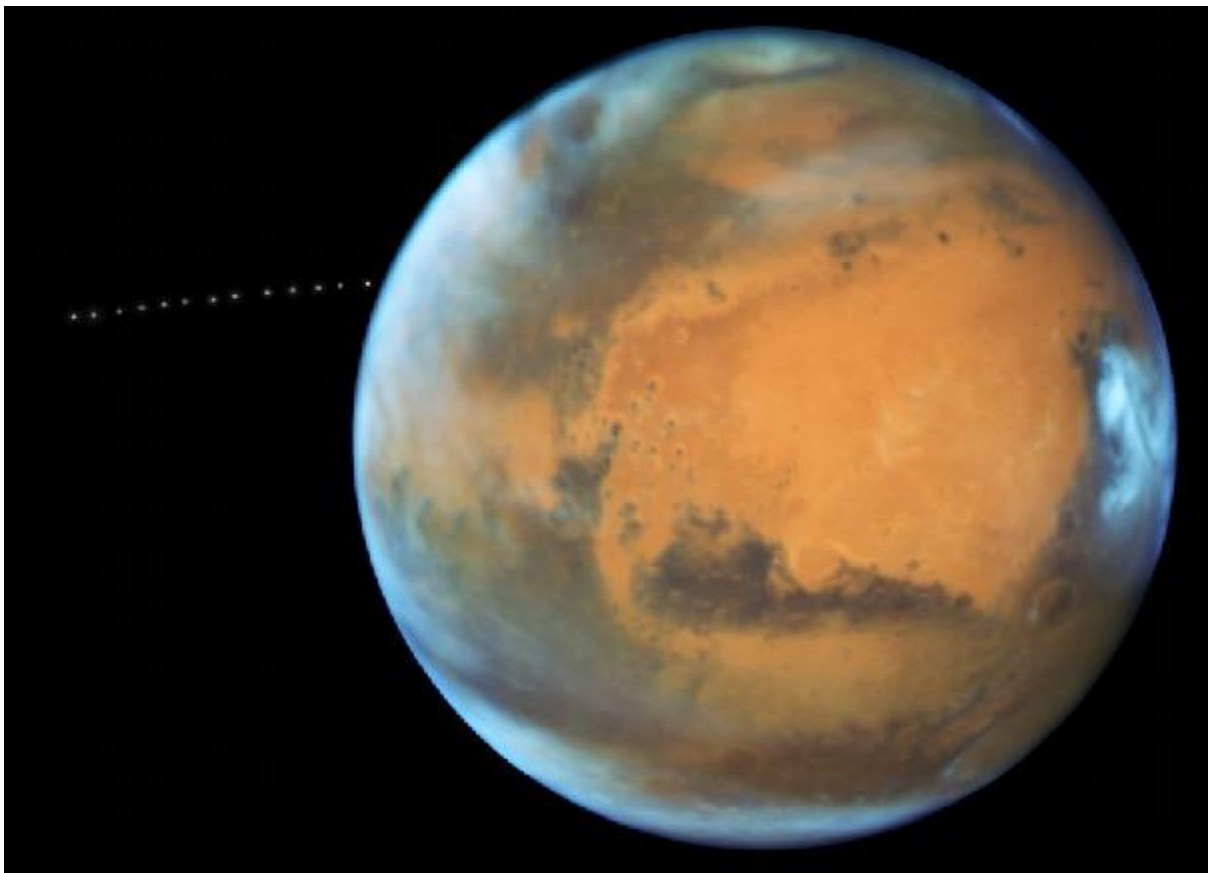


Image Credit: NASA, ESA, Zolt Levay (STScI) - Acknowledgment: J.Bell (ASU) and M.Wolff (SSI)

A tiny moon with a scary name, Phobos emerges from behind the Red Planet in this timelapse sequence from the Earth-orbiting Hubble Space Telescope.

Over 22 minutes the 13 separate exposures were captured near the 2016 closest approach of Mars to planet Earth.

Martians have to look to the west to watch Phobos rise, though. The small moon is closer to its parent planet than any other moon in the Solar System, about 3,700 miles (6,000 kilometers) above the Martian surface.

It completes one orbit in just 7 hours and 39 minutes. That's faster than a Mars rotation, which corresponds to about 24 hours and 40 minutes. So on Mars, Phobos can be seen to rise above the western horizon 3 times a day. Still, Phobos is doomed.

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Inside the New Wave of Old-School Education



Timeo danaos et dona ferentes - La Galerna
lagalerna.com

MENLO PARK, CA — On a rainy evening last January, a group of girls in long, pleated skirts and boys in jackets and ties were sitting around a mahogany table in an old house discussing Homer's *The Iliad*.

Amid growing claims that schools indoctrinate students, 'classical education'—which teaches kids to think critically and master old books—is making a comeback.

<https://bit.ly/3TtFzwh>

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The Science of Reading: What Teachers Need to Know

To better understand the science of reading and some of the intense debate around it, we spoke with literacy expert and psychology and education professor Nell K. Duke



(Image credit: Photo by Aaron Burden on Unsplash)

The science of reading remains a topic so fiercely debated in school districts and universities across the country, it is sometimes dubbed “the reading wars.” In addition, not everything labeled “science of reading” actually follows the science of reading, say experts.

<https://bit.ly/3PDcXzn>

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Why I Traded My Smartphone for an Ax

At 15, Caleb Silverberg made the most important decision of his life. He ditched technology and headed to the forest.



Caleb is a 17-year-old rising junior at Midland School in Los Olivos, California, and one of two runners up in our first-ever Free Press high school essay contest.

<https://bit.ly/3sAvEv5>

This the second essay sponsored by The Free Press, one that offers hope and a solution to the well-being of unformed and inexperienced minds in the thrall of a new force in their...and our...lives.

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Jester's Cap



Comments on last week's Ode

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AI...back in the 50s and 60s, Jay Forrester at MIT recognized that getting closed-form solutions of any complex system is, for all practical purposes, impossible. What defines something as complex is frighteningly low-level. But suffice it to say that if a system has more than about three (just 3!) variables that interact in a non-linear way, abandon hope. So JF decided to solve such problems in a different way. He wrote what was then called the Dynamo compiler, which was essentially a computer language. It allowed the user to enter a large number of variables along with all known interactions among them. Those interactions could be formulae, even just crude graphs. And you needed to enter the values of each at time = 0.

The program would then calculate the new values at time = 1 (choose a unit), rinse and repeat for t = 2. Etc. what emerged was often very unintuitive, even counterintuitive. But if you looked at the system behavior long enough, you could often make sense of why it was doing what it was doing.

Forrester wrote several books about this, the first three being Industrial Dynamics, Urban Dynamics and World Dynamics. Each looked at how large and larger systems behaved over time using Dynamo.

Around the same time, Ed Norton--also at MIT--happened to stumble onto mathematical chaos. It was a totally accidental discovery which is nicely detailed in Gleick's book, Chaos. But the bottom line for both Forrester's and Norton's work is that we cannot predict what will happen in even minimally complex systems without doing sequential calculations along the way.

And now, enter AI, in which there can be literally hundreds to thousands of variables, interacting in non-simple ways.

Bottom line: the only thing surprising about their behaviors is that people are surprised at their behaviors.

Universe expansion velocities anomaly. You're hearing (OK, reading) it here first. Dark matter, and quite a lot of it, is what's causing the universe to expand faster than expected. The question is what dark matter is. It's not really complicated- it's just ordinary matter that doesn't emit light. OK, how did it get there? Dark matter- the Horton theory--is the burned out ashes of one or more previous Big Bangs.

Think about it this way...at some time, perhaps a couple trillion years ago, there was a Bang. We know from our own universe that masses are travelling at very different velocities. If they weren't instead of a solid mass distribution, all the galaxies would be on the surface of a sphere. They aren't--they're distributed in what looks like a roughly 3-dimensional distribution in every direction.

A previous Bang or Bangs would likely have done the same thing. And once the stars use up their fuel, they die. They're just very large rocks in space. Those rocks are dark because they can no longer emit light, and no stars are close enough to them to illuminate them in any meaningful way. And they're probably not very reflective anyway. Dark matter. The ashes of what were once stars....

I responded with "*Somewhere there had to have been a first big bang that would have had an impact on all succeeding events, each adding to the dark matter affecting successive sub-universes...or does there have to be a 'first' big bang? Might there be*

other creational events woven into the threads? Also, how about entropy in these trans-generational universes?"

His response was "My assumption is that, since dark matter is supposed to account for ~95% of the universe, we should be roughly BB 20.0, give or take. That would suggest that as matter somehow accretes before a BB, there's a threshold--a critical mass--beyond which it's unstable and explodes. But I know pretty close to zero about particle- and astrophysics, which would seem to be the disciplines that would address those sorts of questions.

I have no clue about other generational events, but why not? Sagan addressed something like that as a drive-by in his novel, *Contact*.

As far as entropy goes, I suppose it's possible that there could exist universes in which the second law doesn't apply, or perhaps applies, but at a slower rate. Something like that might go along with lower temperatures.

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Biophysicists Uncover Powerful Symmetries in Living Tissue



Before they can apply the predictive power of fluid dynamics to living tissues, scientists must first identify the symmetries that equate sheets of cells with liquid crystals.

Kristina Armitage/Quanta Magazine

After identifying interlocking symmetries in mammalian cells, scientists can describe some tissues as liquid crystals — an observation that lays the groundwork for a fluid-dynamic theory of how tissues move.

A study published in Nature Physics concluded that sheets of epithelial tissue, which make up skin and sheathe internal organs, act like liquid crystals — materials that are ordered like solids but flow like liquids. To make that connection, the team demonstrated that two distinct symmetries coexist in epithelial tissue. These different symmetries, which determine how liquid crystals respond to physical forces, simply appear at different scales.

<https://bit.ly/3shvIzR>

Researchers Urge Caution with New Mixed Reality Headsets



Stanford VHIL researchers developing the protocol for how to safely use headsets in public. (Image credit: Virtual Human Interaction Lab)

A new study finds that headsets merging the external world with digital content via passthrough video technology can offer amazing experiences, but visual distortions, feelings of social absence, and motion sickness can undercut the vibe, dissuading prolonged usage.

In the headset, peripheral vision is lost and users can only take in around half of what humans normally see. And the gadgets still cannot quite match the sharpness of natural vision. Distortion occurs as well – a sort of “funhouse mirror” effect with objects’ shapes and dimensions appearing unnatural or morphing – and there was a just-noticeable lag in the display changing when users move their heads to a new view.

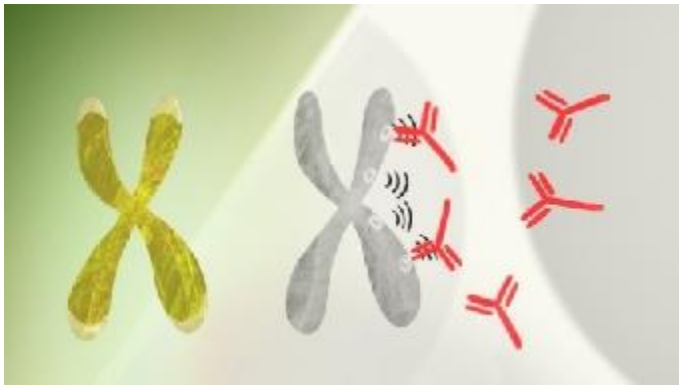
<https://bit.ly/48W62sP>

I can hardly wait to not use one of these things...but then I'm just a curmudgeon.

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Why Women Are at Greater Risk of Autoimmune Disease

Research throws light on the mystery of why women are much more prone to autoimmune disorders: A molecule made by one X chromosome in every female cell can generate antibodies to a woman's own tissues.



In every cell in a woman's body, one X chromosome is disabled to ensure that the right levels of proteins are produced from that chromosome pair. But the way the second chromosome is shut down generates unfamiliar molecular structures that can trigger antibodies (shown in red) targeting those structures.

Emily Moskal

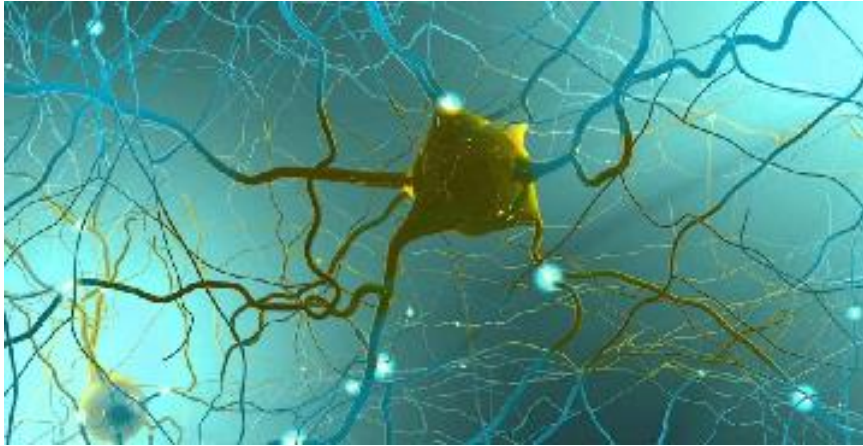
Somewhere between 24 and 50 million Americans have an autoimmune disease, a condition in which the immune system attacks our own tissues. As many as 4 out of 5 of those people are women.

<https://bit.ly/3vVHLV0>

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First Functional Human Brain Tissue Produced Through 3D Printing

A team of researchers has created the first functional 3D-printed brain tissue to examine the brain's function and study various neurological disorders.



*Representational image of signal transmitting neurons.
Christoph Burgstedt/iStock*

Neurons produced from induced pluripotent stem cells were carefully put in layers utilizing a softer bio-ink gel, creating a more favorable environment for growth.

<https://bit.ly/3upzGHM>

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Ultra-Processed Food Consumption and Mental Health



*Diets heavy in ultra-processed food are linked with increased morbidity and mortality, including increased risk for metabolic syndrome, obesity, and depression.
Photograph by Wildpixel, Getty Images*

Mental disorders are among the leading causes of global burden, and a recent report by the Global Burden of Disease Study noted that, despite greater availability of treatments (e.g., increase in prescriptions), there has been no reduction in the burden of mental disorders since 1990.

Poor dietary quality is well established as a potentially modifiable risk factor for mental disorders. Historically, the associations of poor dietary quality with mental disorders

have largely focused on depression. Emerging evidence implicates different degrees of food processing as a discrete indicator of dietary quality in mental disorders.

<https://www.mdpi.com/2072-6643/14/13/2568>

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AI-Powered Humanoid Robot Can Serve You Food, Stack Dishes



*In the new promotional video, a technician asks Figure 01 to perform a range of simple tasks in a minimalist test environment resembling a kitchen.
(Image credit: Figure)*

Figure 01 learned how to make coffee by watching a human do it, and now it can speak to you like a person.

The company said in its video that the conversation is powered by an integration with technology made by OpenAI — the name behind ChatGPT. It's unlikely that Figure 01 is using ChatGPT itself, however, because that AI tool does not normally use pause words like "um," which this robot does.

<https://bit.ly/493zhJj>

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How Robots Are Helping Save Holland's Tulip Fields from Disease



techexplore

Theo van der Voort has retired from picking out diseased flowers at WAM Pennings in the Netherlands, one of the country's famed tulip farms. But though his 52-year career has come to an end, his legacy lives on: Van der Voort gave his name to WAM Pennings' new sick tulip spotter, a robot.

The new Theo is a boxy machine that works day and night to identify and kill any bulbs infected with a virus that can stunt growth and development, per the Associated Press. It's one of 45 robots performing the same task at other farms around the country. "It's fantastic," van der Voort said. "It sees just as much as I see."

That efficacy is likely because the artificial intelligence model used in the robots is based on "the knowledge of the tulip farmers," explained Erik de Jong, a managing director at the company that makes them, H2L Robotics. "The heart of the machine is the knowledge that we put into the AI model."

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Turkey Hosts Olympics Event for Down Syndrome Athletes



Claudio Giovannini/AFP via Getty Images

The Olympic Games may still be a few months away, but the Trisome Games are in full swing in Turkey. Like the Olympics, athletes are participating in a variety of sports — including gymnastics, judo, tennis, and swimming — and competing against one another for hard-earned medals. What makes these games unique, though, is that all the athletes have Down syndrome.

The week-long event held in the city of Antalya brought hundreds of participants together from 33 countries, per Daily Sabah. Currently, there isn't a Down syndrome category at the Paralympics, so these games offer a chance for athletes to showcase their abilities and engage in competition against their peers.

"Our goal is to ensure that our athletes with Down syndrome can participate in all sports competitions comfortably and happily," said Birol Aydın, president of the Turkish

Special Athletes Sports Federation. "Their determination, resilience in dealing with problems, and outlook on life encourage us to work harder for them."

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Iceland Volcano Plume of Toxic Gas Is Moving Across Europe



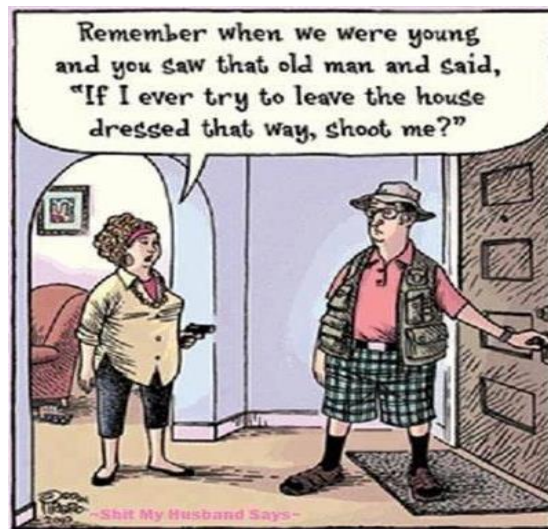
Volcano enthusiasts watch as the volcano on Iceland's Reykjanes Peninsula pumped out high levels of sulfur dioxide on March 17.

(Image credit: AEL Kermarec/AFP via Getty Images)

A massive column of sulfur dioxide that was pumped out by the erupting volcano on Iceland's Reykjanes Peninsula is currently traveling across northern Europe. Scientists are concerned it could impact the ozone layer.

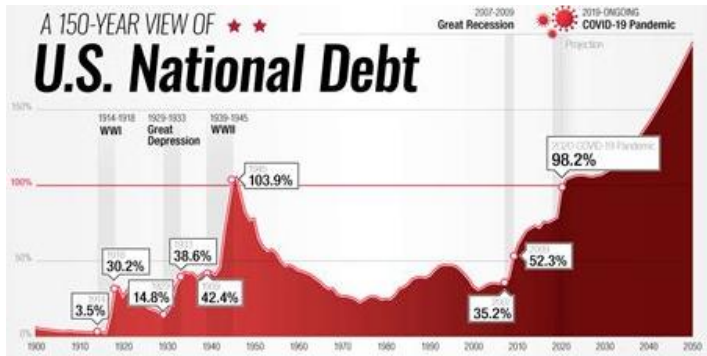
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The National Debt (\$34.6 Trillion) Is a National Security Issue



visualcapitalist.com

The growing debt will "slow economic growth, drive up interest payments," and "heighten the risk of a fiscal crisis," the CBO warns.

It's a dangerously addictive habit that threatens to ruin our children's lives and undermine America's national security—and this week Congress finally acknowledged as much, although it remains unclear if lawmakers have the guts to do anything substantial.

<https://bit.ly/3Py6dD2>

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Buster Keaton's Greatest Stunts



slate.com

Buster Keaton (1895-1966) was an American film comedian and director, the "Great Stone Face" of the silent screen, known for his deadpan expression and his imaginative and often elaborate visual comedy.

Keaton is said to have earned his famous nickname when, at age 18 months, he fell down a staircase; magician Harry Houdini picked up the unhurt infant, turned to the boy's parents, and chuckled "That's some 'buster' your baby took."

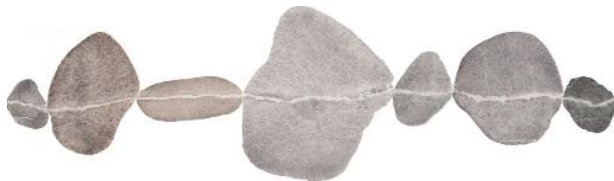
Joe and Myra Keaton added Buster to their vaudeville act when he was three years old. The Three Keatons specialized in knockabout acrobatics, with Joe using little Buster as a "human mop." Already accustomed to taking pratfalls without suffering injury, Buster learned how to get laughs at a very early age. He also discovered that "the more serious I turned, the bigger laugh I got," and accordingly adopted his trademark deadpan expression.

https://youtu.be/yOo_ZUVU_O8?t=2

<https://youtu.be/bPKNwXnfgG4?t=1>

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Reading the Rocks



Artwork by Sophie Tivona

Taking us on a walk through the folds and furrows of her Oakland neighborhood, Jenny Odell steps into the age-old conversation between rocks and water, attuning to a larger narrative of deep, geological time.

<https://bit.ly/4avd73J>

Thoughtful reading for a quiet Sunday.

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Where Did Homo Sapiens Go After Leaving Africa?

A new study offers an answer



A person stands in Pebdeh Cave, in the southern Zagros Mountains, Iran, in this undated photo

obtained by Reuters on March 25, 2024. Pebdeh Cave was occupied by hunter-gatherers as early as 42,000 years ago, inferred to be Homo Sapiens.

Mohammad Javad Shoaee/Handout via REUTERS/File Photo Purchase Licensing Rights, opens new tab

Our species emerged in Africa more than 300,000 years ago, with a migration out of the continent 60,000 to 70,000 years ago heralding the start of the global spread of Homo sapiens. But where did these pioneers go after leaving Africa?

After years of debate, a new study offers an answer. These bands of hunter-gatherers appear to have lingered for thousands of years as a homogeneous population in a geographic hub that spanned Iran, southeast Iraq and northeast Saudi Arabia before going on to settle all of Asia and Europe starting roughly 45,000 years ago, scientists said on Monday.

<https://bit.ly/4ay0Rji>

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Prototype Supersonic Airplane Has Taken Flight

The XB-1 aircraft is a demonstrator intended to test materials and the aerodynamics of a larger commercial supersonic aircraft the company is calling Overture.



XB-1 takes off on its inaugural flight.

Boom Supersoni

The XB-1 vehicle flew from Mojave Air & Space Port in California on Friday, March 22, 2024, reaching an altitude of 7,120 feet (2.2 km) and a maximum speed of 273 mph (439 kph). In a news release, Boom Supersonic said the initial test flight of the XB-1 aircraft met all of its objectives.

"The experience we have gained in reaching this milestone will be invaluable to Boom's revival of supersonic travel," said Bill "Doc" Shoemaker, Chief Test Pilot for Boom Supersonic.

Boom is one of a handful of companies attempting to revive supersonic commercial air travel since the Concorde's final flight in 2003. Its planes are intended to carry between 64 and 80 passengers at about twice the speed of conventional commercial jets in service today. Boom says it has received 130 orders and pre-orders from American Airlines, United Airlines, and Japan Airlines for the Overture vehicle, which it plans to deliver later this decade.

A lot of milestones to go

Boom Supersonic was founded a decade ago, in 2014. It rolled out the XB-1 prototype for the first time in October 2020. At the time, the company said it planned to begin a flight test campaign during the third quarter of 2021. It is not clear why Boom missed that timeline by two and a half years.

The company plans to fly the XB-1 to learn the lessons of supersonic flight with a lower-cost vehicle and incorporate these findings into Overture's final design. There is only so much technology that can be tested on the ground, and in wind tunnels, so the company needs to fly now to mature its design.

After Friday's flight, the company said the aircraft's development team will continue to expand the flight envelope to confirm its performance and handling qualities through and beyond Mach 1.

One key element of the Overture aircraft that the XB-1 prototype is not testing is the engines. The XB-1 is powered by three GE J85-15 engines, a turbojet engine that has been in service for several decades. Boom Supersonic is developing a new engine, a [medium-bypass turbofan engine Symphony](#), for the Overture aircraft.

Previously, the company showcased a one-third scale design model of Symphony, but it has not released information about developmental tests of the hardware. The additively manufactured engine is advertised as having 35,000 pounds of thrust.

By Eric Berger for ars Technica

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"Well, kid, ya beat me—and now every punk packin' a paddle and tryin' to make a name for himself will come lookin' for you! ... Welcome to hell, kid."

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The Most Charming Small Town in Every U.S. State

Consider these 51 beautiful places found across the country—including Puerto Rico—for your next trip



*Lewes DE anchors the Cape Region alongside Rehoboth Beach.
Photo by Khairil Azhar Junos/Shutterstock*

<https://bit.ly/3TNrWJw>

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The Coolest Small Cities in the U.S.

Where small town charm meets the perks of urban life.



Hot Springs Arkansas
Visit Hot Springs

It's no secret that we at Thrillist love to travel—in fact, it's pretty much all we do. And with every new flight, mountain summit, cocktail bar, and hotel check-in, we always learn something new. That's why we're in the habit of turning to our team of seasoned editors and global contributors, each with extensive boots-on-the-ground experience, to help you plan your next jet-setting adventure.

<https://bit.ly/43vDd4o>

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Ikea Designed Beds, Bowls, and Toys for Your Pet.



Ikea

Utsådd was designed with input from a 'panel of cats and dogs.'

According to Ikea, the 29-product collection has been "developed with input from veterinarians, pet product experts, and an exigent panel of cats and dogs, to ensure the relevance of each product" over a two-year design and development process. The company says that the collection covers the four basic aspects of pet life: eat, sleep,

play, and hide. It also promises that they are all "easy to clean, resistant to everyday use and seamlessly blend into any home."

<https://bit.ly/4apUSNg>

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Chords & Riffs

Sphinx Virtuosi



*Sphinx Virtuosi | Center for the Performing Arts at Penn State
cpa.psu.edu*

The Sphinx Symphony Orchestra, a professional all-Black and Latinx orchestra, assembled to perform in Detroit and Ann Arbor, MI, in partnership with the National Symposium for African-American Artists and Educators founded by Dr. Willis Patterson, Dean Emeritus of the University of Michigan's School of Music.

The SSO commissioned and premiered its first full-scale work by a living composer,

Bachianas brasileiras No. 9, Heitor Villa-Lobos <https://youtu.be/Gd4ZPf17G9k?t=1>

Price: String Quartet No. 2 in A Minor: <https://youtu.be/I94uqz01D2c>

Random Acts of Culture https://youtu.be/VE0g_Vmpwxo

Galaxy; Xavier Foley & Kebra-Seyoun Charles <https://youtu.be/x58wE1o3B4?t=15>

Habari Gani <https://youtu.be/rWyBpLMv7lw>

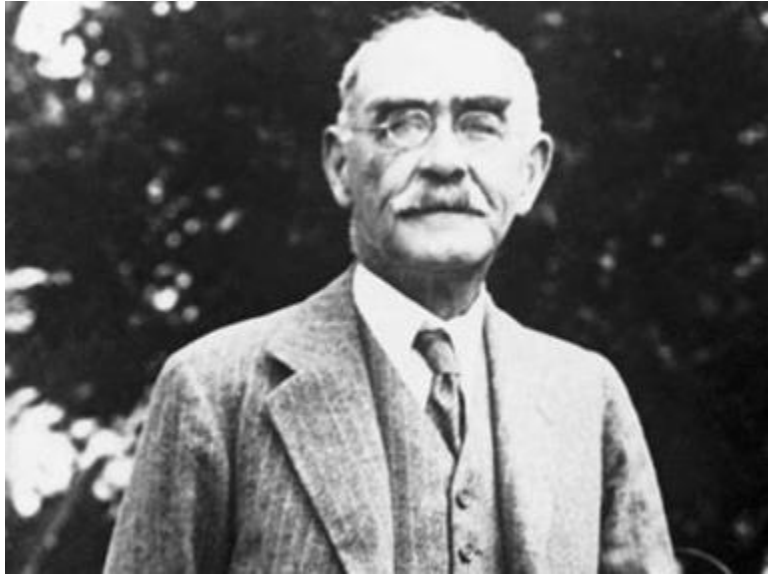
I had never heard of Sphinx Virtuosi before last month when the group arrived onstage at Santa Barbara's Lobero Theater. There it captivated the audience not only with its

musicianship but enthusiasm and flair. In the course of the evening four of the eight pieces they played were world premieres.

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Poetry Corner

Rudyard Kipling (1865-1936)



telegraph.co.uk

Rudyard Kipling was a tireless experimenter with the short story form, a novelist, a writer who could entertain children and adults alike with such books as *The Jungle Book*, *Plain Tales from the Hills*, *The Just So Stories*, *Puck of Pook's Hill*, and countless others. But as well as being a prolific author of fiction, Rudyard Kipling was also a hugely popular poet. But what are Kipling's very best poems?

Recessional

God of our fathers, known of old,
Lord of our far-flung battle line,
Beneath whose awful hand we hold
Dominion over palm and pine,
Lord God of Hosts, be with us yet,
Lest we forget, lest we forget!

The tumult and the shouting dies,
The Captains and the Kings depart,
Still stands Thine ancient sacrifice,

An humble and a contrite heart.
Lord God of Hosts, be with us yet,
Lest we forget, lest we forget!

Far-called our navies melt away,
On dune and headland sinks the fire,
Lo, all our pomp of yesterday
Is one with Nineveh and Tyre!
Judge of the Nations, spare us yet,
Lest we forget, lest we forget!

If, drunk with sight of power, we loose
Wild tongues that have not Thee in awe,
Such boastings as the Gentiles use,
Or lesser breeds without the Law,
Lord God of Hosts, be with us yet,
Lest we forget, lest we forget!

For heathen heart that puts her trust
In reeking tube and iron shard,
All valiant dust that builds on dust,
And guarding calls not Thee to guard.
For frantic boast and foolish word,
Thy Mercy on Thy People, Lord!
Amen.

The Way through the Woods'

They shut the road through the woods
Seventy years ago.
Weather and rain have undone it again,
And now you would never know
There was once a road through the woods
Before they planted the trees.
It is underneath the coppice and heath,
And the thin anemones.
Only the keeper sees
That, where the ring-dove broods,
And the badgers roll at ease,
There was once a road through the woods.

Yet, if you enter the woods
Of a summer evening late,
When the night-air cools on the trout-ringed pools
Where the otter whistles his mate,
(They fear not men in the woods,
Because they see so few.)
You will hear the beat of a horse's feet,
And the swish of a skirt in the dew,
Steadily cantering through
The misty solitudes,
As though they perfectly knew
The old lost road through the woods.
But there is no road through the woods.

If—

If you can keep your head when all about you
Are losing theirs and blaming it on you,
If you can trust yourself when all men doubt you,
But make allowance for their doubting too;
If you can wait and not be tired by waiting,
Or being lied about, don't deal in lies,
Or being hated, don't give way to hating,
And yet don't look too good, nor talk too wise:

If you can dream—and not make dreams your master;
If you can think—and not make thoughts your aim;
If you can meet with Triumph and Disaster
And treat those two impostors just the same;
If you can bear to hear the truth you've spoken
Twisted by knaves to make a trap for fools,
Or watch the things you gave your life to, broken,
And stoop and build 'em up with worn-out tools:

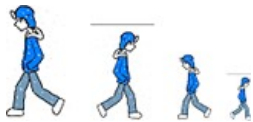
If you can make one heap of all your winnings
And risk it on one turn of pitch-and-toss,
And lose, and start again at your beginnings
And never breathe a word about your loss;
If you can force your heart and nerve and sinew
To serve your turn long after they are gone,

And so hold on when there is nothing in you
Except the Will which says to them: 'Hold on!'

If you can talk with crowds and keep your virtue,
Or walk with Kings—nor lose the common touch,
If neither foes nor loving friends can hurt you,
If all men count with you, but none too much;
If you can fill the unforgiving minute
With sixty seconds' worth of distance run,
Yours is the Earth and everything that's in it,
And—which is more—you'll be a Man, my son!

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My Walking Thoughts



For Sunday March 3 2024

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This is the second "Solo" piece I've received, this one from an Army aviator, Graham Stevens.

Soloing in the TH-55 Osage

When I read about your request to capture my thoughts on what it was like to solo in a helicopter, I really had to go back, as we all do, some 56 years now. And yes, I "guess is it ranks among the grandest, most fulfilling moments of my life."

United States Army Primary Helicopter School, Ft Wolters, Texas, October 1968: At 20, I thought this was the most fun I had ever had. After just eight hours of dual instruction, my instructor (Tom Roy) landed, got out, and said, "you got it." "Take her around the pattern a couple of time." These little "Mattel Messerschmitt's" as we called them, had no auto governors to control engine RPM's. You did that yourself manually, so while trying to coordinate the throttle RPM, and the vertical control, the collective, the directional controls, pedals, and your position over the ground with the cyclic, it was quite exhilarating just to get the thing up into a stabilized hover. But of course, I couldn't get it "stabilized" and I was drifting around, up and down. Now I had to talk on the radio and get clearance from the tower to taxi for takeoff. I must have sounded like the "village idiot." As I recall it was very difficult to organize my limbs, feet, and the "press to talk" button all at the same time. I do believe that I was very happy just to get the thing in the air, climb out and do a traffic pattern, but now I had to land the thing, and that meant hovering around again. But I had done it! There would be more "solo" time to come as my experience grew. Confined area operations of landing in small fields surrounded by trees, overland navigation, and flying at night.

But back then, it was the height of the Vietnam War, and the need for helicopter pilots was very high, because the life expectancy wasn't. So, I graduated flight school, went on to Cobra Attack Helicopter School, and then off to Vietnam. My takeaway from all these years since that day I soloed, is you have to be one with the machine. Helicopters will kill you if you're not. I've made it through numerous hydraulic failures, lost my tail rotor, and crashed enough times to have a great respect for the helicopter over my 30 years flying them.

Twelve years after my first trip around the pattern that first time, I helped form the premier helicopter fighting unit in the world, the 160th Special Operations Regiment, the Night Stalkers!



Background: The Model 269A was revisited for the role of dedicated two-seat training platform and, in this guise, was adopted for Army service under the designation of TH-55 "Osage". Deliveries ultimately totaled 792 units and its contributions were such that no replacement for this compact helicopter was found until the arrival of Bell UH-1 "Huey" training forms in 1988 - resulting in decades of American helicopter airmen being trained on the Hughes product.



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