

## Ode to E Pluribus Unum for Sunday December 4 2022

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### Artemis 1: Flight Day 13



*Image Credit: NASA, Artemis 1*

On flight day 13 (November 28) of the Artemis 1 mission the Orion spacecraft reached its maximum distance from Earth. In fact, over 430,000 kilometers from Earth its distant retrograde orbit also put Orion nearly 70,000 kilometers from the Moon.

In the same field of view in this video frame from flight day 13, planet and large natural satellite even appear about the same apparent size from the uncrewed spacecraft's perspective. December 1st should see Orion depart its distant retrograde orbit. En route to planet Earth it will head toward a second powered fly by of the Moon.

Splashdown on the home world is expected on December 11.

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**Devotion: A Movie Made Like They Used to Make Them**



Ensign Jesse Brown was the Navy's first black pilot. He died in Korea downed by ground fire near the Chosin Reservoir in December 1950.

Realizing Brown was trapped in the burning wreckage and in an act of stunning selflessness, his section leader, Lt. Thomas Hudner, crash-landed his own Corsair in an effort to extract Brown.

<http://bit.ly/3XFVTep>

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### **In His Own Words: Thomas Hudner**



In this Living History video recorded before his death in 2017, Medal of Honor Recipient Thomas Hudner Jr. talks about his experiences during the Korean War, including his attempted rescue of his wingman, Ens. Jesse Brown, on Dec. 4, 1950. Hudner and Brown are the subject of a new movie released in 2022 called Devotion.

<https://youtu.be/RKHh9vnzyUo>

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## **Breathtaking Images of Wild Horses**



<http://bit.ly/3Falm8Q>

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I will be posting  
telepathically today.  
So if you think of  
something funny,  
that was me.

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## **A Visit to the Niagara Falls Power Station Tunnel**



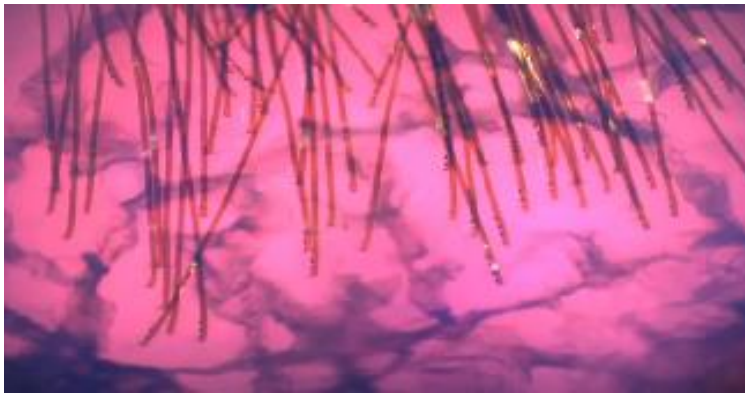
<https://youtu.be/ZDndXge4IpE>

An impressive century-old engineering feat.

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## **Elon Musk Claims Neuralink is About 'Six Months' Away from First Human Trial**

This year's 'show and tell' demonstration focused on the tech behind the brain-computer interface company.



*Neuralink's threads. Screenshot by Sean Hollister  
The Verge*

<https://www.theverge.com/2022/11/30/23487307/neuralink-elon-musk-show-and-tell-2022>

[https://youtu.be/xv2\\_F4FwFiM?t=1](https://youtu.be/xv2_F4FwFiM?t=1)

*To me the excitement lies in the ability to restore lost functions.*

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## **The Simple Geometry Behind Brownie Bake Offs and Equal Areas**

Proving that two polygons have the same area can be as easy as cutting them up and rearranging the pieces.



*Robert Neubecker for Quanta Magazine*

[https://www.quantamagazine.org/simple-geometry-shows-when-two-shapes-are-equal-20221121/?mc\\_cid=6c08632050&mc\\_eid=636bc88d2e](https://www.quantamagazine.org/simple-geometry-shows-when-two-shapes-are-equal-20221121/?mc_cid=6c08632050&mc_eid=636bc88d2e)

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## Looking for a Christmas Gift?



There's nothing quite like a Dino under the tree.

<http://bit.ly/3AT8FN2>

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**Q: My child will not eat fish,  
what can I replace it with?**

**A: A cat. Cats love fish.**

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**Felix Mendelssohn (1809-1847)**





The German composer, pianist, musical conductor, and teacher, was one of the most-celebrated figures of the early Romantic period. In his music Mendelssohn largely observed Classical models and practices while initiating key aspects of Romanticism—the artistic movement that exalted feeling and the imagination above rigid forms and traditions.

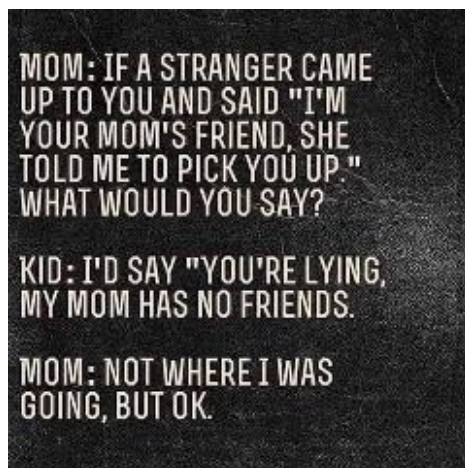
Among his most famous works are Overture to A Midsummer Night's Dream (1826), Italian Symphony (1833), a violin concerto (1844), two piano concerti (1831, 1837), the oratorio Elijah (1846), and several pieces of chamber music.

Overture to Midsummer Dream <https://youtu.be/vzbC39utkTw?t=2>

Violin Concerto in E Minor <https://youtu.be/SEkcp8lZvZA> (Hillary Hahn)

Funeral March [https://youtu.be/rMuiWZC\\_xSo](https://youtu.be/rMuiWZC_xSo)

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## JWST Images Get X-Ray Vision Boost

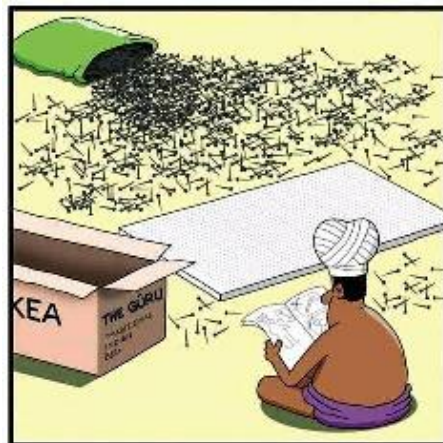


*The galaxy cluster SMACS J0723 as seen by the James Webb Space Telescope and the Chandra X-ray Observatory.*

*(Image credit: X-ray: NASA/CXC/SAO; IR (Spitzer): NASA/JPL-Caltech; IR (Webb): NASA/ESA/CSA/STScI)*

<https://bit.ly/3CLcns7>

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## Muscle Cars of 1969 – What They Cost Then vs. Now



<https://youtu.be/Bapnbp8VGo?t=1>

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## Saving California's Underwater Forests



The waters along the Southern California coastline host unique and beautiful kelp forests. These forests are vital to the survival of more than 800 marine species. In addition, kelp is a photosynthesising-algae, an organism that produces 50-85% of the life-sustaining oxygen we breathe.

[https://oceanographicmagazine.com/features/saving-forests/?utm\\_source=Newsletter&utm\\_medium=Email&utm\\_campaign=Sea+stories&utm\\_id=Sea+stories+24%2F11%2F2022](https://oceanographicmagazine.com/features/saving-forests/?utm_source=Newsletter&utm_medium=Email&utm_campaign=Sea+stories&utm_id=Sea+stories+24%2F11%2F2022)



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## Elon's Mechazilla: Launch and Recovery Tower



<https://youtu.be/Gtq6YeTFnPo>

If it works, what an achievement. If not...well let's not go there.

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**Bella Frog Thang**



Bella is an amphibian  
who traded her life style  
many million  
years ago.

From water to land she came  
eagerly creeping  
and soon her strong legs taught her the  
value of leaping  
away from the birds and other critters,  
intent as they were  
to feast on frog fritters.  
With binocular vision and rolling eyes,  
and her long sticky tongue  
catching careless flies,  
splashes of orange,  
shades of green  
Bella's the most spectacular  
vertebrate ever seen.

*Francie Troy*

Francie says Bella is among her favorite Thangs. I agree with her.

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**A New Ball is Changing the Game of Soccer**



Referees have a thankless job. If they do it well, they get heckled, and if they do it poorly — they may have to go into hiding.

But soccer balls equipped with new technology are making the gig a little easier at this year's World Cup, and changing the game in the process, per FiveThirtyEight.

### **What kinda tech?**

Every ball is fitted with a device made by Kinexon (<https://kinexon.com/technology/ball-tracking/>), an IoT company for sports. The device sits in the center of the ball, held in place by a suspension system built by Adidas, and includes two sensors:

Ultra-wideband sensor: tracks location data better than GPS or Bluetooth, and relays data in real-time to accurately track a ball's position

Inertial measurement unit sensor: tracks how an object moves in space

These sensors work with a dozen cameras positioned around the stadium that track the ball and players, leading to faster and more accurate offside calls.

But it's not just refs who are celebrating

After the last World Cup in 2018, FIFA officials found the speed of offside decisions to be the biggest area for improvement.

Before gaining full FIFA certification, the new balls underwent six years of lab and player testing to ensure they wouldn't move or feel different from a regular one.

And this is only the beginning. In the future, the combination of sensors and cameras could provide deeper analysis for teams and players, power new visualizations for broadcasters, and even create new statistics...

... All of which could help grow the game in the US, which is kinda already happening. Last Friday's USA-England match pulled in 15.3m+ viewers, ~3m more than Game 6 of last year's NBA finals.

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## Mars Helicopter Completes 34th Flight

By Kate O'Connor, AVweb's Editor-in-Chief



NASA's Mars helicopter, Ingenuity, logged its 34th successful flight last week, staying in the air for 18 seconds and reaching a maximum altitude of 5 meters. The brief flight was the helicopter's first with its latest software update, which is expected to add capabilities including hazard avoidance during landing and the use of digital elevation maps to assist with navigation. Further flights to test Ingenuity's upgraded capabilities are planned.

Ingenuity, a technology demonstrator sent to test powered, controlled flight on Mars, was launched with the Perseverance rover in July 2020. The 1.8-kilogram helicopter's mission was officially extended last March to include supporting the rover as it explores the Jezero Crater. According to NASA, Ingenuity was originally designed to fly over flat terrain, necessitating the software update as it begins to move into rockier areas with fewer safe landing sites.

Since its first flight on April 19, 2021, Ingenuity has logged almost 59 minutes in the air and travelled a total distance of 7,392 meters (4.6 miles). Its highest flight to date reached 12 meters above the surface and its longest lasted 169.5 seconds. As previously reported by AVweb, NASA's Jet Propulsion Laboratory Ingenuity Mars Helicopter team was awarded the 2021 Collier trophy for accomplishing "the first powered, controlled flight of an aircraft on another planet, thereby opening the skies of Mars and other worlds for future scientific discovery and exploration."

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### Relief

There are no answers,  
for each question is false.  
We easily braid reasons we round up



to ask questions that lead from all truth.  
Silly as Santa on the Roof.  
Every question a distraction.  
What remains?  
Our lived experience.  
Everyone has a life.  
That is truth.  
Before and beyond doesn't raise the puddle  
of any slippy mud a millimeter higher.  
Everyone has a life.  
When that begins, and when that ends,  
depends only on this: inhale, exhale.  
Yet most of us, all of us?  
stuff questions between the taking in,  
the letting go,  
as though that space knows  
what we're to make of that simple procedure.  
Yes, life is a simple procedure.  
Stop looking for hidden stars  
stop praying to empty beliefs.  
Inhale. Exhale. Relief.

*Katherine Holden*

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## **Flash Mob at the Bank of America Tower**



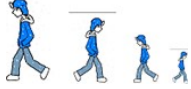
<https://youtu.be/rq9TgLE7ePw?t=3>

Prelude GM J.S. Bach and "Palladio" by Karl Jenkins

When I see Children playing Classical Music, it fills me with joy. They will ensure that all the Great Composers will never be forgotten

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## My Walking Thoughts



**For Sunday December 4 2022**

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### **Two Minutes on the Fate of a Nation's Creed**

"Fourscore and seven years ago our fathers brought forth, on this continent, a new nation, conceived in liberty, and dedicated to the proposition that all men are created equal. Now we are engaged in a great civil war, testing whether that nation, or any nation so conceived, and so dedicated, can long endure. We are met on a great battlefield of that war. We have come to dedicate a portion of that field, as a final resting-place for those who here gave their lives, that that nation might live.

It is altogether fitting and proper that we should do this.

But, in a larger sense, we cannot dedicate, we cannot consecrate—we cannot hallow—this ground. The brave men, living and dead, who struggled here, have consecrated it far above our poor power to add or detract.

The world will little note, nor long remember what we say here, but it can never forget what they did here.

It is for us the living, rather, to be dedicated here to the unfinished work which they who fought here have thus far so nobly advanced. It is rather for us to be here dedicated to the great task remaining before us—that from these honored dead we take increased devotion to that cause for which they here gave the last full measure of devotion—that we here highly resolve that these dead shall not have died in vain—that this nation, under God, shall have a new birth of freedom, and that government of the people, by the people, for the people, shall not perish from the earth."

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There was a time when schoolchildren could recite these 267 words, perhaps without understanding their import, but with the recognition that they were important to the past, present, and future of the nation into which they had been born.

Many citizens today—young and old alike—might be quick to add the words ‘mothers’ and perhaps downgrade ‘God’ to ‘god’ to fit society’s current fashion, but how many realize how succinctly Lincoln’s sense of the “task remaining” fits our current situation...one whose pathway is more obscure than that confronting those faced with *reconstructing* the republic.

I ask myself, “What can I do to further the ‘unfinished work’ begun not just in 1776 but in the souls of people long before there were scribes to capture such desires?”

The short answer is, “not much.” On the other hand, if I’m able to entice just one person to consider what it means for our nation to “have a new birth of freedom,” it’s a decent start.

Repeat with me, “Four score and...”

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## **Outtakes from Ghost of War**

### **Prolog III**

*(After an interminable wait, Gordon is at last aboard the DC-3 for his first flight)*

After a short roll made more memorable by the thuddings and thunkings transmitted from the wheels to the metal structure, Captain James pulled on the yoke and the airplane hopped into the air. At first the dramatic change in the noise level was disconcerting, but soon the song of the engines and propellers became the sturdy background presence which would stay with them until their next destination.

Satisfied he wasn't going to be sick or frightened, Gordon turned his focus to the wonderful tapestry unfolding beneath him. Features that appeared haphazard from the ground began to make sense. Contours, patterns, stratifications, variegations; the richness and vibrancy of nature contrasted so sharply with the dull repetition of man's creations that he was astonished by the mismatch.

At first, with the visibility reduced by the tail-end of the storm, his vista was limited to features straight down below the airplane. It was strange viewing houses and barns and fields from above. He giggled at the sight of a dog racing along a farm road going for all he was worth trying to nip the heels of the airborne intruder and being left quickly behind for all his efforts.

It was different with a trio of horses flashing through a pasture and out onto open range that allowed them to weave back and forth with breathtaking abandon in their headlong dash. By then the sun was dancing through thin spots in the clouds projecting the trace of the plane's shadow on the ground, and for a moment the apparition seemed to spur them on...but one after another they fell astern. They were still running

when Gordon lost sight of them, but by then they had shied off toward the river bottom in search of new adventure.

By the third leg between Fresno and Stockton, the sun was a brilliant fiery yellow presence hopping between puffball cumulus that were in turns grey-black, pink-grey, silver-rimmed slate, and cotton white with gentle gradations of luminescence to accent their plumpness. In a moment of divine revelation Gordon glimpsed the march of epochs across the face of the land and sensed his place among the descendants of the primordial stuff of dark and light.

Uncle Joe and Pastor Jacobs talked for a while and then dozed. Visalia, Fresno, and Stockton came and went, inviting a clamor that became, if not comforting at least routine, and it was fully dark when they landed at Sacramento. By then all that remained of the storm were a few patches of cumulus, billowed by sudden rushes of the dry northwest wind and lit by the radiance of the near-full moon marching triumphantly above the snow-capped Sierra Range.

The Sacramento River spread out languorously through the Suisun lowlands, nipped tightly down through the Carquinez Strait, before giving way completely to the San Pablo brine and the jewel-like setting of the San Francisco Bay. To Gordon, each of a million beckoning lights became a kernel of mystery and longing; each a spark of desires still hidden behind the cloak dividing him from manhood; each a symbol of untarnished hope and lifelong hunger.

With the power cut back, the thrum of the propellers drew soft, giving way to the songs of wind whistling and playing with the undercarriage; scrubbing and plucking at the sculptured skin; caressing the fabric and rubber and glass of this intruder of the magic realm. Down the aircraft came, gathering the lights into patterns that inched, then slid, then sped, and finally whirled past through the darkness, producing in Gordon such a wonderful sense of cascading from the heavens that he felt himself one with the universe. There, poised in the not quite world of dream and intuition, Gordon soared to sleep 400 miles from home and light years beyond when he'd left.

The airplane shuddered to a stop outside the one-room San Francisco Air Terminal and the passengers stood gingerly testing their land-legs before walking uncertainly down the inclined aisle to the aft door--all that is but Gordon who was curled up fast asleep.

Uncle Joe gently shook Gordon's shoulder, exchanged a knowing glance with Pastor Jacobs, thanked the pilot for the fine flight, and headed for the terminal unaware that Gordon had already glimpsed a future far different from the one he'd just left.

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Prolog IV Next Week



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