

Ode to E Pluribus Unum for Sunday February 18, 2024

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Shadows of Mountain and Moon



Image Credit & Copyright: Enzo Massa Micon

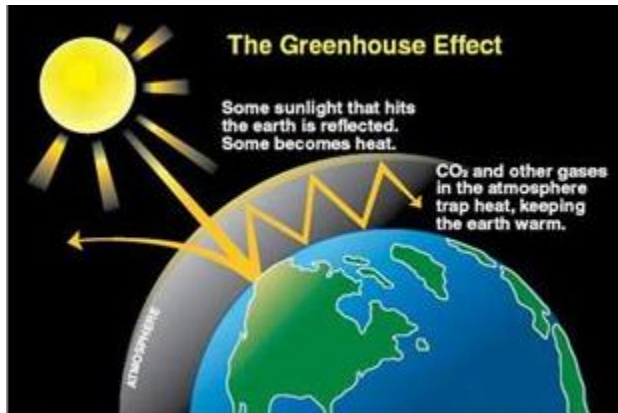
Can the Moon and a mountain really cast similar shadows? Yes, but the division between light and dark does not have to be aligned.

Pictured, a quarter moon was captured above the mountain Grivola in Italy in early October of 2022. The Sun is to the right of the featured picturesque landscape, illuminating the right side of the Moon in a similar way that it illuminates the right side of the mountain. This lunar phase is called "quarter" because the lit fraction visible from Earth is one quarter of the entire lunar surface.

Digital post-processing of this single exposure gave both gigantic objects more prominence. Capturing the terminator of this quarter moon in close alignment with nearly vertical mountain ridge required careful timing because the Earth rotates once a day.

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A Greenhouse Primer



CO₂ becomes a stronger greenhouse gas when there's more of it in the atmosphere.

There's nothing more fundamental to understanding global warming than the greenhouse effect of carbon dioxide (CO₂). Transparent to incoming sunlight, CO₂ absorbs infrared heat coming off the Earth's surface; add more of it to the atmosphere, and the planet's surface warms. And until recently, the strength of this effect was thought to scale linearly with the CO₂ in the air.

However, new work in the most recent issue of *Science* shows that the strength of CO₂ depends on the climate it is in. It's long been known that increasing CO₂ cools the less-dense stratosphere, the placid realm above the weather. By studying climate models, researchers have now shown that as this cooling increases, the overall strength of CO₂ heat-capturing ability at the surface effectively increases, as the increased heat emissions from the stratosphere crowd out those from CO₂ lower down.

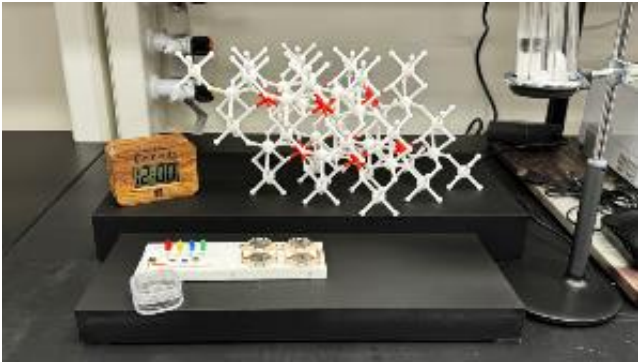
The finding doesn't really change predictions for future warming, as the most up-to-date climate models have already factored this effect in, even if they didn't understand it yet. But researchers often use simpler models to simulate ancient climates—when swings in CO₂ have been even larger than the present day—and by missing the scaling nature of CO₂, those analyses could miss major drivers. And on the upside, though this effect means that the carbon dioxide added to the air now leads to more warming than it would have a century ago, it also means that geoengineering schemes to release sunlight-reflecting particles could be more effective than thought by heating the stratosphere and reducing CO₂'s strength.

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Turn a regular sofa into
a sofa bed by simply
forgetting your wife's
birthday.

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The Bigger Vision Behind Microsoft's New Battery



*A digital clock and LED lights powered by Microsoft and PNNL's experimental battery material—and a 3D model of its molecular structure.
[Photos: Harry McCracken]*

Working with a national lab, the software giant used AI to tackle the flaws of today's lithium batteries—and pave a new path for scientific discovery.

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

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Newfound Skull Suggests T. Rex Relative Was Even Larger



livescience

The newly identified tyrannosaur species is the closest known relative of T. rex and could have been even larger than the famous dinosaur king.

The new findings are further evidence that New Mexico is one of the best places in the world to search for new dinosaur species.

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

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Medical Device Lets You Take Your Own Vitals at Home

BeamO can take patients' heart rate, temperature, and blood oxygen level as well as listen to their lungs.



Withings

One of the most popular healthcare subjects in recent years has been bringing the hospital into a patient's home as a way to make care more accessible and lower overall healthcare costs.

[Withings](#), a French consumer electronics company, is getting into the hospital-at-home business with its new device that executives touted as being able to perform a "one-minute health checkup." BeamO, which debuted at the 2024 Consumer Electronics Show (CES) conference in Las Vegas on January 7, allows patients to check their vitals at home and send the data straight to their doctors.

"Once, body temperature was the only health scan routinely taken at home. BeamO will revolutionize the measurement of the core vitals carried out during medical visits from the comfort of one's own home," Eric Carreel, founder and president of Withings, said in a statement.

The device, which is smaller than a smartphone, measures a patient's temperature and blood oxygen levels. When held up to the patient's chest, the device also measures their heart rate and listens to their lungs. Those vitals can be sent straight to the patient's clinician via the accompanying Withings app, which guides consumers through the process of using the device. Patients can also use the BeamO device in conjunction

with a clinician during a telehealth appointment, Elizabeth Coleon, chief marketing officer at Withings, told Healthcare Brew.

Withings is in the process of receiving FDA clearance for the BeamO device in the US, and plans to sell it directly to consumers starting sometime in 2024, Coleon said. The device will cost \$249.95.

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4 New Species of Deep-Sea Octopus Discovered Near Costa Rica

The Cephalopods Were Found Near a Small Outcrop of Rock Called El Dorado Hill.

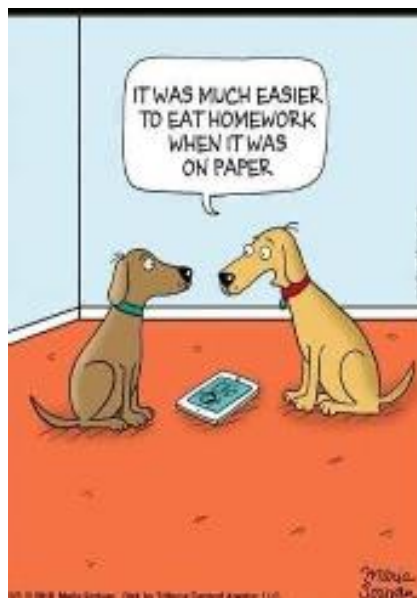


One of the new octopuses is a new species of Muusoctopus and will be named Dorado Octopus after the initial location of its discovery.

Schmidt Ocean Institute/ROV SuBastian / Schmidt Ocean Institute

<https://bit.ly/426cD1h>

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Watch the Making of a Beautiful Minimal Copper and Steel Dagger



mossandfog

While it has dangerous connotations, there's something undeniably cool about a dagger. Even the name seems...renegade and formidable.

Perhaps that's why we were so taken with this minimalist blade, made from copper and carbon steel. Created by knife maker and YouTuber Koss, the sleek and modernist design feels like it walked off a movie set, perhaps from the waistband of a futuristic warrior.

<https://youtu.be/JiMWcQPCvJQ>

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World's First Full Height Wooden Wind Turbine



Moss And Fog

[Modvion](#) in Sweden has unveiled the world's first full-height wind turbine that is mainly made from wood.

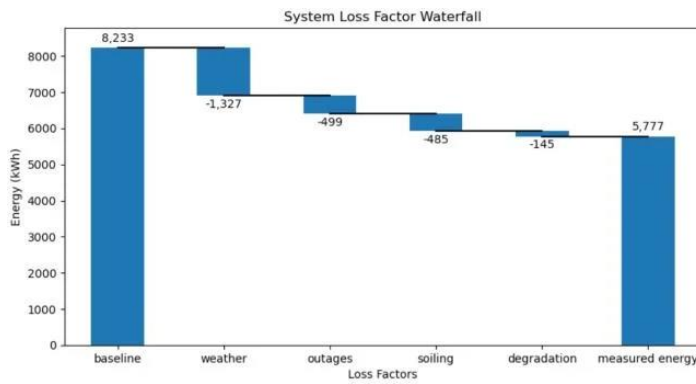
Aside from the rotor blades and generator, the construction is made from laminated veneer lumber (LVL), which is specifically engineered for load-bearing structures.

Reaching an impressive 105 meters tall (344 feet), the wooden tower shows that wood can be as strong as steel, and indeed, even taller than steel towers may be able to reach.

With 30% less weight, the ability to be transported in pieces, and wood's natural carbon sink, the choice for wood in industrial wind energy seems to be changing.

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Solar Power Data Software to Increase Clean Energy Generation



A waterfall chart showing the amounts of energy lost due to certain causes. The baseline energy of the system is how much power the system could generate theoretically, and the measured energy shows what the system actually generated. (Bennet Meyers/SLAC National Accelerator Laboratory)

The software tool sorts through messy data to reveal what's really going on with solar panels on cloudy and sunny days.

<https://bit.ly/3SihVS5>

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I've never tried to outrun a police car. But, if this shows up behind me, yeah, I'm taking my chances.



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Are There Reasons to Believe in a Multiverse?



reasons.org

Several areas of physics suggest reasons to think that unobservable universes with different natural laws could lie beyond ours. The theoretical physicist David Kaplan talks with Steven Strogatz about the mysteries that a multiverse would solve.

We know that we all live in our own little bubbles, whether it be our family, our friends, our hometown, even our workplace. And if you think about it, animals live in their own little bubbles, too. Fish live in certain parts of the ocean or different lakes or rivers. You won't find them in ice with a microbe population or flying around in the sky with birds, even though ice and water vapor in the sky are also forms of water. Could the universe be the same way?

<https://bit.ly/4bkxYZ0>

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Poetry Corner

Contemporary Latin American Poets

Gabriela Mistral

Gabriela Mistral was born in the town of Vicuña, Chile in 1889. She received a Nobel Prize in literature in 1945. Her poetry is dominated by the different kinds of love that crowd the human heart. The following verses reflect the influence of spirituality and religion of her upbringing and culture as well as literary influences such as Dante.

Alexandrine verses

Bible, my noble Bible, magnificent panorama,
where my eyes lingered for a long time,
you have in the Psalms the most burning of lavas
and in its river of fire I lit my heart!

You sustained my people with your strong wine
and you made them stand strong among men,
and just saying your name gives me strength;
because I come from you I have broken destiny

After you, only the scream of the great Florentine
went through my bones.

César Vallejo

César Vallejo was born in the town of Santiago Chuco, Perú in 1892. His ancestry was a mix of Chimu Indigenous culture and Spanish Catholic, which gave him a strictly religious upbringing. Vallejo was a highly educated poet and his poetry is influenced by his interest in the working classes' struggles and politics. He was exiled from Perú in the 1930's due to his political beliefs, after which he moved around Europe for a few years. The following poem is about his time living in Paris while he was being prosecuted before gaining residency.

Black Stone Lying On A White Stone

I will die in Paris, on a rainy day,
on some day I can already remember.
I will die in Paris – and I don't step aside –
perhaps on a Thursday, as today is Thursday, in autumn.

It will be a Thursday, because today, Thursday, setting down
these lines, I have put my upper arm bones on
wrong, and never so much as today have I found myself
with all the road ahead of me, alone.

César Vallejo is dead. Everyone beat him
although he never does anything to them;
they beat him hard with a stick and hard also

with a rope. These are the witnesses:
the Thursdays, and the bones of my arms,
the solitude, and the rain, and the roads...

Octavio Paz

Octavio Paz was born in 1914 in Mexico City and won the Nobel Prize in 1982 a few years before his death. He was born into a prominent family that had ties with elites from different backgrounds such as politics and military. Some of his most well-known works dealt with representations of Mexican society and politics. The following poem demonstrates the influence of philosophy and existence in his work.

Brotherhood

I am a man: little do I last
and the night is enormous.
But I look up:
the stars write.
Unknowing I understand:
I too am written,
and at this very moment
someone spells me out.

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FAA Advises Using Analog NAVAIDS In Spoofing Areas



Avatar photo

The FAA is telling pilots to brush up on their old-school instrument procedures and use analog NAVAIDs where possible if they're headed to areas where GPS spoofing is going on. In a Jan. 25 Safety Alert for Operators, the agency said GPS and GNSS disruptions are on the rise, particularly around war zones but also near military operations areas and places where countermeasures against drones are being used. "When available, operators should plan to use conventional Navigational Aids (NAVAIDs) in these locations," the SAFO says. "The FAA recommends that each operator follow the detailed guidance from their respective OEM."

The agency also wants pilots who encounter satellite navigation problems to report it to a dedicated website to add to a disturbingly long list of failures that have occurred so far. Among the anomalies experienced so far are:

- Inability to use GPS/GNSS for navigation;
- Inability to use hybrid GPS/GNSS inertial systems for navigation;
- Loss of area navigation (RNAV) capability, to include required navigation performance (RNP);
- Unreliable triggering of Terrain Avoidance and Warning systems (TAWS);
- Inaccurate aircraft position on navigation display (e.g., moving map and electronic flight bag);
- Loss of or erroneous Automatic Dependent Surveillance-Broadcast (ADS-B) outputs;
- Unanticipated effects to use of conventional navigation aids (e.g., inability to autotune);
- Unanticipated position-dependent flight management system effects (e.g., insufficient fuel indication)
- Failure or degradation of Air Traffic Management (ATM) infrastructure and its associated systems reliant on GPS/GNSS, resulting in potential airspace infringements and/or route deviations.

Russ Niles for AVweb.

All good things are destined to come to the attention of vandals.

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Johannes Brahms (1833-1897)



youtube

The German composer, pianist, and conductor of the mid-Romantic period was born in Hamburg into a Lutheran family but spent much of his professional life in Vienna. He is sometimes grouped with Johann Sebastian Bach and Ludwig van Beethoven as one of the "Three Bs" of music, a comment originally made by the nineteenth-century conductor Hans von Bülow. Wikipedia.

His Fantasies, Op. 116 for solo piano consists of seven pieces entitled Capriccio or Intermezzo, though Brahms originally considered using "Notturmo" for No. 4 and "Intermezzo" for No. 7. The pieces represent the end of Brahms's long break from composing piano pieces.

Fantasies, opus 116, Helene Grimaud <https://youtu.be/aaQdK1iY26Y?t=2>

Brahms composed the three Intermezzi of Opus 117 in the summer of 1892. In September 1892 Clara Schumann learned of the existence of the pieces and wrote to Brahms requesting he send them to her. He obliged her request, sending her the completed pieces on 14 October 1892.

Three Intermezzi for Piano, opus 117 are a set of solo piano pieces showing Brahms' interest in lullaby; in particular, Brahms told a friend that they were "three lullabies of my grief".

3 Intermezzi, Maria Joao Pires <https://youtu.be/ZNqdtkYV23c?t=3>

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The "World's Oldest Pancake Race"

In this centuries-old English pancake race, 'you just have to go flat out'



bbc

The English town of Olney hosted the annual Pancake Day Race between its residents and women from Kansas on Tuesday, Feb. 13, as it marked its 75th anniversary of the event. Every year women clad in aprons and headscarves from Olney and the city of Liberal, in Kansas, USA, run their respective legs of the race with pancakes in their pans.

https://youtu.be/gIib00Ue9_A

I prefer this to Finland's Wife Carrying Race.

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Sun Day Red is Tiger Woods' New Apparel Through TaylorMade



AP photo

Woods is starting a new year with a new look, announcing Monday evening an extended partnership with TaylorMade Golf to launch a lifestyle brand that will be called Sun Day Red.

<https://bit.ly/3I62cRS>

Should knock three strokes from your handicap by the ninth tee...Dream on.

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Philosophers of the Past Century

- A computer once beat me at chess, but it was no match for me at kickboxing. ~ Emo Philips
- Wood burns faster when you have to cut and chop it yourself. ~ Harrison Ford
- Kill one man and you're a murderer, kill a million and you're a conqueror. ~ Jean Rostand
- Having more money doesn't make you happier. I have 50 million dollars but I'm just as happy as when I had 48 million. ~ Arnold Schwarzenegger
- We are here on earth to do good unto others. What the others are here for, I have no idea. ~ WH Auden
- In hotel rooms, I worry. I can't be the only guy who sits on the furniture naked. ~ Jonathan Katz
- If life were fair, Elvis would still be alive today and all the impersonators would be dead. ~ Johnny Carson
- I don't believe in astrology. I am a Sagittarius and we're very skeptical. ~ Warren Tantum
- Hollywood must be the only place on earth where you can be fired by a man wearing a Hawaiian shirt and a baseball cap. ~ Steve Martin
- The only reason they say 'Women and children first' is to test the strength of the lifeboats. ~ Jean Kerr
- When a man opens a car door for his wife, it's either a new car or a new wife. ~ Prince Philip
- America is so advanced that even the chairs are electric. ~ Doug Hanwell
- The first piece of luggage on the carousel never belongs to anyone. ~ George Roberts
- If God had intended us to fly he would have made it easier to get to the airport. ~ Jonathan Winters
- I have kleptomania, but when it gets bad, I take something for it. ~ Robert Benchley
- As I hurtled through space, one thought kept crossing my mind – every part of this rocket was supplied by the lowest bidder. ~ John Glenn

- America is the only country where a significant proportion of the population believes that professional wrestling is real but the moon landing was faked. ~ David Letterman
- I'm not a paranoid, deranged millionaire. God dammit, I'm a billionaire. ~ Howard Hughes
- After the game, the King and the pawn go into the same box. ~ Old Italian proverb

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Super Bowl 2024 Was the Most-Watched Telecast of All Time



mediate.com

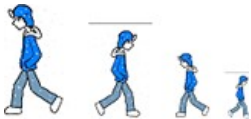
It Reached 123.4 Million Viewers

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

I was in that insignificant part of the public that shined it on.

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My Walking Thoughts



For Sunday February 18 2024

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Trip to Terra Incognita: Pensacola, December 1959

Preflight

Our Preflight class began with 40 students composed of previously commissioned officers --Navy Ensigns, Marine 2nd Lieutenants—and an equal number of Naval and Marine Aviation Cadets who would receive their commissions along with their wings at the completion of flight training. During class hours there was little to distinguish between these groups--all were treated with an eye to their achievement--and I never saw much difference in their objectives or performance. After-hours was different with the Cadets heading off to a barracks to endure a mild version of the harassment I had endured at Quantico.

At precisely 0800 a voice from someone standing close to the door called, "Attention on deck," and Captain Rapp of the Marine Aviation Detachment marched to the lectern and bid us take seats. Unlike my days in college and Quantico where I tried to remain well out of range of the professors, here I selected a seat front row/center, not wishing to miss anything through inattention. As it turned out the row was appropriated by all ten of the Marine 2nd Lieutenants then and throughout the rest of the program.

After all of us had introduced ourselves, Captain Rapp turned to one of the Cadets and asked, "What was your grade point in school?"

"Ninety-six, sir," the obviously satisfied cadet respondent.

Captain Rapp posed the same question to a half-dozen others, thankfully leaving me to contemplate my exceedingly lackluster college performance in solitude...ok, it was somewhere in the 80s, Ok?

"Here there is only one acceptable grade, gentlemen, one-hundred percent," Rapp explained, "Nothing less." After a few seconds of stunned silence followed by several more of some uncomfortable squirming he continued, "Don't worry, there won't be a single 'trick' question on any test, the instructors will pound into you what you are expected to know...and will even tell you what to look for on the tests.

"Ok future zoomies," he resumed after letting us digest his words, "Let's look at the courses you'll be dealing with," which began with the one he would be teaching, aerodynamics.

"I know you all know why airplanes fly, right," his seemingly facetious question met by general agreement. "Well, how many of you know the lift equation, or what the 'rho' in it stands for...or why it is important?" A few hands including mine raised.

"How many of you are familiar with the NACA airfoil designations and how they are applied to different applications?" This time couple of hands—not mine—rose from the group. I had studied them since they had been catalogued by my alma mater, but that was about as far as my familiarity went.

After a couple more such gentle challenges, Captain Rapp went on to say that the same kinds of details were the basis on which all the other courses were designed...powerplants for instance, or navigation, or meteorology, hydraulics, servo-mechanical systems. He went on to mention such things as morse code, flight rules, and proper behavior of young zoomies.

"Then there are a few physical requirements, swimming for instance...how many of you can't swim?" No hands went up, but Captain Rapp stood there waiting, and after a few seconds one...two...four hands confirmed his suspicion. "No worries folks, before you leave preflight you'll all be Tarzans."

Following this he rattled off a bunch of things like pommel horses, high bars, rope climbs, and an encounter with the 'Dilbert Dunker' that he promised we would learn to enjoy.

"At the end of preflight—the very last thing you will do—is take the step-test, something I guarantee you will remember long after graduation," he promised.

"Take five, gentlemen," he rounded off his introductory remarks, "then be ready for your first class in aerodynamics.

To be continued next week, so be ready with paper, pencil, and flight suit.

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