Ode to E Pluribus Unum for Sunday February 23 2025



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Beetle Battle Wins 2024 Close Up Photographer of the Year Contest



"Clash of the Titans". Overall Winner and 1st Place, Insects Two stag beetles (Lucanus cervus) battle for dominance in the Voronezh region of Russia. by Svetlana Ivanenko (Russia)

After releasing its shortlist last autumn, the Close Up Photographer of the Year (CUPOTY) contest has now revealed the winners of its 2024 competition. Photographer Svetlana Ivanenko was named the overall winner for her fascinating photo of two stag beetles battling for dominance. Seemingly emerging from the shadows, their horns lock as they clash.

The sixth edition of the competition, which is organized in association with Affinity Photo, attracted over 11,000 photos from 61 countries. To select the winners of the 11 categories, as well as the top 100 photos, an expert jury of 25 photographers, scientists, journalists, and editors spent over 20 hours deliberating.

https://bit.ly/4aDlCen

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Newly Discovered Near-Earth Asteroid Isn't an Asteroid at All

Astronomers have retracted the discovery of a new asteroid after realizing the object was the remains of Elon Musk's Tesla Roadster and its driver "Starman," which were launched into space in 2018.



The Tesla Roadster and its "driver" Starman were the payload of SpaceX's first Falcon Heavy rocket launch. (Image credit: SpaceX via Getty Images)

Astronomers have been left red-faced after announcing the discovery of a new near-Earth asteroid — only to realize that the supposed space rock was the remains of Elon Musk's cherry-red Tesla Roadster and its spacesuit-clad driver "Starman."

On Jan. 2, the International Astronomical Union's Minor Planet Center (MPC) added a new object, dubbed 2018 CN41, to its list of near-Earth asteroids. The supposed space rock was identified by an unnamed amateur astronomer in Turkey using years of publicly available data, Astronomy.com reported. However, just 17 hours later, the MPC released an editorial notice retracting the discovery after the citizen scientist realized they had made a mistake.

https://bit.ly/3WGoGkk

Chords & Riffs

Camille Saint Saens (1835-1921)



alamy

Camille Saint-Saëns's works encompass every genre from 13 operas, including Samson et Dalila, to piano études that have helped to form performers' techniques for over a century. There is chamber music galore, notably two fabulous cello sonatas; two concertos for that instrument, five for piano and three for violin – though we only seem to hear No. 3 regularly; and a raft of symphonic poems plus further symphonies (try the enchanting No. 1).

Despite a meteoric career as a child prodigy pianist – he once offered to play as an encore, from memory, any one of the 32 Beethoven sonatas – he quickly set his sights on becoming a composer.

Hhis spread of interests and expertise is dizzying: mathematician, writer, zoologist, botanist and fossil hunter, he added astronomy to that list and once used the proceeds of some duos for harmonium and piano to commission a telescope to his own specifications. With this, he would examine the stars from his Parisian rooftop, sometimes joined by his pupils from the Ecole Niedermeyer where, in his twenties, he had his only teaching job. He became, too, a legendary organist, holding the chief post at the Madeleine for two decades from 1858.

La danse macabre <u>https://youtu.be/71fZhMXIGT4</u> Notre-Dame Reopening - Saint-Saëns Symphony No. 3 <u>https://youtu.be/yeckyz-GJJk</u> The Carnival Of The Animals <u>https://youtu.be/7SjagpXeNhM</u> Piano Concerto No.5 <u>https://youtu.be/1IEYtta_ZsI</u> Oratorio de Noël <u>https://youtu.be/kizKEwIe4v4?t=40</u>

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Things I'm Super Good At

- 1. Forgetting someone's name 10 seconds after they tell me.
- 2. Buying produce...and throwing it away two weeks later.
- Digging through the trash for the food box I just tossed, because I already forgot the directions.
- 4. Making plans. And then immediately regretting making plans.
- 5. Leaving laundry in the dryer until it wrinkles. Then turning on the dryer to dewrinkle. Then forgetting it again.
- Calculating how much sleep I'll get if I can just "fall asleep right now".

I have achieved pro status at every one of these. How do you figure that?

What Happens Inside the White House on Inauguration Day



washingtonpost.com

Ever wonder what happens inside the White House on Inauguration Day? We will examine how the Presidential administration transfers the White House from one President to the next. With a literal army of White House staff, these people have the seemingly impossible task of packing up an entire 20,000-square-foot mansion in a matter of hours two times over. This video will examine the behind-the-scenes action that makes sense of this highly choreographed, organized chaos. Don't miss this behind-the-scenes look at the inauguration of the President of the United States!

https://youtu.be/rlZytzPZAlo

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FLASHMOB CENTRAL

Pulling Strings Mariachi Flashmob!



youtube

https://youtu.be/yuNI50hUrs0

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China Plans to Build Enormous Solar Array In Space

It could collect more energy in a year than 'all the oil on Earth'



A Chinese Long March 5 rocket launches the China National Space Administration's Tianwen-1 Mars rover, lander and orbiter from Wenchang Satellite Launch Center on Hainan Island on July 23, 2020.

(Image credit: CCTV/China National Space Agency)

China has announced plans to build a giant solar power space station, which will be lifted into orbit piece by piece using the nation's brand-new heavy lift rockets.

The new project, according to lead scientist Long Lehao, the chief designer of China's Long March rockets, would be "as significant as moving the Three Gorges Dam to a geostationary orbit 36,000km (22,370 miles) above the Earth."

"This is an incredible project to look forward to," Long added during a lecture in October hosted by the Chinese Academy of Sciences (CAS), as reported by the South China Morning Post. "The energy collected in one year would be equivalent to the total amount of oil that can be extracted from the Earth."

https://bit.ly/4fTX16g

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How Marine Iguanas Feed Underwater

dreamstime.com

Being the only lizard that gets its food from the sea, this reptile can stay underwater for thirty minutes but must come back up for air in time. Will he get his timing right and come back up for air in time?



A Meteorite Was Captured Hitting The Ground on Video and Audio

"When I was innocently moving that dog lead, a meteor was hurling towards me."



Image credit: Compass Media/Joe Velaidum

Joe Velaidum, of Marshfield, Prince Edward Island, Canada, was standing outside his home last July, before setting off for a walk with his dog. If he had lingered a little longer, he may have become the second person in history to have been confirmed to be hit by a meteorite.

Fortunately, Velaidum and his dogs were clear of the area when the meteorite struck, and he did not know anything was up until he returned from his walk and found strange dark debris on the floor. Checking his door camera, he found that there was footage of the moment the debris was deposited, and it looked an awful lot like a meteor impact. Astonishingly, in several frames of the video before impact, you can see the meteorite falling to Earth.



Why America Is in an Alcohol Recession

Beer, wine, and spirit sales have trended upward for years. But the industry now faces new threats.

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the hustle

This year, millions of Americans are participating in Dry January — the tradition of abstaining from booze for an entire month. And the alcohol industry is waking up to a nasty hangover.

- IWSR, a global data firm that researches beverages, found that the United States' year-over-year alcohol volumes fell 2.6% in 2023 and 2.8% for the first seven months of 2024.
- Per Nielsen, beer volumes declined by 2.9% last year and wine by 4.4%.
- Even premium spirit brands suffered. Remy Cointreau reported a decline of nearly 23% last fall.

"Last year was a terrible year for the industry," says Marten Lodewijks, president of IWSR US division. The "multi-billion dollar" question, he added, is whether changing consumer preferences and lifestyle choices, some brought on by increased awareness of alcohol's health risks, will reshape the industry long term.

And right now nobody has an easy answer.

https://bit.ly/3Q2lfRr

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Io's Incredible Steeple Mountain

Jupiter, the largest planet in our solar system, has over 95 recognized moons. Io is one of the four Galilean moons, (the four largest), and the innermost to Jupiter.



NASA

It also happens to be the most volcanically active bodies in the entire solar system. With over 400 active volcanoes, Io is not the kind of place you want to spend a summer vacation.

https://mossandfog.com/ios-incredible-steeple-mountain/

Hierapolis-Pamukkale, the Cotton Palace

Giora Dan

Deriving from springs in a cliff almost 200 m high overlooking the plain, calcite-laden waters have created at Pamukkale (Cotton Palace) an unreal landscape, made up of mineral forests, petrified waterfalls and a series of terraced basins. At the end of the 2nd century B.C. the dynasty of the Attalids, the kings of Pergamon, established the thermal spa of Hierapolis. The ruins of the baths, temples and other Greek monuments can be seen at the site.

The combination of striking natural formations and the development of a complex system of canals, bringing the thermal water to nearby villages and fields, is exceptional. The springs are the source of a hydraulic system extending 70 km northwest to Alasehir and westwards along the valley of the Menderes River. Pamukkale forms an important backdrop to the original Greco-Roman town of Hierapolis and the cultural landscape which dominates the area.

https://whc.unesco.org/en/list/485/

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3D-Printed Ultralight Material Roughly 5X Stronger Than Titanium;

Strong as steel, light as foam: Machine learning and nano-3D printing produce breakthrough high-performance, nano-architected materials



physics.org

In a new <u>paper published in Advanced Materials</u>, a team led by Professor Tobin Filleter (MIE) describes how researchers at the University of Toronto's Faculty of Applied Science & Engineering made nanomaterials with properties that offer a conflicting combination of exceptional strength, light weight and customizability. The approach could benefit a wide range of industries, from automotive to aerospace. "Nano-architected materials combine high performance shapes, like making a bridge out of triangles, at nanoscale sizes, which takes advantage of the 'smaller is stronger' effect, to achieve some of the highest strength-to-weight and stiffness-to-weight ratios, of any material," says Peter Serles (MIE MASc 1T9, MIE PhD 2T4), the first author of the new paper.

https://bit.ly/3PSLjhO



Whalesong Patterns Follow a Universal Law of Human Language

All known human languages display a surprising pattern: the most frequent word in a language is twice as frequent as the second most frequent, three times as frequent as the third, and so on. This is known as Zipf's law.



A breaching humpback whale in New Caledonia. Operation Cetaces

In <u>new research</u> published in Science, our team of experts in whale song, linguistics and developmental psychology analyzed eight years' of song recordings from humpback whales in New Caledonia. Led by Inbal Arnon from the Hebrew University, Ellen Garland from the University of St Andrews, and Simon Kirby from the University of Edinburgh, we used techniques inspired by the way human infants learn language to analyze humpback whale song.

We discovered that the same Zipfian pattern universally found across human languages also occurs in whale song. This complex signaling system, like human language, is culturally learned by each individual from others.

https://bit.ly/4gz6lwL



The Faster-Than-Light Flash That (Probably) Gave Birth to Our Universe

Quanta Magazine

Similar numbers of galaxies lie in every direction, even though the universe doesn't seem to have been around long enough for one side to mix with the other. This is the "horizon problem."

Another is that based on observations of <u>ancient light</u>, space-time appears to have no measurable curvature. This "flatness" requires the universe to maintain a very special density of matter and energy for billions and billions of years. This is the "flatness problem."

The standard Big Bang theory — the notion that the universe started out as a small, hot, dense patch of space that has been steadily expanding ever since — doesn't address either issue.

https://bit.ly/3Ctz3kz

How about a conditional maybe?

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How Much Subsidies Do Fossil Fuels Receive?

Estimates range from less than \$1 trillion to \$7 trillion. Where do these numbers come from?



cnbc.news

Global explicit subsidies for fossil fuels amounted to around \$1.5 trillion in 2022. This is a vast sum. For context, that's equivalent to around 1.5% of the global gross domestic product (GDP) or the entire GDP of countries like Russia or Australia.

Global subsidies ramped up in 2022 because the price of energy spiked due to Russia's invasion of Ukraine.

https://bit.ly/4aztLRf

A Massive Underground Aquifer Beneath Oregon's Cascades

Deep beneath the rugged peaks of Oregon's Cascade Range, scientists have discovered what could be one of the largest underground aquifers in the world a vast, hidden reservoir of water spanning many miles. Over 81 cubic kilometers of fresh water is the current estimate.



moss&fog

The implications are profound. As climate change threatens global freshwater supplies, hidden reservoirs like this could become crucial lifelines. But they also highlight the delicate balance of nature, one that demands careful study and preservation.

https://bit.ly/4hHfCnr

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Earth's Crust Is Peeling Away Under California

A section of the upper mantle and crust under the Sierra Nevada mountains is peeling away, in a process that may mimic how the continents were formed.



(Image credit: Cindy Robinson via Getty Images)

Beneath California's Sierra Nevada mountains, the crust is peeling away.

This process, called lithospheric foundering, is nothing to worry about. In fact, it may be how the continents first formed. Continental crust sits higher and lasts longer than oceanic crust because it's less dense. Foundering might be the way lighter materials in the crust separate from heavier materials, creating the continents upon which all terrestrial life depends.

Under the southern section of the mountain range, the lithosphere —the upper part of Earth's mantle and part of the crust — has already peeled away and sunk into the deeper mantle, according to the new research. The lithosphere under the central Sierra is currently peeling, while the process hasn't yet made it to the northern end of the mountain range.

https://bit.ly/42Donuk

Perhaps this explains the mass exodus of business from the Golden State

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Mercedes' 1955 F1 Car Sells for Record \$53m at Auction

The sleek, silver W196 R Stromlinienwagen, one of only four complete examples in existence, was sold by RM Sotheby's at the Mercedes museum in Stuttgart, Germany, on behalf of the Indianapolis Motor Speedway (IMS).



The streamlined Mercedes set a new record for the highest price paid for a grand prix car. Jason Tschepljakow/picture alliance via Getty Images

The most expensive grand prix car previously sold at auction was another ex-Fangio Mercedes W196 from 1954 that fetched \$29.6m at Goodwood, England, in 2013.

The IMS car is the first W196 R to become available for private ownership with the streamlined body fitted.

The car was driven to victory by five-time world champion Fangio at the nonchampionship Buenos Aires Grand Prix in 1955, but with a more conventional cigarshaped body on the same chassis, and fully open wheels.

Teammate Moss then raced it with the wider, streamlined body extending over the wheels at the season-ending Italian Grand Prix at Monza, retiring after setting the fastest lap at an average speed of 215.7 kph (134.0 mph).

That grand prix marked the end of an era for the Mercedes stable's "Silver Arrows" as the firm withdrew from factory-sponsored motorsport in 1955 after a Le Mans 24 Hours disaster that killed 84 people.

Mercedes returned to F1 as an engine provider in 1994 and with its own works team from 2010.

The car sold on Saturday, chassis number 00009/54, was donated to the IMS by Mercedes in 1965 and was auctioned to raise funds for the museum's restoration efforts and acquisitions with more U.S. focus.

"It's a beautiful car, it's a very historic car, it's just a little bit outside our scope window," curator Jason Vansickle said.

"We've been fortunate to be stewards of this vehicle for nearly 60 years and it has been a great piece in the museum but with this auction and the proceeds raised, it really will allow us ... to be better in the future."

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US Reports Outbreak of H5N9 Virus in Poultry. Should We Worry?

Nearly 119,000 birds have been culled at a farm in California after a bird flu called H5N9 was detected among the poultry.



A highly pathogenic new strain of H5N9 has been detected in ducks at a farm in California. (Image credit: Marcus Sinhalage / 500px via Getty Images)

A strain of bird flu never seen before in the United States has been detected among poultry at a California farm.

The virus, called highly pathogenic H5N9, is a type of avian influenza, otherwise known as "bird flu." This is not the same type of bird flu that's already been spreading on dairy cow and poultry farms in the U.S., causing at least several dozen infections in humans. That virus is called H5N1.

So what is H5N9? How does it differ from H5N1, and should we be equally concerned about it?

https://bit.ly/4gqBpi0

On its website, the Centers for Disease Control and Prevention (CDC) currently states that <u>the public health risk from H5 bird flu is "low"</u> but that the agency is "watching the situation carefully and working with states to monitor people with animal exposures."



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Two out of three meets state education standards

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Visualizing How Americans Spend Their Money

Today, consumer spending represents 68% of U.S. GDP, with much of this used for housing, transportation, and healthcare costs.



More than ever, Americans are using debt and credit cards to fund these purchases. In the second half of 2024, household debt hit a record \$17.9 trillion. At the same time, credit card debt surpassed a historic \$1 trillion, climbing by 8.3% over the time period.

This graphic shows the average annual expenditures of Americans, based on data from the Consumer Expenditures Survey 2023 by the Bureau of Labor Statistics.

https://bit.ly/3Q5VHTb

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A Classical in-Utero Concerto May Benefit Babies' Heart Rates



Prostock-Studio/ iStock

The world might feel increasingly chaotic, but a recent study provides new evidence that a little classical music may go a long way to calm our heart rates — that is, before we're even born.

Researchers played two classical music pieces, "<u>The Swan" by Camille Saint-Saëns</u> and "<u>Arpa de Oro" by Abundio Martínez</u>, to 36 pregnant women, using external monitors to measure the babies' heart rates. "Overall, we discovered that exposure to music resulted in more stable and predictable fetal heart rate patterns," study author Claudia Lerma said in a statement. "We speculate that this momentary effect could stimulate the development of the fetal autonomic nervous system."

Though both songs had a positive impact, the Mexican guitar melody was the more effective of the two, with the researchers citing factors like rhythmic characteristics and melodic structure as potential reasons for the difference.

The main takeaway: "Our results suggest that these changes in fetal heart rate dynamics occur instantly in short-term fluctuations, so parents might want to consider exposing their fetuses to quiet music," said fellow author Eric Alonso Abarca-Castro. The added bonus? A soothing soundtrack will likely benefit mom, too.

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How to Make a Drone Show



The creative part of the drone show depends on the show's choreography. The drone flight has to be created with any 3D animation software. Believe it or not — there are no limits for animation. Drones can create virtually ANY shape in three dimensions. They can even carry fireworks. The animation for this Winter Holiday drone show was created by Base Motion studio The speed and distance have to be tested once the animation is finished to make sure there is no collision danger and that the drones can reach the required speeds.

Once the animation is finished, Drone Show Software makes it possible to test it virtually — no drones are harmed! :) So-called software-in-the-loop (SITL) virtual environment that simulates real drone behavior is used. SITL allows to check if the provisionary takeoff and landing positions are OK if all animation formations are as they should be, all the lights are working as expected and the show is facing a correct direction. When the provisionary show position is clear, to assure audience safety it is possible to set drone flying limits with a cylinder or polygon shaped fences. Ready to proceed!

https://youtu.be/YW_VR3Yx0DE



lumasky.show

https://youtu.be/7fKfBb7x9WQ

How to Create Drone Light Show With Thousands of Drones.



timeout.com

This video takes viewers behind the scenes of a massive drone light show, showcasing the process from drone assembly to performance. The video highlights the meticulous planning and preparation involved, including drone testing, show design, and venue setup, culminating in a breathtaking display of thousands of drones flying in formation.

https://youtu.be/adPqagG1dc0

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Alarming Levels of Microplastics Found in Human Brains

A new study finds that microplastics and nanoplastics accumulate at higher levels in the brain than in the liver and kidney.



A new study in <u>Nature Medicine</u> finds that microplastics and nanoplastics—which are even smaller at 1 to 1000 nanometers in size—accumulate at higher levels in the human brain than in the liver and kidneys. The study also finds significantly higher concentrations of microplastics and nanoplastics in 2024 samples compared to 2016 samples, and higher levels in brains from people diagnosed with dementia.

Although the study does not establish a cause-and-effect

relationship between these plastic particles and dementia, it raises questions about the possible health consequences of exposure to plastics. While scientists know these plastics are in our bodies, how they impact our health is unclear.

https://bit.ly/4aOMpEJ

Anyone want to weigh in on this?

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10 Little-Known Food Facts

There are some common beliefs about food that, despite their popularity, are actually fake. While science has already done its job and debunked them, many of these myths have an explanation!



No zits from the chocolate, but the sugar in these candies might not be so kind. Credit: Jessica Loaiza

https://bit.ly/3EPfxQr

Saved from the BS monster again... ten times in fact.

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AI Can Now Replicate Itself — A Milestone That Has Experts Terrified

Scientists say AI has crossed a critical 'red line' after demonstrating how two popular large language models could clone themselves.



(Image credit: Mina De La O/Getty Images)

"Successful self-replication under no human assistance is the essential step for AI to outsmart [humans], and is an early signal for rogue AIs," the researchers wrote in the study, published Dec. 9, 2024 to the preprint database arXiv.

In the study, researchers from Fudan University used LLMs from Meta and Alibaba to determine whether a self-replicating AI could multiply beyond control. Across 10 trials, the two AI models created separate and functioning replicas of themselves in 50% and 90% of cases, respectively — suggesting AI may already have the capacity to go rogue. However, the study has not yet been peer-reviewed, so it's not clear if the disturbing results can be replicated by other researchers.

https://bit.ly/4g9irfK

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My Walking Thoughts

11 2 2

For Sunday February 23 2025

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An Introduction to Two Plane Parade Formation Flying

I'll start this off by saying that regardless of its other purposes and virtues, formation flying is the most wonderful, soul-satisfying, physically and mentally demanding challenge in aviation. While other flying activities—carrier landings for instance—might push your heart into higher pitty-pat levels on your BPM meter, nothing can match the absorption of all your capabilities as when you make another aircraft's jitterbugging wingtip the sole focus of your being... nothing.

And we'll get to that playground in a moment, but first it's time for one of those—"oh hell, he's going to give us another of those lessons in something weird"—I deem necessary since I talked about formation flying in the piston-engined, propellor-driven T-28 Trojan a while ago, I need to draw some comparisons with the same experience in the jet-engined F9F-8 Cougar.

The Difference Between Horsepower and Thrust.

While there are ways to equate them, the two are different both in their measurements and effect.

Thrust is a unit of force that propels an object forward as a result of Newton's action/reaction proposition. In an aircraft jet engine that force remains relative stable under varying airspeed conditions.

Horsepower on the other hand is a unit of power in which work is done. It is calculated by multiplying force by velocity and expressed in foot-pounds per second. In a piston/prop powerplant, thrust varies inversely with airspeed. Thus as airspeed increases, thrust decreases, creating a limitation to high speeds. But at low airspeeds, however, propellers are more efficient, generating more thrust per unit of power

OK, so what? Why do the bulk of military and commercial transport aircraft use turbines rather than piston/propellor powerplants?

In the case of the piston/propellor system, the faster you go, the less thrust it produces, leading you eventually to a dead end. But a jet is different, since the relative stability of thrust through wide bands of airspeed, the faster you go, the more power the jet engine is capable of producing, that product—thrust horsepower—equating at approximately 340 knots (~375 mph). At this speed, your 12,000 pound thrust jet engine is propelling you at 12,000 foot-pounds per second of thrust horsepower. If you double the airspeed, you double the thrust horsepower accordingly.

But... yeah, there's always a but isn't there. As you climb to where the jet engine becomes more efficient the decrease in air density robs the jet of its mass flow rate, leading to a loss of thrust. At 30,000 feet, a conservative cruising altitude for turbine aircraft, the engine is able to produce only 67% of its sea level rating, a factor degrading its effectiveness.

There are a lot more factors involved in the difference between prop and jet performance parameters, but that's enough to allow me to describe what I experienced from my flights in the Cougar.

Takeoff and Join Up on My Formation Stage First Flight.

This was accomplished with the help of two instructors, the one in charge of the flight in the back seat of my aircraft and the other acting as 'target' in another... in this case a single seat F9F-8B. After taking the runway, accomplishing run-ups, and checking each over for flight readiness, the target released his brakes and headed off, leaving me to count to eight before following suit.

For this flight, we were scheduled to perform a 'running rendezvous,' set up by the leader setting his power to 95% and climbing to the south at 250 knots. At 290 knots thanks to the performance advantage, I was able to close from behind swiftly drawing to several hundred feet in trail and then pulling power, allowing myself to slow to match the leader's airspeed and altitude as I sought the proper 'parade' position... 30 degrees aft bearing with five feet wingtip separation. (Compare that with the Blue Angels' severe wing overlap based on a three-foot separation between wingtip and canopy.)

'Piece of cake,' I told myself, pride of accomplishment blinding me to how simple the running rendezvous process was.

"You can tighten it up a little bit," Captain Moore suggested in a caustic voice, sticking a pin in my overinflated ego.

Continuing the climb, the leader began a series of gentle turns, sometimes into me, others away, each setting in motion a series of responses to the changed conditions. For instance:

As the leader turns away at a 30 degree angle of bank while maintaining altitude and airspeed, I as wingman now find myself at the outside of the turn and falling behind bearing. In response I need to add enough thrust to stop the rearward slide and work back to the correct position, reduce thrust to counter the resultant advance, then play smaller and smaller power changes until arriving at a stable position... which never quite happens in formation flight.

The response to when the leader turns into the wingman is far more interesting for a couple of reasons. The instant the leader turns into you, you are on the inside of the turn and running forward of bearing. If you don't respond quickly and positively to the

situation, you're on a collision course, setting yourself up for the ultimate formation nono... running into the leader. Whereas you might get away with a little laziness on the turn way, here your response has to be immediate and more abrupt, because in *** of being on the inside of the turn, you are also above the leader's fuselage reference plain. Try this with your hands and the situation will become patently apparent. If you don't push forward on the stick at the same time you pull power, you are now inside and above the leader. And if this continues, bad things are going to happen.

Because the response to a turn into you has to be significant, you can bet that reestablishing yourself in the new position leads to even more see-sawing, and while less threatening, the return to level flight requires hard work.

For the next hour or so we sashayed back and forth, increasing to 45- then 60-degree angles of bank, adding to the fun. Worn out by these parade formation exercises, it was time to switch to the cruise formation, whose fun and games will form the basis of next week's Walking Thoughts.



FA-18s in two plane parade formation militaryimages.net

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