

Ode to E Pluribus Unum for Sunday October 20 2024

=====



=====

The Demolition Squad



Photograph By Ingo Arndt, Wildlife Photographer of the Year

German wildlife photographer Ingo Arndt won an award in the Behavior: Invertebrates category for his image "The Demolition Squad," which depicts red wood ants dismembering a blue ground beetle in Hessen, Germany. To meet their protein needs, wood ants work together to take down much bigger insects and invertebrates, carving them into smaller pieces to fit into their underground nests.

"They bit me and sprayed me with formic acid every day. But I still love them because they are smart and social animals that show so many interesting behaviors," says Arndt,

whose wood ant photography will be featured in the February 2025 issue of National Geographic.

Arndt hopes audiences take away an admiration for the ants. "Wood ants are very helpful for an intact ecosystem. For example, they kill a lot of pest insects when they appear in masses and protect the forest where they live," he says.

=====

Dark Photons Could Explain High-Energy Scattering Data



Messenger from the dark side: Dark matter may interact with normal matter via a hypothetical particle known as a dark photon.

(Courtesy: Shutterstock/80's Child)

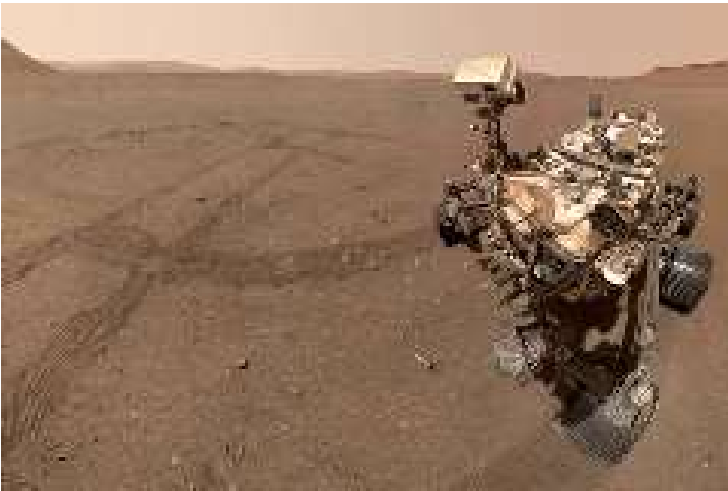
A new analysis conducted by an international team of physicists suggests that dark photons – hypothetical particles that carry forces associated with dark matter – could explain certain data from high-energy scattering experiments. The analysis, which was led by Nicholas Hunt-Smith and colleagues at the University of Adelaide, Australia, could lead to new insights into the nature of dark matter, which remains a mystery even though standard models of cosmology suggest it makes up around 85% of the universe's mass.

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



=====

Could an SLS Megarocket Save the Mars Sample Return Mission?



NASA's Perseverance Mars rover took this selfie looking down at one of 10 sample tubes deposited at the sample depot it created in an area nicknamed Three Forks. This image was taken by the WATSON camera on the rover's robotic arm on Jan. 20, 2023, the 684th Martian day, or sol, of the mission.

(Image credit: NASA/JPL-Caltech/MSSS)

Boeing says NASA could get Mars samples back to Earth with a single launch of the Space Launch

System rocket

The concept centers on using NASA's Space Launch System (SLS) rocket, for which Boeing is a lead contractor. The giant rocket could carry all the hardware needed to pull off an ambitious, multi-spacecraft Mars sample return mission, according to Green.

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

Maybe someone other than Boeing?

=====

New Building in Denver Features a Facade that "Cracks Open"



Moss&Fogg

Called One River North, the apartment block has a large 'crack' in its facade, exposing a plaster, almost cave-like interior inside.

It's a highly distinctive and unusual feature, one that gives a nod to Colorado's beautiful topography, and also brings a unique opportunity for terraces on the building.

Designed by international firm MAD Architects, the building's 'canyon' meanders down the 15 story height, creating openings that are fascinating to look at, and give an organic feel to what could otherwise be a traditional glass tower.

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

=====

Fats Are Actually Quite Useful



Quanta

We constantly hear advice about what kinds of fats we should or shouldn't be eating: saturated bad, omega-3s good. Enjoy the almonds and salmon, limit the margarine and deep-fried fast food. But we rarely think about what these fats actually are: varieties of biomolecules called lipids, which are much more than just things we consume. Recently, lipid science has advanced to better define the myriad roles these molecules play in our cells and bodies.

Lipids are "a lot more complex than people have recognized," said Jacob Winnikoff, a researcher at Harvard University who studies how pressure impacts the lipids of deep-sea animals. "We have better tools to look at them now."

Besides storing energy as fat, lipids are best known for encircling and protecting every living cell on Earth. The molecules form an effective barrier — the cell membrane — because most lipids are hydrophobic, meaning that they hate water (which is why oil and water don't mix). The lipid molecules that make up cell membranes have a hydrophobic head and two hydrophilic, or water-loving, tails. As a result, they naturally line up: heads on the outside, tails on the inside.

This inherent ordering allows the lipid layer to act like a house: protective, but with doors and windows. The membrane is sturdy enough to keep a cell's contents safely

inside, but flexible enough to allow molecules to flow in and out as needed, to signal between cells, for example. Lipids may have helped organize molecules before and during life's origins. Their "just right" formations help living things adapt to extreme environments. And they are becoming increasingly important in medicine for vaccine delivery and as potential cancer targets.

Although lipids aren't as flashy as proteins or DNA, they're finally drawing overdue attention for their complexity and varied functionality. They've even begun to gather a few groupies. A few months ago, Winnikoff ran into five or so other "lipid people" at a conference. They wore friendship bracelets that spelled out "❤️ Lipids." "We're totally like lipid hipsters," Winnikoff said. We're now learning more about the range of neat roles lipids play in cells — some expected, others not so much.

What's New and Noteworthy

Deep-sea animals survive under pressures strong enough to stifle the cellular function of any surface dweller immediately. It turns out that lipids help the denizens of the depths hold their shape. Researchers, including Winnikoff, used a particle accelerator to discover that three-quarters of the lipids in deep-sea comb jelly membranes are plasmalogens, an unusual, curvy lipid that, under the pressure of the deep sea, conforms to the correct shape needed for a sturdy yet flexible membrane. Plasmalogens are also prevalent in the human brain, pointing to a potential role in cell signaling.

Surprisingly, lipids also help us see. In mammalian eyes, mitochondria serve as microscopic lenses that focus light onto photoreceptors, which convey signals to the brain. How do mitochondria do this? With the help of lipids. Like many organelles within cells, mitochondria are surrounded by lipids, which have a natural ability to bend light. "They're just the best material to achieve this function," said Wei Li, a senior investigator at the National Eye Institute and senior author on the paper describing this process. In a similar way, lipids form so-called oil droplets in the retinas of birds and reptiles that filter color and potentially also work as tiny lenses.

Because all cells have lipid membranes, we can't talk origins of life without considering how and when the fatty molecules got involved. David Deamer, a professor emeritus at the University of California, Santa Cruz, has a theory that on the young Earth, lipids could have built up along the edges of hydrothermal pools. There, they may have helped collect biochemicals into molecules such as RNA and then surrounded them to form proto-cells that gave rise to life as we know it. "You can't do chemistry without a compartment," Deamer said. "On the early Earth, each membrane was an experiment in life."

By Yasemin Saplakoglu for Quanta Magazine

=====

A Pill to Treat Sick Cell Disease?



An experimental drug for sickle cell disease activates a fetal hemoglobin gene that lets new blood cells assume a normal shape.

Spencer Sutton/Science Source

Drug strategy, shown to produce hemoglobin in lab animals, could rival costly, risky gene therapies

Last year, the U.S. Food and Drug Administration (FDA) approved two gene therapy procedures that can treat and, in some cases essentially cure sickle cell disease, a genetic blood disorder that causes pain and anemia in millions and still kills nearly 375,000 people worldwide every year. But the groundbreaking treatments require risky chemotherapy and cost some \$2 million per person, putting them out of reach of the vast majority of sickle cell patients. Now, pharmaceutical researchers are reporting a potential oral drug that restores healthy blood cells in animal models of the disease.

Unlike a one-time gene therapy whose benefits could last decades, the new compound might have to be taken periodically for life and it hasn't even begun safety testing in humans. But the experimental drug, described today in *Science*, offers hope that sickle cell disease could one day be widely and cheaply treatable with a simple pill.

<https://bit.ly/4bzKO4y>

=====

The Chemistry Final



dreamstime

This past spring semester at Duke University, there were two sophomores who were taking organic chemistry and who did pretty well on all of the quizzes, midterms, labs, etc. Going into the final exam, they had solid **As**.

These two friends were so confident going into the final that the weekend before finals week (even though the chemistry final was on Monday) they decided to go up to the University of Virginia for a party with some friends.

So, they did this and had a great time. However, they ended up staying longer than they planned, and they didn't make it back to Duke until early Monday morning. Rather than taking the final then, they found Professor Aldric after the final and explained to him why they missed it. They told him that they went up to Virginia for the weekend and had planned to come back in time to study, but that they had a flat tire on the way back, didn't have a spare, and couldn't get help for a long time. So, they were late getting back to campus.

Aldric thought this over and agreed that they could make up the final the following day. The two guys were elated and relieved. So, they studied that night and went in the next day at the time that Aldric had told them.

He placed them in separate rooms, handed each of them a test booklet, and told them to begin. They looked at the first problem, which was something simple about free radical formation and was worth 5 points. "Cool," they thought, "this is going to be easy." They solved that problem and then turned the page.

The next page featured one question worth 95 points: "Which tire?"

How about this answer. The flat one.

How about instead, both failed.

=====

Moon's Cratered Lunar Topography in Incredible Detail



Darva Kawa Mirza

Following four days of continuous observation, Darya Kawa Mirza captured the moon and its rugged surface in exceptional detail.

The self-taught Kurdish astrophotographer amassed 81,000 images, which he stitched into a 708-gigabyte composite revealing the intricacies of the lunar topography in stunningly high resolution. Each frame zooms in on both individual craters and bruise-colored spots—a combination of asteroid and comet strikes and deposits left by volcanic eruptions—allowing for an up-close study of the orb illuminating our night skies.

<https://www.thisiscolossal.com/2024/10/darya-kawa-mirza-moon-photos/>

Thanks to David Gell for passing this along.

=====

Government Data Shows Working from Home Is Here to Stay



e-orchids.com

Despite return-to-office mandates, new data shows that many Americans are still doing some or all of their work from home—and with a shorter workday.

Stanford researchers, earlier this year, discovered that letting someone work from home just two days per week made them 35% less likely to submit their resignation.

<https://bit.ly/3y2JyZW>

=====



=====

At-Home Experiments Shed Light on Cats' Liquid Behavior

Cats are tough to test in a lab, so researchers brought the lab to the cats



Cats may seem solid, but they're actually somewhat liquid — at least according to one 2017 theoretical physics paper inspired by videos of cats squeezing under doors, into tight vases and down narrow crevices. Now, one researcher has taken this idea a step further, physically testing dozens of cats to see when they act more like liquids or solids.

Cats fluidly move through tall and narrow nooks but hesitate when they approach uncomfortably short holes, biologist Péter Pongrácz reports September 17 in *iScience*. The finding suggests that cats are aware of their own body sizes and may form mental images of themselves.

Cats' ability to pour themselves into containers and flow through tight spaces is well-documented. A new study is trying to understand how and why this quirk exists.

Petra Richli/Getty Images

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

=====

Saltwater Hydrogen Reactor Can Power a Submarine for a Month



Using a single 0.3 g aluminum pellet in fresh, deionized water, within five minutes the process produced 400 ml of H₂.

MIT

A team of MIT researchers have discovered a fresh take on H₂ production for a hydrogen reactor design that could be used to power marine vehicles such as submarines, which already draw in seawater.

The fuel can be produced using only seawater, soda cans and coffee grounds

The researchers focused on this chemical reaction because it could offer marine vehicles a new source of power in a world that is working to decarbonize its energy production. The hydrogen reactor would use this energy dense fuel for carbon emission free operation with water as its only byproduct.

<https://bit.ly/4d6RR6p>

=====

How Couples Meet? Data from 1930 to 2024



The timeline of trends in how couples first met and got to know one another, from 1930 to 2024, is based on a nationally representative survey of American adults.

The historical methods of meeting through family, church, neighborhood, and primary or secondary school have all been declining sharply since 1940. The rapid rise of couples meeting online corresponds with the introduction of the World Wide Web after 1995 and the adoption of smartphones after 2007.

<https://youtu.be/ArIY8EKc8Vw>

Is there anything in your Hallowe'en closet more frightening than this?

=====

Largest Animal Genome Sequenced

— and just 1 chromosome is the size of the entire human genome



(Katherine Seghers / Louisiana State University)

The genome belongs to the South American lungfish (*Lepidosiren paradoxa*), a primeval, air-breathing fish that "hops" onto land from the water using weird, limb-like fins. The fish's DNA code expanded dramatically over the past 100 million years of evolutionary history, racking up the equivalent of one human genome every 10 million years, researchers found.

<https://bit.ly/3M9q49x>

=====



=====

Homefront Dad Shows Mom How He's Caring for the Little Darling

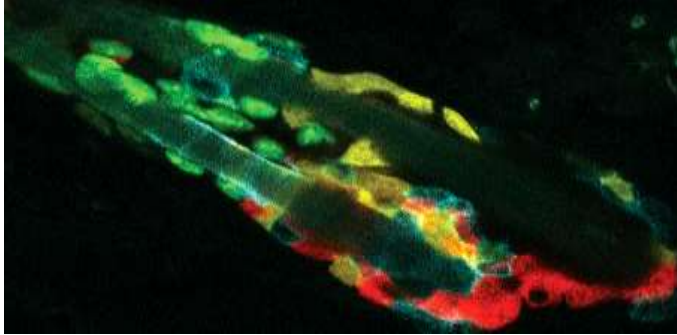


A graphic artist living in Germany works from home while his wife leaves their baby girl with him each day as she goes off to work.

A few months ago, he got tired of her texting to check on how he was doing with the baby, so he started photoshopping responses to text back to her. I'll try and include a different one in subsequent Odes.

=====

Surprising Mechanism for Removing Dead Cells Identified



A hair follicle from the confetti mouse containing phagocytic stem cells (single cells with two fluorescent colors) and non-phagocytic stem cells (a single color).

The Rockefeller University

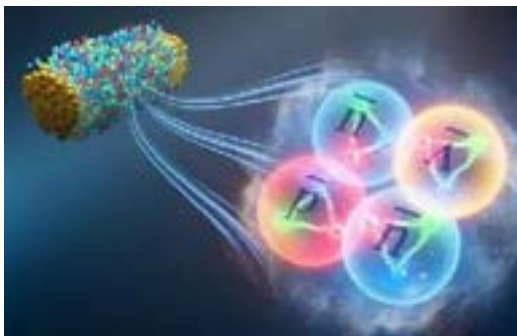
Billions of our cells die every day to make way for the growth of new ones. Most of these goners are cleaned up by phagocytes—mobile immune cells that migrate where needed to engulf problematic substances. But some dying or dead cells are consumed by their own neighbors, natural tissue cells with other primary jobs. How these cells sense the dying or dead around them has been largely unknown.

Now researchers from The Rockefeller University have shown how the sensor system operates in hair follicles, which have a well-known cycle of birth, decay, and regeneration put into motion by hair follicle stem cells (HFSCs). In a [new study](https://bit.ly/3YWdZw2) published in *Nature*, they demonstrate that a duo of sensors works in tandem to pick up signals from both dying and living HFSCs, removing debris before tissue damage can occur and ceasing operation before healthy cells are consumed.

<https://bit.ly/3YWdZw2>

=====

Antimatter Particle Could Hold Secrets to Our Universe's Origins



(Image credit: Institute of Modern Physics, China)

Scientists have spotted the heaviest antimatter nucleus ever detected lurking in a particle accelerator.

The antimatter heavyweight, called antihyperhydrogen-4, is made up of an antiproton, two antineutrons and one antihyperon (a baryon that contains a strange quark).

By studying the strange particle, physicists hope to discover some key differences between matter and antimatter, which may help explain why our universe is now filled with matter given that antimatter was created in equal amounts at the beginning of time. The researchers published their findings Aug. 21 in the journal Nature.

<https://bit.ly/3T3rg1V>

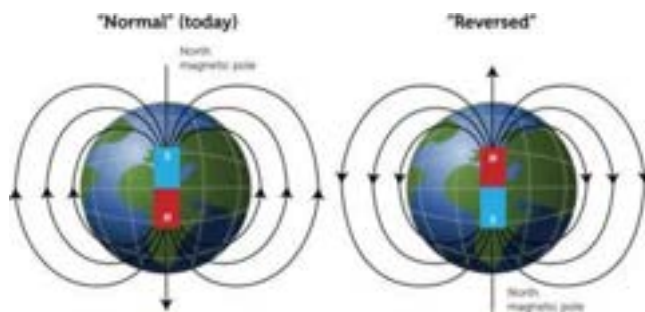
The fact that we observe a universe dominated by matter today presents a puzzle known as the matter-antimatter asymmetry problem. If equal amounts of matter and antimatter were indeed created, they should have annihilated each other completely, leaving behind only energy. The existence of matter in the universe today suggests that some process must have created a slight imbalance in favor of matter.

Physicists are actively investigating possible mechanisms that could have caused this imbalance. One area of study is CP violation, a subtle difference in the behavior of matter and antimatter particles. While CP violation has been observed, the effects discovered so far are too small to fully explain the observed matter dominance in the universe.

In conclusion, the belief in initial matter-antimatter equality is based on fundamental principles of physics and cosmology. The challenge lies in explaining how our matter-dominated universe emerged from this initial symmetry, a question that continues to drive research in particle physics and cosmology.

=====

Haunting Soundscape of Mysterious Magnetic Field Reversal Event



Sites.google.com

Close to 41,000 years ago, Earth underwent a magnetic field reversal where, for a short period, the planet's natural magnetic protective shield diminished to just 5% of its current strength.

During this sudden and extreme magnetic field reversal event, the temporary weakness of Earth's magnetic barrier allowed a significant influx of cosmic rays to penetrate

Earth's atmosphere. Now, for the first time, a team of scientists have produced a [sound visualization](#) of this mysterious ancient occurrence.

<https://bit.ly/406HITm>

=====

This tape
doesn't even
taste like
scotch.

Poetry Corner

At the Poetry Pharmacy, Prescriptions for the Soul



Courtesy of the Poetry Pharmacy

Five milliliters of metaphor, two tablets of iambic pentameter, and a spoonful of symbolism: That might be the prescription you pick up at the Poetry Pharmacy, a London bookstore centered on the power of verse to heal all manner of emotional afflictions.

Its shelves are lined with books categorized by emotion — calm, comfort, words for love — as well as vials of “Poemcetamol” capsules containing tiny scrolls for everything from exhaustion to existential angst. A cheeky glass cabinet emblazoned with a skull and crossbones and the word “poison” holds the dangerous stuff, while a cafe within the store doles out coffee and cakes.

“There’s something that poetry does that no other art can quite do,” founder Deb Alma told Positive.News. “It goes very quickly to the heart of something ... as though speaking intimately from one person to another, very, very directly.” [See some of the “prescriptions” on offer.](#)

=====

SpaceX Rocket Booster Caught By Giant 'Chopsticks'



Space.com

SpaceX in its fifth Starship test flight on Sunday (October 13) returned the rocket's towering first stage booster back to its Texas launch pad for the first time using giant metal arms, achieving another novel engineering feat in the company's push to build a reusable moon and Mars vehicle.

The rocket's first stage "Super Heavy" booster lifted off at 7:25 a.m. CT (1225 GMT) from SpaceX's Boca Chica, Texas launch facilities, sending the Starship second stage rocket toward space before separating at an altitude of roughly 70 km (40 miles) to begin its return to land.

The Super Heavy booster re-lit three of its 33 Raptor engines to slow its speedy descent back to SpaceX's launch site, as it targeted the launch tower it had blasted off from. The tower is fitted with two large metal arms.

With its engines roaring, the 233 foot (71 metres)-tall Super Heavy booster fell into the launch tower's arms, hooking itself in place by its four forward grid fins it used to steer itself through the air.

The novel catch-landing method is the latest advance in SpaceX's test-to-failure development campaign for a fully reusable rocket designed to loft more cargo into orbit, ferry humans to the moon for NASA and eventually reach Mars - the ultimate destination envisioned by CEO Elon Musk.

The U.S. Federal Aviation Administration on Saturday approved SpaceX's launch license for the Starship test, following weeks of tension between the company and its regulator over the pace of launch approvals and fines related to SpaceX's workhorse rocket, the Falcon 9.

Starship, first unveiled by Musk in 2017, has exploded several times in various stages of testing on past flights, but successfully completed a full flight in June for the first time. The two-stage rocket's Super Heavy booster lifted off from Texas sending the second stage - Starship - on a near-orbital path bound for the Indian Ocean some 90 minutes later, aching a fiery hypersonic reentry.

<https://youtu.be/eXsT2HT171o>

If you wonder why SpaceX can do such incredible things, just watch the company's employees demonstrate the culture change that puts it into a place of its own. Can Boeing match this in the future? If it can't, you might expect a mass exodus from Seattle.

Thanks to Bill McVey for this.

=====



=====

Glasses Equipped with Facial Recognition Are in Our Future

Two Harvard undergrads give us a glimpse of the surveillance future.



(Pixino / Dreamstime.com)

Most discussions of facial recognition technology contemplate a world in which people walk the streets and drive the roads under the watchful eyes of government surveillance cameras. Those cameras will tag and track those who fail to hide their features, recording their movements for future reference.

But what if one day facial recognition tech becomes so cheap and portable that it can be built into wearable devices? You wouldn't know if somebody calling your name at a bar was an old friend or a con artist working a scam after linking your face to searchable online personal information. That day is now, courtesy of two Harvard University undergrads.

<https://bit.ly/40exOz0>

=====



=====

Chords & Riffs

Richard Strauss (1864-1949)



kcur.org

Considered a leading composer of the late Romantic and early modern eras, Strauss has been described as a successor of Richard Wagner and Franz Liszt. Along with Gustav Mahler, he represents the late flowering of German Romanticism, in which pioneering subtleties of orchestration are combined with an advanced harmonic style.

His first tone poem to achieve wide acclaim was *Don Juan*, and this was followed by other lauded works of this kind, including *Death and Transfiguration*, *Till Eulenspiegel's Merry Pranks*, *Also sprach Zarathustra*, *Don Quixote*, *Ein Heldenleben*, *Symphonia Domestica*, and *An Alpine Symphony*. His first opera to achieve international fame was *Salome*, which used a libretto by Hedwig Lachmann that was a German translation of the French play *Salomé* by Oscar Wilde.

In the summer of 1894 Strauss made his conducting debut at the Bayreuth Festival, conducting Wagner's *Tannhäuser* with Pauline singing Elisabeth. Just prior to their marriage the following September, Strauss left his post in Weimar when he was appointed Kapellmeister, or first conductor, of the Bavarian State Opera where he became responsible for the operas of Wagner. While working in Munich for the next four years he had his largest creative period of tone poem composition, producing *Till Eulenspiegel's Merry Pranks*, *Also sprach Zarathustra*, *Don Quixote*, and *Ein*

Heldenleben. He also served as principal conductor of the Berlin Philharmonic in 1894–1895

Also sprach Zarathustra Dudamel <https://youtu.be/Szdziw4tI9o?t=4>

Metamorphosen for 23 Strings <https://youtu.be/MlpNB0WeQaQ?t=7>

Don Juan Op. 21 <https://youtu.be/QrBHTdVUCks?t=21>

Alpine Symphony <https://youtu.be/XRVV32pvBY4?t=7>

Tod und Verklärung (Death and Transfiguration) <https://youtu.be/umfttWN5xYo>

=====

My Walking Thoughts



For Sunday October 20 2024

=====

Off to the Boat

November 10, 1960—the Marine Corps’ 185th Birthday. That was the day... the day for which I had been practicing at Barin Field for more than a week... the day I and my flightmates would distance ourselves from 99 percent of pilots anywhere in the world by plunking our T-28Cs onto the deck of an underway aircraft carrier.

At this point, I had 168 flight hours, more than a lot of aviators in the Pacific War had when they arrived in the Pacific to operate from straight deck carriers ready to engage enemy pilots in deadly combat. Moreover, I had 200 landings in the T-28 alone, so it wasn’t that I was wet behind the ears. Put another way, I was certain I was up to the CarQual challenge.

The target vessel was the USS Antietam, CV-36, an Essex class carrier, commissioned in 1945, veteran of the Korean War, and the first with a true angled-deck. She was for six years the Navy’s training carrier, homeported in Pensacola beginning from 1959 until the end of her career in 1963.

The temperature was in the mid-40s as I struggled out of the rack, conscious that a lot was riding on my performance that day. It was foggy as I headed for the chow hall, damp enough to plaster my uniform with a slick film of water. Half an hour later on my way to the hangar, the sky was brighter but still foggy. This had been the prevailing

condition over the past week, socked in at dawn, then turning into picture perfect Florida Panhandle days by 0800. Still I worried that the weather might stand in the way of the climax to my training experience in the T-28.

Marshal time at the Antietam for our flight of four aircraft was set for 0930 with a Charlie Time (time at the ramp on our first approach) of 0945. Word had been passed no fewer than fifty times in the last three days, "Don't be late," spoken with such vehemence as to promise that to do so would consign us to the book of dastardly performance for all to see until the end of time.

I was tail-end Charlie of our flight that had loosened out with the boat a mile to our starboard side, so we could all take a look at our destination. What was my immediate reaction to the sight? How about "Holy moly! That looks like a garbage scow someone dragged in as a joke." It really did... maybe smaller.



Pinterest

"No-no-no," I said, probably loud enough for the Antietam's Captain to hear me, but it was too late to back out now. Our flight was peeling off to the downwind side, descending to 325 feet, dirtying up, and slowing to that sacred 82 knots airspeed, but with the tailhook in the stowed position to complete what was called the "Look-See" pass.

Coming around to the ship's course, this time to pass over the deck at 325 feet, I tried to convince myself that rather than a garbage scow, Antietam was as large as the largest runway in the world. I failed, though I did take some heart that it appeared to be large enough to hold the T-28 without turning turtle and sinking.

The next time around led to a touch-and-go pass with the hook still up, this time flying the glideslope all the way to touchdown, then adding power for a go-around. After that, if I forgot to drop the hook, it would cost me a bottle of hootch—no doubt 75 year old malt—to make certain I never made that mistake again.

With the exception of the hook, the rest of the passes—there would be eight in all to attain the qualification—were the same as I'd practiced at Barin Field. In fact the only difference from the field training was the small burble about 5 seconds from touchdown, compliments of the carrier's bridge structure. I found at that point I had to add a smidgen of power, then scootch it back again to stay on the flightpath.

As always, the T-28 seemed to handle most of the glideslope work, leaving the lineup, to me right up to the instant of touchdown. As carriers today, Antietam had four heavy cables (wires) stretched perpendicular to centerline of the angled deck for the tailhook to snag. The number three wire was the preferred target, one and two, closer to the round down (stern) and 4, the last chance before encountering a 'bolter.'

At the instant of touchdown—and without waiting to see if the hook snagged a wire—we had been taught, to slam throttle to full power and hold it there until totally stopped, or back to pattern altitude in the event of a hook skip.

It was my experience that even before my wits returned, a taxi director would be frantically signaling me to retard the throttle, raise the hook, then haul tail across the "foul line" to allow the next aircraft to land.

Rather than relaxing once I'd cleared the landing area, I found that as I was passed from one deck handler to the next, I seemed to be looking at a lot more ocean than deck... sometimes sensing there may be less than three feet from going overboard. So I paid attention.

Doing as I was told, I'd soon find my bird strapped to the catapult preparing for takeoff. It was here I fell into the hands of the the catapult officer—the shooter—who would eyeball my aircraft before signaling me to run up to full power. After checking my gauges and flight controls and finding them where they belonged, I would give him a snappy salute, indicating I was ready to go. With a final look around, the shooter would assume the classic catapult officer launch pose, and WHANG, my T-28 would be off like a dragster.

The recovery and launch sequences sped by... one, two, three, four, five, six, seven, eight. Then in response to an instruction from Pri-Fly that I my session was finished, I made a clearing turn to starboard, raised my gear and flaps, and after figuring out where the hell I was, I headed for Saufley.

On the way back, I told myself I should be over the moon in my achievement, but I wasn't. Instead, I felt a sadness at having left something behind in the process, the letdown just as real as the accomplishment. Even as I accepted the congratulations of the ground crewmen who helped me from the plane (Buno 149586 if someone now owns it, I remained at a loss how to catalog the feeling... maybe even the entire episode with the T-28 at the boat.

In retrospect, the LSO gave me five *OKs* and three *Fairs*. Seven of the eight traps involved 3-wires, the other a 2-wire. Best of all, I never taxied into another aircraft or the ocean.

Next week, I'm off to NAS Kingsville for Advanced Training.

=====