Ode to E Pluribus Unum for Sunday April 20 2025

The Da Vinci Glow

A 26 hour old Moon poses behind the craggy outline of the Italian Dolomites in this twilight mountain and skyscape. The one second long exposure was captured near moonset on March 30. And while only a a sliver of its sunlit surface is visible, most of the Moon's disk can be seen by earthshine as light reflected from a bright planet Earth illuminates the lunar nearside.

Also known as the Moon's ashen glow, a description of earthshine in terms of sunlight reflected by Earth's oceans illuminating the Moon's dark surface was written over 500 years ago by Leonardo da Vinci. Of course earthshine is just the most familiar example of planetshine, the faint illumination of the dark portion of a moon by light reflected from its planet.

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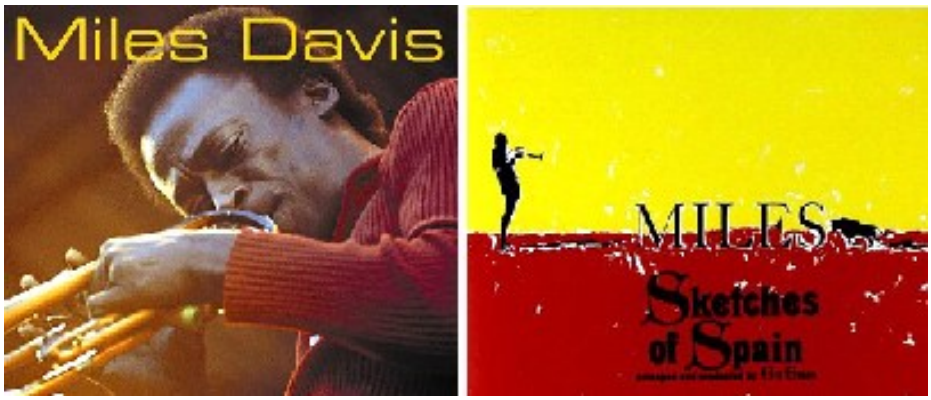
Miles Davis: Sketches of Spain



open.spotify.com

Sketches of Spain is a studio album by American jazz musician Miles Davis, released on July 18, 1960 by Columbia Records. Recording took place between November 1959 and March 1960 at Columbia's 30th Street Studio in New York City. An extended version of the second movement of Joaquín Rodrigo's Concierto de Aranjuez (1939) is included, as well as a piece called "Will o' the Wisp", from Manuel de Falla's ballet El amor brujo (1914–1915). Sketches of Spain is regarded as an exemplary recording of third stream, a musical fusion of jazz, European classical, and styles from world music.

The album pairs Davis with arranger and composer Gil Evans, with whom he had collaborated on several other projects, on a program of compositions largely derived from the Spanish folk tradition.

The folk songs in the album were inspired by recordings made by Alan Lomax in Galicia and Andalusia, which were released in 1955 by Columbia Masterworks.

The opening piece, taking up almost half the record, is an arrangement by Evans and Davis of the adagio movement of Concierto de Aranjuez, a concerto for guitar by the contemporary Spanish composer Joaquín Rodrigo. Following the faithful introduction of the concerto's guitar melody on flugelhorn, Evans' arrangement turns into a "quasi-symphonic, quasi-jazz world of sound", according to his biographer. The middle of the piece contains a "chorus" by Evans unrelated to the concerto but "echoed" in the other pieces on the album. The original melody then reappears in a darker mode.

Davis plays flugelhorn and later trumpet, attempting to connect the various settings musically.

In a contemporary review for DownBeat, Bill Mathieu hailed Sketches of Spain as one of the 20th century's most important musical works so far and a highly intellectual yet passionate record. He found Evans's compositions extremely well crafted and Davis's

playing intelligently devised, concluding in his review, "if there is to be a new jazz, a shape of things to come, then this is the beginning.

Sketches of Spain (whole) https://youtu.be/uhITcrmigxw

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FLASHMOB CENTRAL

Flashmob in Bad Homburg "Hier spielt die Musik"

pinterest.de

Carmen https://youtu.be/xMb-xPLznuU

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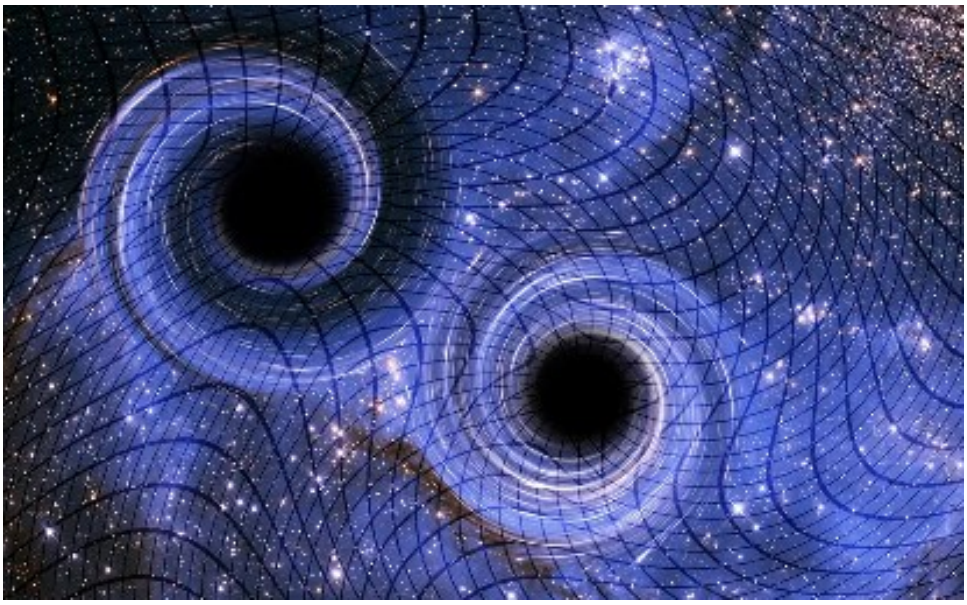
Unproven Einstein Theory of 'Gravitational Memory' May Be Real

Einstein's theory of general relativity suggests that the "memory" of ancient events, such as black hole mergers, may be etched into the fabric of space-time by gravitational waves. New research shows how this theory of gravitational memory could finally be proven.



When black holes spiral toward collision, they emit gravitational waves that ripple across the universe. New research suggests that evidence of the earliest black hole mergers in the universe may be imprinted on the fabric of space-time.
(Image credit: Victor De Schwanberg/Science Photo Library via Getty Images)

A team of theoretical physicists has proposed a new way to test one of the most intriguing predictions of Einstein's theory of general relativity: gravitational memory.

This effect refers to a permanent shift in the fabric of the universe caused by the passage of space-time ripples known as gravitational waves. Although these waves have already been detected by observatories such as the Laser Interferometer Gravitational-Wave Observatory (LIGO) and the Virgo interferometer, the waves' lingering imprint remains elusive.

The researchers suggest that the cosmic microwave background — a faint glow left over from the Big Bang — might carry the signatures of powerful gravitational waves from distant black hole mergers. Studying these signals could not only confirm Einstein's prediction but also shed light on some of the most energetic events in the universe's history.

https://bit.ly/3DwqOof

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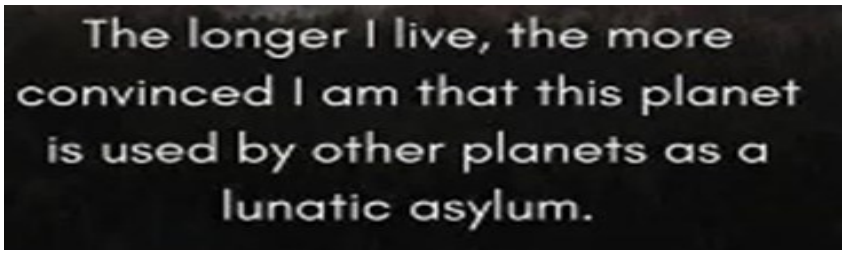

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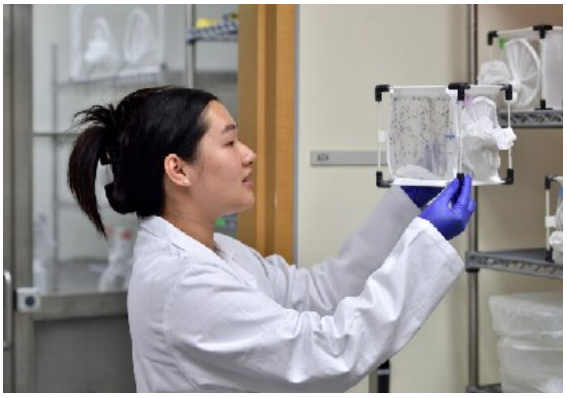
A New Tool for Malaria Elimination Efforts

Genetic technology co-developed at Imperial could help to eliminate malaria by making mosquitos resistant to the parasite that spreads the disease.



Transmission Zero, a research team from Imperial College London in partnership with the Ifakara Health Institute and the National Institute of Medical Research in Tanzania, has developed genetic technology which renders a mosquito unable to transmit the malaria parasite and has a gene drive that ensures that future generations are also resistant to the parasite.

Progress on tackling malaria has flatlined in recent years, with cases and deaths further exacerbated by disruption to health services during the COVID-19 pandemic.

Each year, more than 263 million people contract malaria and the disease is endemic in 83 countries. In 2023, there were almost 600,000 malaria deaths in 83 countries, with African countries accounting for 94 per cent of deaths - 76 per cent of whom were children under five

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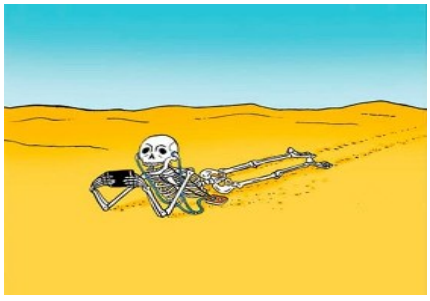

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The History Of San Francisco's Most Unforgettable TV Ad

The 2005 Sony Bravia ad has won countless awards and racked up millions of YouTube views

Bouncy balls cascading down a San Francisco street for a Sony Bravia commercial in 2005..
Courtesy of Brett Lama

Although San Francisco has been the setting for plenty of cinematic chase scenes, there had never been any quite like this. Filmed as a British commercial for Sony Bravia TV sets, 250,000 bouncy balls were launched down San Francisco hills in one of the most surreal weeks in the city's history, resulting in a short film that swept the advertising awards circuit and racked up a cumulative 5 million YouTube views.

You'd think such a spectacle would lean heavily on computer-generated imagery and post-production magic, but after the first ball drop on Filbert Street, the result looked so spectacular that Danish director Nicolai Fuglsig sent the special effects team back to the UK.

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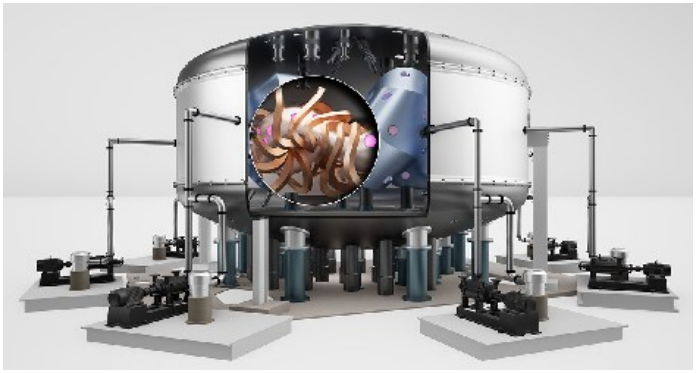
Fusion's Dark Horse Hits Its Stride



Type One Energy's first stellarator, Infinity One, will use an odd geometry of magnets (gold) to

confine plasma.
Type One Energy

The doughnut-shaped tokamak is the familiar face of fusion reactors. But many researchers—and startup companies—are beginning to realize that its twistier cousin, the stellarator, has better prospects as a future power plant. They've gotten less attention over the years because they performed less well and are tough to build, but in operation a stellarator should just purr along like a kitten, compared to the twitchier tokamak.

"People are coming to realize the stellarator maybe is the way to go," says theorist Chris Hegna, vice president of Type One Energy, a firm whose scientists last week published seven papers in the Journal of Plasma Physics describing in detail its proposed pilot plant, Infinity Two.

https://bit.ly/3E6pRDB

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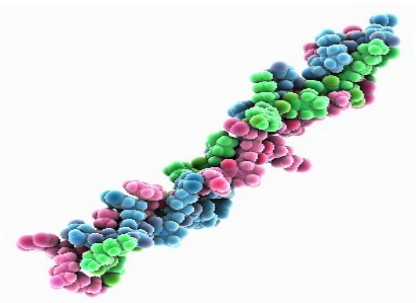
Molecular 'Staples' Keep Us from Falling Apart

New research suggests collagen's triple-helix structure gains stability from clusters of molecular "staples."

We are, quite literally, held together by collagen. Structured like a twisted rope, the protein accounts for 15% to 20% of the protein in our bodies; it plays an essential role in mechanically supporting our cells and tissues. But for the past two decades, researchers have been puzzling over a biological riddle: Collagen is inherently unstable. At our own body temperature, it falls apart like a frayed rope. Now, results recently detailed at a major physics conference have revealed one of the key ways that collagen holds its form: clusters of molecular "staples."



Let's back up a bit. Collagen's most basic building block is a helix twisted together from three amino acid chains. These helices beget fibers; these fibers beget networks; and these networks form the flexible scaffolds that help hold all our cells in place.

To understand exactly how these triple helices fall apart and come back together, researchers at Canada's Simon Fraser University painstakingly imaged hundreds of them as they unraveled at different temperatures. Doing so let the researchers determine that clusters of disulfide bonds (which the researchers call "cysteine knots") act as structural staples, stabilizing collagen's twisted form.

What's especially cool here is that the researchers also found that DNA sequences that encode for cysteine knots can be found in everything from jellyfish to mammals. Evidently, cysteine knots abound on the tree of multicellular life—supporting collagen as it supports us all

Laguna Design/Science Source

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How Long Do Parrots Live?

Parrot lifespan varies by type, environment, and life stage. Small parrots, like Budgerigars (budgies), have a lifespan of about 5 to 12 years, while their larger counterparts, the Macaw such as Hahns Macaw and Cockatoos, can easily surpass 50 years of age. Overall, pet parrots often outlive those in their natural habitats because of superior nutrition, veterinary treatment, and the lack of threat from predators.

Common Pet Parrot Lifespans

Pet parrot species each live in their own space. Here's a general overview:

Budgerigar (Budgie) – 5–12 years
Cockatiel – Up to their 20s
Cockatoo – 20–40 years wild, 70 years captivity
Ring-necked parakeet – 25–30 years
Monk Parakeet – 15–20 years

If you care about lifespan differences, there's an important point to keep in mind when selecting a pet parrot: some species require a commitment of multiple decades.

https://bit.ly/4ckUyl9

Photo by David Clode on Unsplash

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The Weird, Wondrous World of Seahorses

They look like a mix of other animals, the males give birth, and we still have much to learn about them. Now these unique fish are threatened.

Weedy sea dragon
phyllopteryx taeniolatus, Aquarium of the Pacific, Long Beach, California

A sampling of the world's 46 identified seahorse species reveals their array of colors, crowns, fins, and frills. All seahorse species belong to the genus Hippocampus, from the ancient Greek for "horse" and "sea monster."

It wasn't long ago that Ria Formosa, in the Algarve region of Portugal, was home to as many as two million seahorses, says Correia, a biologist at the University of the Algarve's Center for Marine Sciences. He and colleagues breed and study the animals in a small waterfront facility, and they've seen populations of both species decline dramatically. "We've lost up to 90 percent in less than 20 years," he says.

Such falloff appears widespread, in part because seahorses live in the most hammered marine habitats in the world—including estuaries, mangroves, seagrass beds, and coral reefs. In Ria Formosa, for example, human activity—from farming of clams to illegal bottom trawling—buries or rips up the seagrass beds that seahorses prefer.

The hardest hitter globally is unregulated fishing, which fuels a wide-reaching trade in dried seahorses. Stripped from the seabed as bycatch—the incidental capture in bottom trawlers and other catchall gear—the fish are sold around the world for traditional Chinese medicine and for trinkets. A much smaller number are sold live for the aquarium trade, mostly to U.S. consumers.

https://bit.ly/3R34CW9

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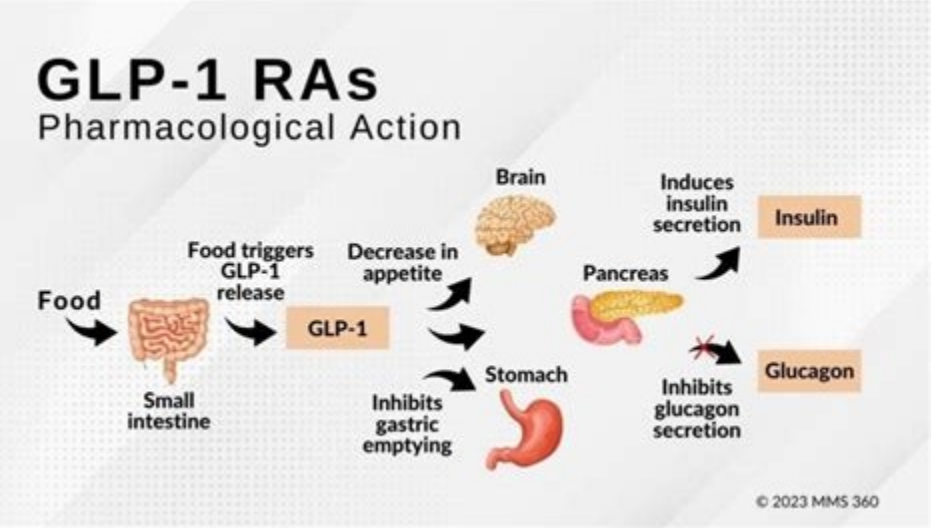
How Does Semaglutide Work?

Originally designed to treat diabetes, semaglutide has garnered significant attention in recent years for its use in weight loss treatments. The drug mimics a hormone naturally produced in the gut after meals and can trigger a number of similar responses that effectively trick the body into thinking it is full.



envoquemd.com

Semaglutide is in a class of drugs called GLP-1 agonists, which mimic the hormone GLP-1. Humans produce GLP-1 when they eat, and the hormone causes the body to produce insulin—hence its use to treat diabetes (1440 Topics: Diabetes).

However, GLP-1 also activates receptors in the nervous system, the stomach, and the gut. Each receptor triggers a different response, including slowing the passage of food through the digestive system and prompting the brain to send signals of fullness.

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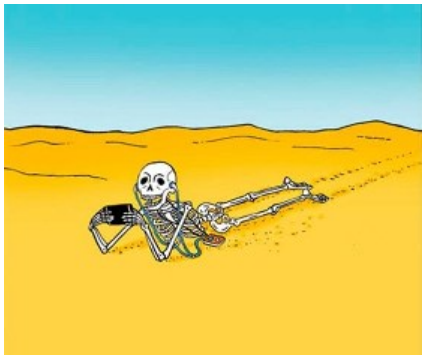

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Modern Magic Unlocks Merlin's Medieval Secrets

Fragments of a rare Merlin manuscript from c. 1300 have been discovered and digitised in a ground-breaking three-year project at Cambridge University Library

The inner front cover of the manuscript as it was discovered. Seen here are some of the folds, including flaps and turn-ins, making reading and accessing the text hidden beneath particularly difficult without damaging the material.
University of Cambridge

The manuscript, first discovered at Cambridge University Library in 2019, has now been identified as part of the Suite Vulgate du Merlin, a French-language sequel to the legend of King Arthur. The story was part of the Lancelot-Grail cycle, a medieval best seller but few now remain.

There are less than 40 surviving manuscripts of the Suite Vulgate du Merlin, with each one unique since they were individually handwritten by medieval scribes. This latest discovery has been identified as having been written between 1275 and 1315.

The fragment tells two key episodes from the end of the Suite Vulgate du Merlin. The first part recounts the victory of the Christians against the Saxons at the Battle of Cambénic. It tells of the fight of Gauvain (with his sword Excalibur, his horse Gringalet and his supernatural powers), his brothers, and his father King Loth, against the Saxon Kings Dodalis, Moydas, Oriancés, and Brandalus.

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World's Smallest Pacemaker Goes in Via Syringe —

And Dissolves When No Longer Needed

John A. Rogers/Northwestern University

Scientists have developed a tiny pacemaker with tiny hearts in mind. A team of engineers at Northwestern University built a device that's so small it can be inserted noninvasively via syringe and dissolves when it's no longer needed. That makes it particularly well-suited for newborns with heart defects, who often only need temporary pacing.

"We have developed what is, to our knowledge, the world's smallest pacemaker," bioelectronics pioneer John A. Rogers, who led the device development, told Northwestern Now. "There's a crucial need for temporary pacemakers in the context of pediatric heart surgeries, and that's a use case where size miniaturization is incredibly important. In terms of the device load on the body — the smaller, the better."

Experimental cardiologist Igor Efimov, who co-led the research, added that for most of the roughly 1% of children born with congenital heart defects, the heart self-repairs within about a week. "But those seven days are absolutely critical," Efimov said. "Now, we can place this tiny pacemaker on a child's heart and stimulate it with a soft, gentle, wearable device. And no additional surgery is necessary to remove it."

Watch a video of Rogers explaining how it works.

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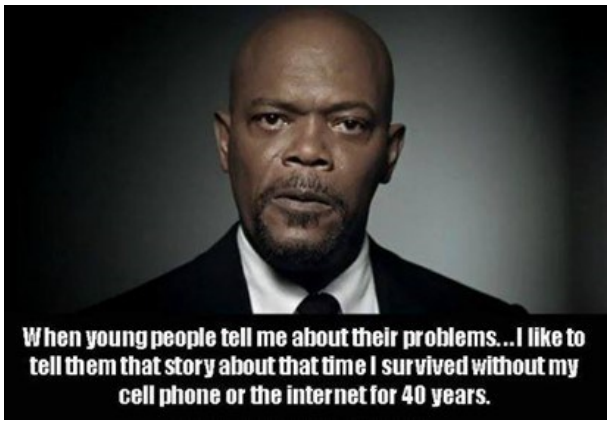

Have We Gotten Dark Energy Totally Wrong?

Findings from the Dark Energy Spectroscopic Instrument (DESI) suggest that dark energy could be evolving over time. If they're right, cosmology will need a new model.

The Dark Energy Spectroscopic Instrument maps the night sky from the Nicholas U. Mayall 4-meter Telescope in Arizona.
(Image credit: KPNO/NOIRLab/NSF/AURA/B. Tafreshi)

The analysis, which looked at nearly 15 million galaxies and quasars spanning 11 billion years of cosmic time, found that dark energy — the presumed-to-be constant force driving the accelerating expansion of our universe — could be weakening.

If the findings hold up, it means that one of the most mysterious forces controlling the fate of our universe is even weirder than first thought — and that something is very wrong with our current model of the cosmos. The researchers' findings were published in multiple papers on the preprint server arXiv and presented March 19 at the American Physical Society's Global Physics Summit in Anaheim, California, so they have not yet been peer-reviewed.

https://bit.ly/41CbRcx

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The Best Sci-Fi Movies of All Time, Ranked

From human clones to alien invasions: we asked scientists, filmmakers and writers to select the best sci-fi films in cinema history

fictionhorizon.com

We begin where all lists of great science fiction must: with Will Smith punching an alien in the mouth. Oh, were you expecting something more sophisticated? A little heavier, darker and subtler, and less bombastic and Randy Quaid-intensive? Don't worry, there's plenty of that elsewhere. But you won't find many films that deliver quite as much in the department of pure, popcorn-snarfing fun.

https://bit.ly/4i70xv2

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38 Colorful Birds You May Not Know Exist

The Nicobar pigeon is a far cry from the bird you'd normally see milling around Central Park.
Zocha_K / Getty Images

Vibrant feathers and shimmering wings serve many purposes, including attracting mates and blending into lush environments. Color patterns also often help birds identify

members of their own species, and the color of their feathers can also influence how much heat a bird absorbs or reflects.

Here are 38 of the most colorful birds on the planet.

https://bit.ly/4kVnvIl

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Clean Energy 101: How Batteries Can Support Grid Reliability

Grid-scale battery storage can beat traditional technologies in keeping our electric grid running in the face of rising demand.

energy storage news

Batteries offer a cleaner, more capable, and increasingly cost-effective alternative to fossil generation and traditional reliability technologies like synchronous condensers to provide the quantity and quality of all the reliability services essential for supporting the grid — a win-win for both human and grid health.

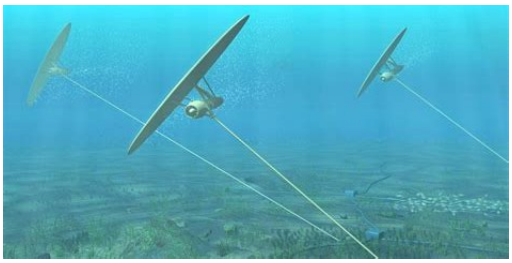
There are examples of battery energy storage providing essential reliability services in successful demonstrations around the world. Batteries are one of the most flexible grid resources because they can be charged and discharged to support real-time grid needs due to their extremely fast response times that are even faster than that of thermal plants. In addition, grid-scale batteries can have many software- and hardware-based features that provide reliability "services" to the grid such as black start, peaking capacity, operating reserves, and more. Just as our hearts support a healthy body, batteries can help support a "healthy" grid; here are just three ways they do this.

https://bit.ly/41Vpbso

We discussed this in the Energy Storage adjunct to our Distributed Energy Magazine a decade ago. At the time such systems were found in industrial scale activities, but their role in grid stability was obvious even then.

Faroe Islands Space Program Aims to Never Leave Earth

Instead its program aims to utilize the resources we already have on Earth – the tides that are powered by the Moon and harvested by the tidal kite Luna 12.



pinterest.com

Tidal energy, or "Moon energy", is a fascinating avenue to explore for renewable resources. Currently, sources like solar, wind, and hydro are weather-dependent, whereas tidal energy is predictable.

We fly this Luna 12 as a kite underwater. So, it is tethered, or stringed, to the seabed, and when the tidal wave or the tidal current hits the wing, lifting forces are created, and the system will move, pushed by the flow (and we control the way it moves), and we chose a trajectory that is eight shaped. And then, there is a turbine and a generator on board that is brought into motion by the throughflow of that turbine generated by the moving system," Martin Edlund, CEO of Minesto, told IFLScience.

Excitingly, the project is working! One Luna 12 produces a large amount of energy per year.

"The commercial scale device is rated at 1.2 megawatts," said Edlund. "If you talk about electricity consumption in the normal European household, maybe up to 800,000 households [in a year]".

https://youtu.be/9xXkx86-DU0

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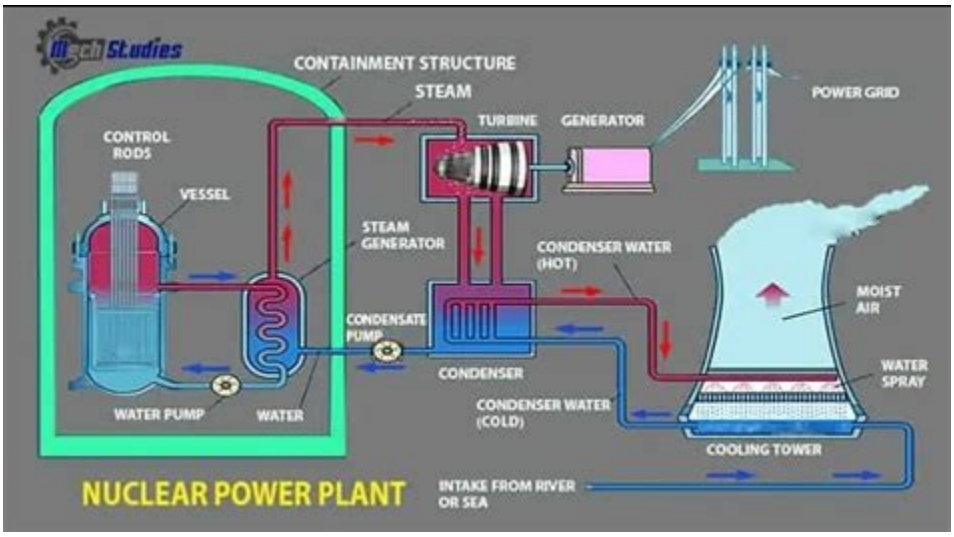
Have You Ever Wanted to Operate a Nuclear Power Plant?

How about a simulator? Check this out.



circuitdiagram.co

Do you have what it takes to operate a nuclear plant? This simulator, developed by the University of Manchester's Dalton Nuclear Institute, takes you on a tour of a virtual plant before handing you the keys to the control room. Challenge yourself to produce enough energy to meet demand while avoiding a nuclear meltdown.

https://dalton-nrs.manchester.ac.uk/

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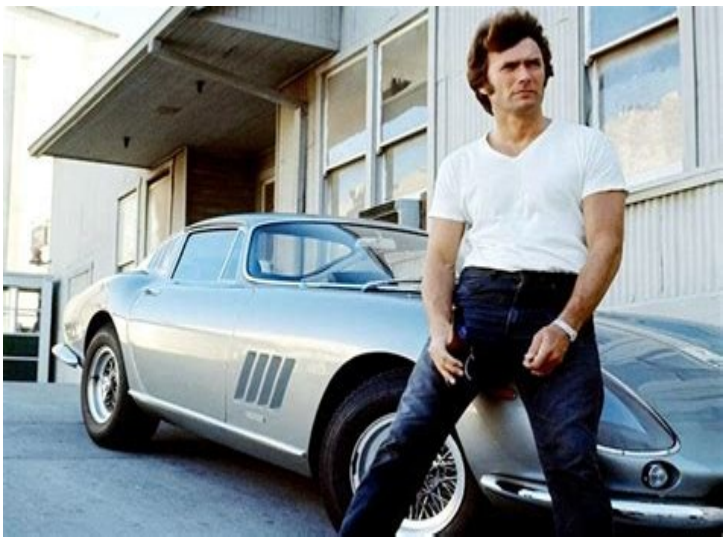
10 Rarest Cars in Clint Eastwood's Car Collection



vipfortunes.com

The video explores the 10 rarest cars in Clint Eastwood's collection, showcasing a diverse range of vehicles from American muscle cars to Italian exotics. Each car has a unique story, from its origins to its connection to Hollywood history, and many have been meticulously restored to their original condition.

https://youtu.be/SRga0ERAXfQ

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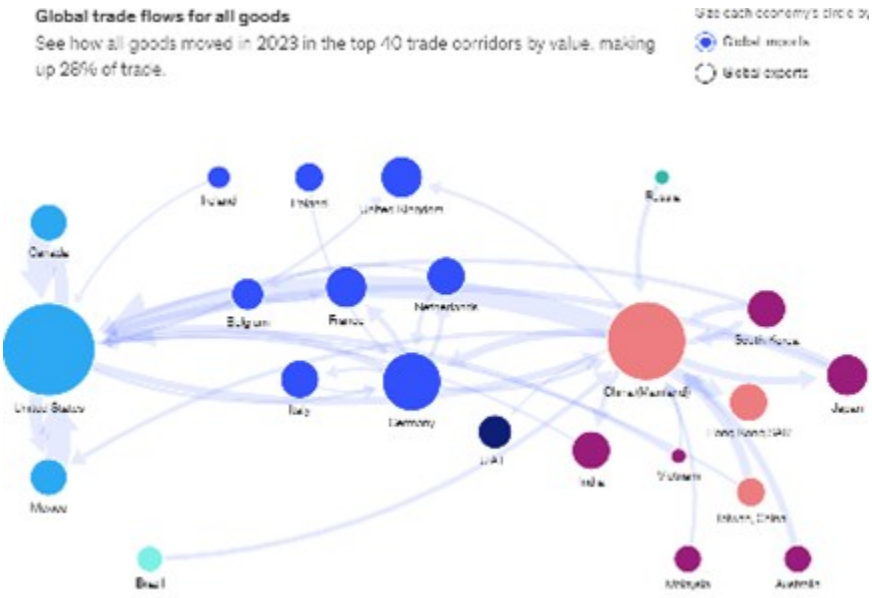
Global Trade Transitions

As global trade grows more complex, understanding its flows and interdependencies is more important than ever. McKinsey's Global Trade Explorer offers a dynamic view of how trade relations are evolving.



McKinsey

The Explorer highlights the top traded sectors across all economies and presents how much each sector contributes to global trade. Electronics top the charts, driven by demand for semiconductors, smartphones, and computing equipment. Energy, mining, and metals remain crucial for resource-rich economies, while automotive and industrial machinery dominate exports from advanced countries like Germany, Japan, and South Korea. Agriculture and food, though smaller in volume, serve as vital trade links between developed and emerging markets. The tool helps identify globally connected sectors and assess trade exposure across industries.

The Explorer analyzes how concentrated global exports are for key products, highlighting potential vulnerabilities. It helps identify whether a few countries dominate the global supply of essential goods. For instance, in the case of crude oil a small group

of countries, including Saudi Arabia, Russia, and the US, controls a major share of global exports. Even though the US is a major producer, it still imports crude oil, much of it from a limited number of suppliers, creating potential supply chain and geopolitical vulnerabilities.

https://bit.ly/3FPE0pj

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Acetaminophen Alternative Less Damaging to the Liver?

17 year old Chloe Yehwon Lee's research could change the painkiller, known by the brand name Tylenol, for the better, ultimately reducing emergency room visits and cases of liver failure

Acetaminophen is a staple in the medicine cabinets of millions of people around the world.
Scott Olson/Getty Images

Acetaminophen, commonly known by the brand name Tylenol, is a staple in the medicine cabinets of millions of people around the world. It's used to alleviate pain and reduce fever, but its misuse—whether through overdose or long-term use—can cause serious damage to the liver.

Rather than eliminating acetaminophen entirely, Lee wanted to modify its structure to reduce the harmful effects of NAPQI. To start, she designed computational models to explore potential chemical modifications. She focused on altering the molecule's benzene ring, a crucial part of acetaminophen's chemical structure, and discovered that her modification could reduce acetaminophen's chemical reactivity in the liver, decreasing liver toxicity. Additionally, it improved acetaminophen's ability to bind to pain receptors, potentially enhancing its effectiveness as a pain reliever.

Studies report that acetaminophen overdose contributes to 82,000 emergency room visits each year in the United States. Meanwhile, acetaminophen toxicity is the leading cause of both acute liver injury and acute liver failure in this country.

While treatments for acetaminophen toxicity exist, many of them are either difficult to access or fail to address the underlying issue effectively. These approaches have typically involved managing the consequences of overdose rather than preventing them. For example, the most commonly used treatment is N-acetylcysteine (NAC), which helps replenish glutathione in the liver, allowing it to neutralize toxic metabolites. However, NAC must be administered within a narrow window of time after an overdose to be most effective. Other treatments, such as liver transplants, are often reserved for patients who have already suffered significant liver damage.

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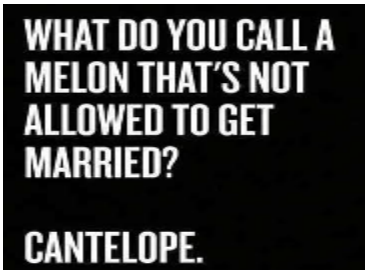

Groan

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Are There Major Differences in How Humans and AI 'Think'?

Study finds that AI fundamentally lacks the human capability to make creative mental connections, raising warning signs for how we deploy AI tools.

AI models struggle to form analogies when considering complex subjects, like humans can, meaning their use in real-world decision making could be risky.
(Image credit: imaginima/Getty Images)

The study, published Feb. 2025 in the journal Transactions on Machine Learning Research, examined how well large language models (LLMs) can form analogies.

It found that in both simple letter-string analogies and digital matrix problems — where the task was to complete a matrix by identifying the missing digit — humans performed well but AI performance declined sharply.

Altogether, the study concluded that AI models lack "zero-shot" learning abilities, where a learner observes samples from classes that weren't present during training and makes predictions about the class they belong to according to the question.

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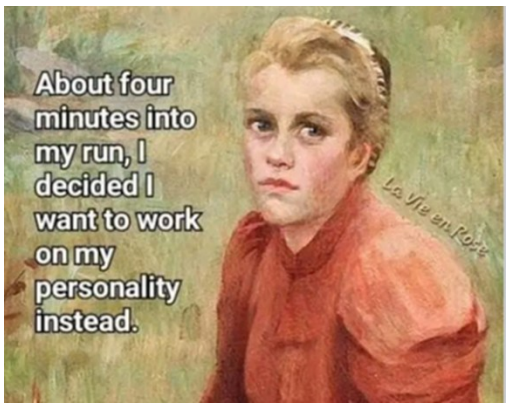

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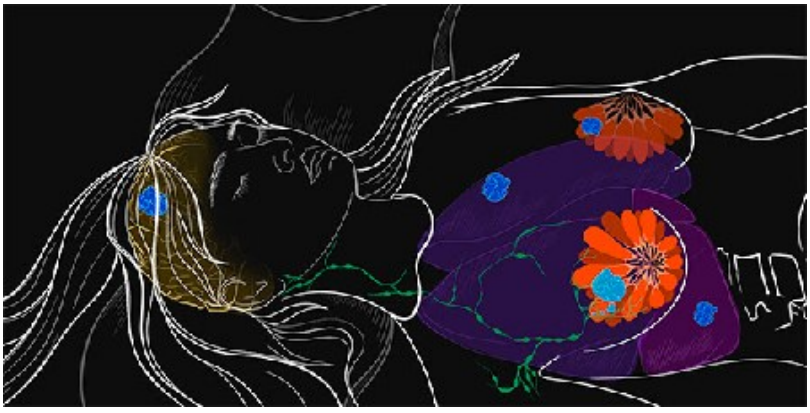
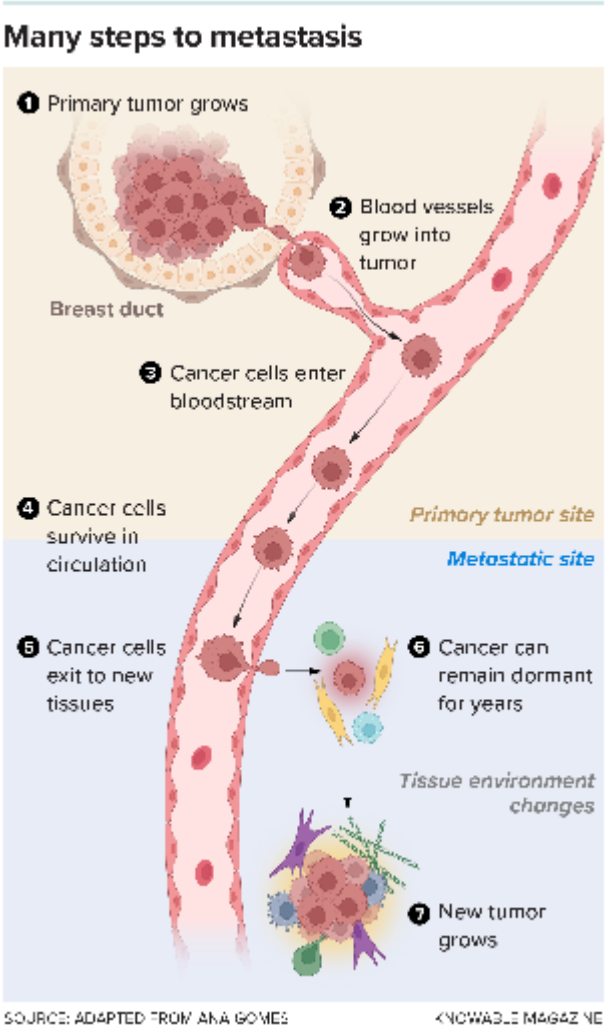
How Cancer Cells Travel to New Tissues and Take Hold

Understanding these astonishing migrations through the human body, known as metastases, could suggest novel treatments



A cancer (blue) that originates in breast tissue can spread to far-flung spots, often into lymph nodes, lung, liver, bone or brain.
credit: sayostudio

The prevalence of metastasis belies the arduous journey that cancer cells must make to achieve it. A cell that arises in, say, the breast, is well-adapted to live there: to eat the fatty acids available to it, to resist local threats, and to grow there in a solid tumor. If it manages to escape into the bloodstream, it finds itself zipping along at up to 40 centimeters per second with shear stresses sufficient to rip it apart. Should it survive that odyssey and land in a new tissue — say, the brain or spinal fluid — the environment is totally different yet again. The foods the cell is accustomed to may be absent; immune cells or other novel environmental molecules may attack. For a cell to manage this trip, and then adapt to a new environment, is truly a Herculean task.



The few cells that manage this epic feat are resilient and flexible in how they feed themselves and process the molecules around them. They may tweak their biochemistry to evade local dangers, or to get the fuel they need in sparse environments.

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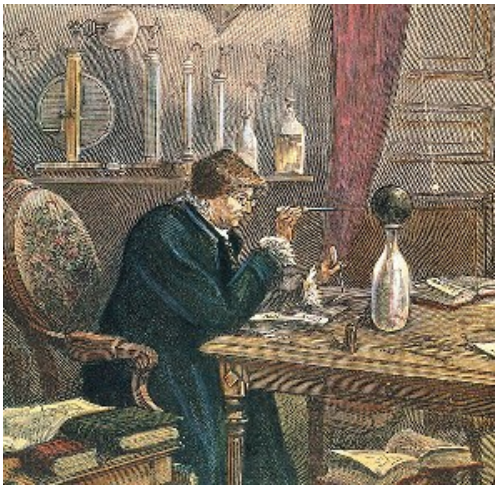
The Electrical Fluid: How Scientists Discovered the Electron

A celebration of 2025 as the International Year of Quantum Mechanics and Science would be remiss without a look at how the carrier of electricity finally yielded its secrets — paving the way to the quantum era



In the 18th century, Benjamin Franklin performed a suite of electrical experiments leading to his deduction that some sort of "electrical fluid" could be transferred from one object to another. That fluid turned out to be composed of what scientists now know to be electrons.
Credit: Science History Images / Alamy Stock Photo

Electrons have permeated the universe since the earliest instants after the Big Bang. But despite their ubiquity, no human knew very much about them until nearly the 20th century. Before then, only the foggiest clues existed about what caused the curiosities of static electricity and electric currents.

Pursuing those clues proceeded slowly for centuries. But once the quarry was captured, and its identity established, the electron enabled the magic of modern technology and fathered new fields of science. It was the electron that led scientists into the wild and weird world of quantum mechanics, which is marking its centennial this year. Knowledge of the electron's behavior and its quantum powers transformed civilization in ways that defied anything the ancients could have imagined.

Electrical research flourished in the 19th century, leading to the eventual understanding of a mutual relationship between electricity and magnetism, manifested in the electromagnetic waves that would later make radio, TV and Wi-Fi possible. But the nature of Franklin's electrical fire remained obscure.

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It wasn't until the 20th century the role of the electron (yikes) was run to ground.

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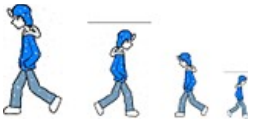
My Walking Thoughts



For Sunday April 20 2025

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Miss Apfelbaum #1 : Outtake from Phantoms from Vietnam

Entering the third grade meant many things to Gordon, beginning with the fact that he was to celebrate his 9th birthday on September 10th, 1943, the second day of school that year. Another was that his class's teacher this year was Miss Apfelbaum, a firm fixture in the school's pantheon of task mistresses.

Miss A, as she was known to teachers and students alike, was of solid German descent and indeterminate age with a penetrating gaze that warned those in her presence to mind their Ps and Qs. Additionally for the sake of possible biographers, Miss A eschewed drinking, smoking, or smiling except when safely sheltered within the confines of her tidy one-bedroom home next to the hamlet's Memorial Park. There she exhibited a different persona.

If Miss A had a first name, Gordon nor anyone else had ever heard it spoken. Nor was the destination of her frequent Friday afternoon Greyhound bus trips southward to somewhere on the far side of the Tehachapi range known, though there was much time wasted throughout the community in speculation.

Miss A had no use for a great number of modern conveniences, automobiles at the top of that list. Instead she kept a blue and ivory Schwinn Hollywood bicycle hanging on pegs on the wall of her garage, "just in case," she told Randy, the feral cat who showed up each evening in time for the day's leftovers and saucer of milk before tending to his duties as solacer of lonely felines in the fen by the railroad siding.

Miss A marveled at the fact that Randy could prowl night-after-night the evil haunts possessed of bobcats, coyotes, kit foxes, and the occasional black bear, and live to tell the tale. Luckily for all in the community, whatever cataclysmic events might cause her to fetch her doomsday device from the pegs were few and far between, no one more thankful than Randy who depended on the source of nourishment that allowed his nightly activities.

When satisfied she had completed her daily tasks, like her revered papa, Herr Doctor Alphonse Apfelbaum, professor emeritus of Agronomy at the Northern Branch of the

College of Agriculture at Davis, she'd pour herself a generous snifter of Teacher's Highland Cream, fire up a fat Cuban cigar, and settle in for an evening's study of faraway places.

All of this was, of course, of no consequence to Gordon and his classmates as they awaited in silent anticipation the beginning of the school year, announced by the strident clamor of the 8 o'clock bell, followed immediately by the unmistakable thumps of Miss A's intent footfalls in the short corridor that led from the faculty coffee lounge to the line of classrooms, theirs being number 4.

"Good morning, students," she greeted her new class before she was halfway into the room, her voice leaving no doubt in anyone's mind that summer foolishness was over.

The first order of business as Gordon and his classmates had learned from her former students was baseball, or more particularly the Pittsburgh Pirates, or even more precisely how a certain shortstop, Gunther Apfelbaum had performed at bat and in the field against the St. Louis Cardinals in the previous Sunday's double header.

Gunther Apfelbaum—known around the league as Gunner for the way he could make the little horsehide ball sing on its way from the left side of the diamond to its target at first base—had gone three-for-five with a double and triple in the first game and two-for-three with a triple and stolen base in the seven inning nightcap…an above average outing for the shortstop who sported a 317 batting average, 443 slugging rating, and a 633 onboard percentage. At 36 but sporting a damaged left leg that made him run with a sort of hippity-hop gait, Gunner had been pronounced 4-F by his draft board, allowing him to avoid military service, a situation some thought a bit odd considering he might be better suited tossing hand grenades than mowing down base runners.

Of course everyone knew that Miss A used this daily exercise from April to October each year, to glorify her cousin… everyone but Mr. Chalmers, the school principal who watched these proceedings with great interest. Hidden from the rest was that Miss A thought baseball a silly pursuit for grown men and a terrible waste of Gunther's intellect. Nonetheless, she saw it as an almost perfect tool for sneaking such advanced subjects as statistics, geometry, and national tradition into the curriculum without her students or the California State School Board being any the wiser. Ditto her use of world geography to provide a basis for understanding the factors that knitted one group of people into a unified whole, at the same time putting them at odds with other groups.

Such visions came from the venerable Professor Alphonse Apfelbaum—Alfie to his cohorts--who thought such subjects should be taught to kids while still in their nappies.

"A shame they have to wait until high school," he complained to his unsympathetic companions at Anthony's Study Hall, a comfortable if a little seedy watering hole on the west side of Sacramento frequented by an eclectic assemblage of academic castoffs.

Sacramento was lackluster town—blazingly hot in the summer and agonizing cold in the winter featuring a scant fortnight of endurable weather at the either equinox. It was for some unknown reason the state's capitol, "a waste of good farmland" in the pious opinion of most longtime residents. Tax payers in other parts of the state considered it a reasonable place to stick the state's political scum-suckers who had managed thus far to avoid the offer of free room and board at San Quentin or Alcatraz.

The more probable reason for its selection as the state's throne, and the one Miss A, passed on to her students, was that since, unlike its predecessors to the title—Oakland, San Francisco, and Monterey—Sacramento was land-locked and therefore of little value to anyone wishing to take the jurisdiction over by amphibious assault.

Though she would never show it, Miss A looked forward to this year's fourth grade class more eagerly than was her wont, an expectation rooted in the regard of the group's prior teachers, that there were some of Miss A's Specials in its ranks. The terms Specials was not necessarily one of approbation, indeed quite the opposite in many of her colleagues' minds, referring to students who made things difficult for those of an authoritarian bent, a fair representation of whom could be found in the teachers' across the hall.

Top of the list of annoyances was that the group, as the district's psychiatrist, Helen Durkee was fond of saying, was "spring-loaded to the *why* question." While it could be argued that most of the kids weren't necessarily interested in learning the answers, it was just that the likes of Nancy Goldsmith, Bonnie Alvarez, and Gordon Talbott in this new batch of hooligans were greatly admired by their peers for their ability to rattle their teachers' cages with their persistent demands for more information.

[To be continued]

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