

OPUNTIA 581



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Opuntia is published by Dale Speirs, Calgary, Alberta. It is posted on www.efanzines.com and www.fanac.org. There is also a cumulative subject index to all issues available at those sites. My e-mail address is: opuntia57@hotmail.com When sending me an emailed letter of comment, please include your name and town in the message.

PELICANS

photos by Dale Speirs

2024-08-12

I had to make a business trip to Carseland, a village about an hour's drive east-southeast of Calgary. The village is up on a plateau above the Bow River valley, where a century ago a major irrigation headworks was built. The weir still diverts water to farmers today, a view of which is shown on the cover.

The system is part of a provincial park, reached by gravel roads which wind down to the bottomlands by a series of switchbacks. After I finished my errand I went over to the park. The photo below was taken from the plateau, looking upstream along the Bow River.



I spotted a flock of pelicans fishing above and below the weir. The structure blocks the transit of fish, which thus accumulate there.

Not in large quantities however, because the pelicans steadily thin them out. I couldn't get any photos of an actual fish snatch because the pelicans stick their heads underwater to gulp the fish. The birds were eating well.

A single bird fished above the weir, and two pelicans below it.



AROUND COWTOWN

photos by Dale Speirs

The Labour Day weekend wrapped up the ethnic and street festival season in Calgary, the final event being Fiesta Filipino on Olympic Plaza.







About a half-dozen food trucks but lots more food booths.



I had rice and chicken ulam from the Amihan booth.



PHILATELY OF THE 2022 UKRAINIAN WAR: PART 4
 by Dale Speirs

[Parts 1 to 3 appeared in OPUNTIA #544, 558, and 569.]

The Cities Of Heroes.

The fight against the Russian invaders drags on. I've continued to add stamps to my collection of the war. Ukrposhta, the Ukrainian post office, issues postage stamps as propaganda, not just to pay a letter. Scans are not actual size nor to the same scale between stamps.

Ukrposhta has a series called Cities of Heroes, depicting the damage done by the Russians. The Kherson district produced most of Ukraine's watermelons, which have become a symbol of hopeful regrowth after the city was reduced to rubble.



Below: Okhtirka ruins
 Bottom: The cities of Bucha (top stamp), Irpin, and Gostomel (dove drone)



НЕ ЗАБУДЕМО! НЕ ПРОБАЧИМО!
 БУЧА. ІРПІНЬ. ГОСТОМЕЛЬ

Below: Kharkiv
Bottom: Chernihiv



Below: The Crimean peninsula, which was actually taken by the Russians in 2014 without a shot fired.
Bottom: Bombed train station.



Ukrainian Forces.



Top left: Infantry forces.

Bottom left: Ukraine soon used up most of its equipment in the initial stages of the war. The sheetlet shows replacement vehicles supplied by allies. Notice the Canadian flag at top centre.

Top right: Postal service to front-line troops.

Bottom right: Christmas 2022. A young girl at home with a Christmas tree while her father rests on picket duty in the war zone.



The Cross of Military Merit was established in 2022 to honour those fighting the Russians.

MISCELLANEOUS MYSTERY REVIEWS

by Dale Speirs

Gimme That Old Time Radio.

THE STRANGE DR WEIRD was an anthology series that aired on radio during the 1944-45 season, written by Robert A. Arthur. It was produced by the same outfit that did THE MYSTERIOUS TRAVELER but was a 15-minute show instead of 30 minutes. Available as free downloads from the Old Time Radio Researchers at www.otrr.org/OTRRLibrary

“Dead Man’s Paradise” aired on 1945-04-17. Set in a Louisiana bayou, a young man was talking with his ailing Cajun father when two bank robbers, Ace and Duke, burst into their shack. They wanted a guide to lead them through the swamp to New Orleans.

After the young man protested he couldn’t leave his father alone, Ace solved the problem by putting two bullets into the old man. The son was forced at gunpoint to take them past the quicksand pools and nasty wildlife to freedom.

On the trail, they trudged along. The son tried to escape but Ace shot him in the head and left him on the ground for dead. The two robbers went forward. Later they heard the distant sound of the son’s ghost taunting them.

Duke fell into quicksand. Ace couldn’t save him, so shot him dead as a merciful act as he sank. The ghost kept following and tormenting Ace. After walking some more, Ace strayed into quicksand. Just before Ace slipped under, the ghost revealed himself to be the Cajun’s son.

His head wound was bloody but was only a skull crease that had knocked him unconscious for a brief spell. Revenge was all the sweeter as he told Ace he had led the robbers around in circles about the only quicksand pool in the area.

OTR At Midnight.

THE HAUNTING HOUR was a 30-minute show whose title referred to the midnight hour, not the airplay length. No credits were ever given to cast or writers. The series was syndicated from 1944 to 1946. Available as free downloads from the Old Time Radio Researchers at www.otrr.org/OTRRLibrary



“Murder Wears A Strange Mask” aired on 1945-03-24. Steve Raymond and his fiancée Marsha Phillips attended a masquerade ball. The host was Steve’s business partner Ben Carter. En route to the party the couple exchanged some snippy dialogue that suggested their engagement might not be consummated.

Everyone at the party wore a mask, including the first victim Joan Williams. She was found in the library by Ben, stabbed to death with a knife that Steve had been wearing as part of his magician costume. Ben was magnanimous and told Steve that he wouldn’t call the police until midnight. That would give Steve a little bit of time to solve the crime.

Accusations flew about like sparrows in a granary. Marsha had been jealous of Joan. The latter’s ex-husband Roy Benson was there, dressed as a royal executioner.

Ben and Marsha each accused Steve. Then Roy came in on Steve’s side as a fellow suspect but soon became the second murder victim, shot by a silenced handgun, also in the library.

Ben apologized to Steve, who couldn’t have done the second murder. The party carried on, the other attendees unaware of what had transpired. The episode broke for the half-time commercial, deleted from this mp3.

Upon returning to the story, an announcer summarized the plot so far but fluffed his lines by referring to Marsha Williams and a few seconds later to Joan Williams. I checked back to the introductory narrative and yes, the announcer had clearly said Marsha Phillips.

Be that as it may, 79 years later the mistake was a moot point. Downstairs at the party, Marsha drew Steve aside and said she suspected Ben killed both victims. She had called the police and they were on their way. The couple went snooping, and eavesdropped Ben on the telephone calling the police.

They found a clue and confronted Ben, who denied the accusation. Just then the clock struck midnight, so the three descended from the library to the unmasking below. Said Steve: “*We’ll keep an eye on one another until the police decide which one of us is the murderer.*” Fair enough.

As the unmasking concluded, the police arrived. Steve answered the door. They only had exchanged a few sentences when shots were heard within. Rushing

inside, they found Marsha distraught, saying that Ben had threatened her with a gun. She struggled with him, got control of the gun, and shot him.

The police found two sets of clear and distinct fingerprints on the gun, his and hers. That made the police suspicious, since if Ben and Marsha had struggled for possession of the gun, then all the fingerprints would have been smeared during the struggle.

However the clincher was that Ben survived his wounds and would live to testify against her. Steve also noted that Marsha had lied about calling the police, since, when they listened in on Ben’s call, the police responded as if they were hearing about the murders for the first time, as indeed they were. Marsha then blabbed all to the police, confessing to everything in great detail.

“Bird Of Death” aired on 1945-03-31. A man named Orin was murdered by his assistant Spear in a staged hunting accident. Shotgun, duck hunting, a useful setup.

Spear had forged a will naming himself as a major beneficiary of Orin’s estate. Before doing so, he explained to Orin at great length his intentions, including disposing of the body in a fish trap. Spear first wounded a passing crow to test his shotgun. Note that well.

Reporting the death, he said it was accident when Orin over-reached and capsized his boat, then drowned. The body would be long decayed when it was found, if ever.

Orin’s nephew Victor was an amateur ornithologist. He was observing blue herons in the marsh. He and a hired hand Jed heard the shotgun blast. Spear’s subsequent story didn’t sound correct.

Jed investigated while Spear gloated over the probate. There was a wounded crow sitting on a post of the fish trap, staring hungrily into the water. Victor invited Spear out into the marsh to verify the story.

He pointed a shotgun at Spear and made him row over to the fish trap. The crow was sitting there, waiting. Jed was hiding nearby with a rifle and heard Spear’s confession before killing him. The two men were avenged. One hopes they helped the crow.

“If The Shoe Fits” aired on 1945-04-28. Gregory and Helena Destus were a hard-working immigrant couple. He was a cobbler whose business was rapidly expanding. He worked long hours in his shop, or so he said.

A big customer was Henry Bollet, the type of businessman who needed a bodyguard for good and sufficient reason. His goon was named Macintyre, who spoke with the traditional Noo Yawk gangster accent.

They barged into the Destus apartment but Gregory wasn't there. Bollet showed Helen a coin which she recognized as Gregory's good-luck piece. Bollet left but Macintyre stayed with instructions to deal with Gregory.

As Helena trembled, Macintyre explained that Gregory had been carrying on with Bollet's daughter Marion. The proof was that Gregory had shown him the coin and bragged there wasn't another like it in the country. When Bollet found the coin on his daughter's dresser, the obvious implication was drawn.

Helena got away and warned Gregory in his shop. He denied all. Macintyre gave the couple a chance to flee. He gave as his reason that Gregory had made him the best pair of shoes he ever owned.

Later, Marion showed up at the Destus apartment with her illicit boyfriend Fred Porter. She had received a note demanding \$1,000 or else her father would be told. They thought Gregory had sent the note but he denied that.

She said she had paid \$200 at the drop with a note, then watched from a distance. A man, too far away to identify, picked up the cash. After he left, Marion went to the spot to see if he replied to the note and found the coin. She took it home and put it on her dresser.

A plan was hatched between all of them. Macintyre seemed the obvious culprit. Gregory found footprints and made shoes to match the imprints. The entire cast assembled in the shop, where Gregory had all the men try them on. They fit Porter perfectly. All ended well except for him.

“Date In The Dark” aired on 1945-07-07. Politician Bill Henderson called private detectives Earl Bretton and Owen Bailey at midnight, desperate for bodyguards asap. They arrived lickety split at his office. The night watchman said no one else had come up the elevator.

They found Henderson's office in the dark. He wasn't there. Feeling around for a switch, they discovered the light bulbs had been removed. A lurking gunman held them and demanded they tell him about the murder of a man named Kennedy five years ago. They knew nothing about him but the gunman didn't believe them.

There was a fracas and the old watchman died while the gunman fled. A clue was left behind which led them to an illicit card game in a cheap hotel. In the meantime they learned that Henderson had been murdered.

They knew that one of the card players was the murderer, who was trying to establish an alibi. The game began, with everyone bickering and nervous. Bretton tried psychological warfare but it didn't seem to work. The tension rose and rose.

Things went from bad to worse. Bretton identified the gunman but found himself facing his gun. The police arrived in the nick of time. The game never did finish. The plot was routine but the interplay of the desperate men was well performed.

“Revenge” aired on 1945-08-11. Annabelle Lee was in angst over a voice in her head bothering her. Trouble was she was on her honeymoon with Jim Brant.

The story was told in flashbacks. She had been previously married to elderly millionaire Jonathan Lee in an unhappy relationship. After four years, she murdered him to escape. Pushed him off a cliff, she did, or thought she did. Her guilt, and Jonathan's voice in her head, made her confess to Jim.

Jonathan wouldn't let her go. She learned he murdered his previous wife, so she struck first. Having told Jim the story, their car slid into a ditch on the edge of a cliff. The very same spot from which she had dispatched Jonathan.

She ran away. A friend Jamieson suddenly appeared out of nowhere, calmed her down, and told her she was deluded. He had been the one to push Jonathan off the cliff. Jamieson then said he would try to get the car out of the ditch.

Instead, he deliberately drove off the cliff to his death. End of story. The writer was not credited, probably to protect him from listeners angry at such a hokey ending.

“No Escape” aired on 1945-09-01. Paul Perry planned to murder his wife Joan because she wouldn’t give him a divorce. She surmised he was going to do so but when she went to the police, they said they needed more than a surmise.

He did, arranging an accident for her to fall 16 floors from their penthouse onto a roof. He told people she was away staying with her mother. When he went to check the body the next morning, it was gone.

The next day a steady stream of visitors kept calling on him. First a delivery man came by to pick up her clothes, saying she had just phoned for them. Then an insurance agent came by, saying she had phoned that morning for an appointment.

Next a credit manager in a store telephoned and said she was there asking for permission to open a charge account. When Paul rushed over to verify her presence, the manager denied everything.

Paul took his mistress Lily out for fun. They met the insurance man, who denied having called at the penthouse. Paul’s nerves began to crack. He accused Lily of complicity in a conspiracy and tried to kill her.

The police arrived in time to prevent a second murder. They had his confession as he gloated to Lily. They regretted not having prevented Joan’s murder, so Homicide set up a plan to break him psychologically.

“The Devil’s Deep” aired on 1945-10-20. Peggy Scott was looking after her step-brother Duncan on a lonely island. Everyone told her they should get out and socialize more.

One dark night she saw Duncan out on a rowboat, pushing a trunk into the sea. A visitor to the island, Sherman Shannon, disappeared about the same time. Someone else saw the trunk go overboard and sent a blackmail note for \$10,000.

Duncan talked Peggy into paying the demand. He said he would handle the payoff, to be done at a cliff known as Devil’s Deep. Peggy decided to play Miss Marple and follow him.

Instead she met a man named Bob Malone. Malone found Shannon. The former was a private detective who recognized the latter as a professional blackmailer.

They went to visit Duncan, who was waiting for the drop. Everything was a grand conspiracy. Duncan wanted money and hired Shannon to write the demand notes and play dead.

The matter was discussed at the cliff’s edge, the end result being Shannon shot dead by Duncan just as he pushed Duncan off the cliff. Peggy was a disillusioned woman.

OTR: Little Oddities.

STRANGE ADVENTURE probably aired in 1945 but little is known about this radio series. The episodes were about 3.5 minutes long, written by Charles Crowder and narrated by Pat McGeehan.

Some episodes were based on factual history, but most were fiction. The series was syndicated as a space filler or for insertion inside a variety show. Available as free downloads from the Old Time Radio Researchers at www.otrr.org/OTRRLibrary

“Death In The Stars” began with astrologer Marshall Darien giving a reading to his friends while they were enjoying drinks at the Zodiac nightclub. They were boxer Tony Cardoni and torch singer Ruth Perry, Darien's fiancée, whom he suspected was having an affair with Cardoni.

Darien died that night by gunshot, slumped over an open book. Cardoni told police that he was talking to Darien while the astrologer had a horoscope book open before him on the desk. Darien said he had foreseen his own death in the pages and thus committed suicide.

The police detective arrested Cardoni for murder. The pages of the book were clean, but the cover was blood-soaked. Therefore Darien had not killed himself, but was shot by Cardoni, who then set up the table with an open book. Bleeding stops after death since the heart is no longer pumping, so Darien was already dead when Cardoni laid his head over the book.

“Death Rides The Carousel” took place at a village fete where lawyer Jeffery Ford was murdered on a ride. The ticket taker Jasper Fanning explained the circumstances. When the ride ended, Fanning found Ford sitting upright in the middle of the seat, quite dead.

Before he finished telling the police detective all the details, the coroner's report arrived. That man was wasted in the village if he could do an autopsy and type up the report in five minutes. Ford had been stabbed in the heart.

The detective was even faster on the draw and arrested Fanning. The flaw in Fanning's story was that a dead man would not be sitting upright in the middle of a seat after being spun about for several minutes on the carousel. Fanning had a grudge against the lawyer for a past legal action.

Revival Radio.

Several attempts were made by networks to revive radio drama in the 1960s and 1970s, but they all failed. Television had won the war.

THEATER FIVE was a short-lived attempt at reviving drama shows on radio. It aired for the 1964-65 season. The episodes were a mixture of science fiction, fantasy, murder, and sometimes plain drama. The title referred to the fact that the series was aired five times per week.

The episodes were generally well written and produced. Available as free downloads from the Old Time Radio Researchers at www.otrr.org/OTRRLibrary

The 2022 March issue of OLD RADIO TIMES discusses the history of this series in great detail. Published by the Old Time Radio Researchers and available as a free pdf from www.otrr.org/?c=times

"Jump, Jump" was written by Rafael David Blau and aired on 1964-08-12. This episode began with a police officer trying to talk a suicidal man off a ledge. Jonathan Weldon was a writer whose latest book was favourably reviewed but wasn't selling.

His fiancée Sylvia was a high-maintenance woman who always wanted more. His father Harry wouldn't give him a job. And so to the roof to jump. Below the crowd shouted for him to jump.

The officer got Weldon's father and fiancée out to talk him down. Harry wasn't much help, loudly arguing with him. Sylvia pleaded to no avail. That left the cop. He failed, and Jonathan jumped. Not an episode to listen to on a rainy Sunday afternoon when you are feeling depressed.

"The Stranger" was written by Robert Cenedella and aired on 1964-08-14. Fred and Mary woke up one morning to find a stranger in their guest room. He said one of them had invited him to stay the week but wouldn't say who because the circumstances would embarrass them.

Fred had been out bowling and Mary had been to a bridge game. The stranger, calling himself Burt, sowed the seeds of suspicion between them. He told them that one of them hadn't been where they said but had gone for a night out on the town.

The marriage began disintegrating almost immediately. Fred and Mary didn't want to eject Burt without finding out the truth. He stayed a week enjoying himself, then suddenly disappeared. Then the couple found their valuable possessions gone.

Burt was one heck of a confidence man and thief. But in the epilogue, Fred decided to follow Mary on her next bridge night, and Mary decided to tail Fred to make certain he did go bowling.

THE ZERO HOUR was an unsuccessful attempt to revive radio drama that aired 1973-74. Rod Serling did the intros and outros much like his television shows, but he didn't produce this series.

The series initially aired as a five-part episode on weekdays. In the modern era there were few listeners for that format. The final season went to self-contained half-hour episodes but the damage was done. Available as free downloads from the Old Time Radio Researchers at www.otrr.org/OTRRLibrary

"The Princess Stakes Murder" was a five-part episode aired in October 1973 and was written by Kin Platt. The detective was Max Roper, played by Howard Duff, who had been Sam Spade on the radio before he was named as a Communist sympathizer during the Red Scare. The style of the episode was, however, exactly like the old Johnny Dollar radio series.

A jockey had been murdered but Roper was actually investigating the disappearance of a millionaire's daughter. Assorted characters were introduced at regular intervals and occasionally killed off so the script wouldn't turn into a telephone directory.

Most of the skullduggery hinged around the stepmother, who had been much married and was being blackmailed for her sins when she was a young woman. She had her problems but so did other characters, with hints of the drug trade and sharp practice gone wrong or at least ill-remembered. The final 15 minutes wrapped up the details of who did what to whom.

“Once A Thief” was written by Kim Weiskopf and aired on 1974-06-05 as a self-contained episode. Fingers Duncan was a pickpocket but was in a slump. But first, a police lineup where the victim was unable to identify who stole a large quantity of bonds from a charity event.

Both police and victim were baffled because the cash sitting beside the bonds was left untouched. Further, bonds are easily traced and any dealer would automatically check the serial numbers.

Meanwhile, Fingers went to a psychic named Madam Eliza and explained his predicament, asking her to help him get his mojo back. He mentioned in passing that he had just inherited \$10,000 from his uncle.

Foolish boy. She told him she would have to consult the stars and told him to come back tomorrow. As soon as he left, Eliza’s husband arrived, complaining that he hadn’t been able to market the bonds anywhere.

No one in the underworld would fence them and he didn’t dare try a legitimate dealer. Eliza told him not worry, for she had a plan. Jumping back to the police investigation, they learned that Sol Fishman had been hired by the charity to run their games of chance. He was, as the saying goes, known to police.

Fingers returned to Eliza the next day. She told him the problem was that with \$10,000 in cash, he didn’t have the incentive to work. What he should do was spend it on something hot, not an investment, to leave him penniless again. That would force his fingers to work again. She sold him the stolen bonds to regain his confidence.

Fishman buckled under police questioning and sent them to Eliza’s family. In the meantime, Fingers visited Eliza’s shop while she was away and stole the bonds. Much to-ing and fro-ing around the charity event where everyone convened. Lots of twists. Everyone got arrested except Fingers.

“Once Upon A Truck” aired on 1974-07-19. The episode opened with a Ronald Colman impressionist extolling the virtues of Ford motor vehicles. After the commercial, the story opened at a funeral.

In a flashback, Tubby was released on parole and went to live with his niece Rosie and her husband Zeke. They were petty thieves, while Tubby had been a hijacker and murderer. His problem though, was that he was out of touch with the times.

Rosie and Zeke hoped Tubby could bring them up to big-time crime. They were dismayed that he wanted to become a florist or gardener. Pausing for a Ford pickup truck commercial, the next step for Rosie was to push her uncle into helping her with a heist.

She pressured Tubby’s old partners Wiley and Sykes, long since gone straight in the trucking business, into coming in on the job. She implied Tubby wasn’t above blackmail. They refused.

Her next plan was to have Zeke hijack one of Sykes’ trucks and hold it for ransom in Tubby’s name. Rosie was dismayed to learn that in the meantime Tubby had gotten a job with a florist. Even more dismaying was that Zeke hijacked the wrong truck, one belonging to Wiley.

Much to-ing and fro-ing ensued, trucks were smashed, and the wrong persons died. Tubby mourned the loss of Rosie and Zeke after they wrecked the stolen semi-trailer. Jim Backus broke in with a cheerful commercial for reclining chairs.

“The Corpse Takes A Stand” aired on 1974-07-22 and was written by Glenhall Taylor. Someone put the body of Williams, a prosecution witness, into a courtroom chair, propping it upright in the witness stand. The prosecutor Garner was miffed.

Andrew Snyder was the crime boss whose underling Barker was on trial for racketeering bootleg liquor. Fingerprint evidence and a hat with the initials A.S. showed a goon named Al Scott had smuggled the body into the courtroom during the night.

Scott did not long survive his stunt because Snyder didn’t like to leave loose ends. Garner plodded about collecting clues. The hat was too big to fit Scott’s

head but was a match for the other man with the same initials. Snyder's hatchet man had taken the wrong hat to plant as evidence.

THE DARKNESS aired in 1979 but information about this radio series is scanty. The series was produced by the Roger Rittner Players and is available as free downloads from www.otrr.org/OTRRLibrary Rittner's website didn't mention this series among his other works.

Each episode began with a woman's full-throated scream. Once the decibel meter sank back to normal, there followed an unctuous "*Good evening, I'm your host Claude*", an imitation of Raymond from the Inner Sanctum series of old-time radio.

"Catch Kill" credited everyone except the writer, who was probably Rittner. Two elderly spinsters Agnes and Josephine Markham operated an antiques shop in their house. The neighbourhood had declined and the shop was often targeted by thieves.

The gold watches and rare coins on display in the front window were an open invitation. The sisters were more than capable of defending themselves. Holdup men would be incapacitated with Mace in their eyes, then walked into a back room. There a vat full of piranhas awaited.

Their niece, unaware of their methodology, worried about them. She inadvertently discovered what they were doing and ran off to fetch the police. The sisters then implemented their fail-safe plan. The building was set afire.

After the blaze, the bodies were never found. Neither were the watches or coins. Said the narrator: "*Are they or aren't they? Only the piranhas know for sure.*"

Media Pastiches.

WHO KILLED THE FONZ? (2019) by James Boice picked up the story of the television series HAPPY DAYS as the troupe would have been in the 1980s.

Richie Cunningham was a Hollywood screenwriter but his style of writing had been displaced by Terminator cyborgs and giant marshmallow men chasing ghostbusters. His latest script was hopelessly out of fashion and his agent dropped him as a client.

As bad as that was, others had it worse. Arthur Fonzarelli was a cranky man running a service station. He was killed in a supposed motorcycle accident but his death was murder. Richie headed back to Milwaukee. With his buddies Ralph Malph and Potsie Weber, they began investigating.

This novel was not a comedy but a noir about classmates meeting up again decades later. They saw each other's receding hairlines and expanding waistlines. The vixens from high school were now grey-haired grannies. Some old friends were getting by in dead-end jobs and some were reasonably successful. Much like the Statler Brothers song "The Class Of '57".

Richie and his friends wove their way through a tangle of corrupt cops and sleazy businessmen. The denouement was a meeting with the head honcho of the organization. The Fonz suddenly reappeared, having faked his death to get past the police. A Hollywood ending. Spock could never die and neither could Fonzarelli.

Novels.

MURDER ON 'B' DECK by Vincent Starrett was published in 1929 and brought back into print by Otto Penzler in 2022. Starrett was an early Sherlockian who helped found the Baker Street Irregulars fan club and was an obsessive book collector.

In the novel, the passenger ship Latakia was en route from New York City to Cherbourg. An Italian baroness was strangled in her cabin and Phillips, the main suspect, went overboard shortly after, a supposed suicide.

Walter Ghost, a former intelligence officer, was asked by the captain to solve the murder. Joining Ghost was mystery novelist Dunstan Mollock as the analogue of Dr Watson. An assortment of clues kept them busy but didn't actually seem to be solving the case.

Suspicion settled on the baroness's chauffeur Saddletire, with an implausible twist about Phillip's diary. Eventually the interrogation wore Saddletire down and he confessed all. He had ideas above his station and was in love with the Countess. She rebuffed him and that made him angry. Very angry.

The modern reader can see why this novel was out of print for a century. The plot was a basic manor house mystery at sea, a trope that fell out of style over

the next decade. Ghost and Dunstan were basically a poor man's Holmes and Watson. The novel reads well but only as a mildly interesting whodunit.

TEN DEAD COMEDIANS (2017) by Fred Van Lente was a take-off from Agatha Christie's novel AND THEN THERE WERE NONE. Veteran comedian Dustin Walker invited nine other comics to his island.

They ranged from a late-night host to wanna-bes to has-beens. The stage and movie businesses were parodied on every page, not a difficult task. Too many examples of stand-up routines to recite here but you've seen them or at least heard of them everywhere.

The celebrity who made one tweet too many and was destroyed by the wokers and cancellers. The actor who made one too many sequels in a movie series. The road warrior who said: *I have performed in every state in the Union, even the Canadian ones.*, a statement guaranteed to rile every Canuck living in a province or territory.

The steady drumbeat of murders began on the island, à la Christie but much funnier. The plot was the same. The culprit was Walker, who set up the murders so they would be blamed on his last victim. His motive was revenge. They made fun of him in their acts.

Comics.

THE COMIC BOOK KILLER (1989) was written by Richard A. Lupoff, a science-fiction fanzine publisher and novelist. I was surprised to find this paperback in a downtown Calgary Little Free Library. The novel was about insurance investigator Hobart Lindsey, assigned to a case of \$250,000 in stolen comic books. Only 35 comics, which were big money.

I almost quit reading after the first five pages. Way too many exclamation marks! Several on each page! For simple declarative statements! I'm not exaggerating! This novel could have used proper editing but Lupoff is dead, and three decades after publication is now too late to complain. Since the paperback cost me nothing, I persevered.

Lots of infodumps about comics followed, but they were fair enough. The paperback was part of the Bantam Books Mysteries series, so the majority of readers wouldn't have known much about the comics industry.

Lindsey went about his work, dull and plodding. Then someone slugged him unconscious and left him on the railroad tracks. Strangely, there were no exclamation marks. Since two-thirds of the novel remained, he survived.

Unfortunately the comic book store manager didn't. That someone got him with a knife. One by one the stolen comic books reappeared, left in strange places. Also reappearing were people from Lindsey's father's past, with connections and threads that complicated the story.

There were several false endings, each of which cleared portions of the mystery, plus a J'accuse! meeting. Then finally the confrontation with the killer, which is the reverse of how mysteries usually end.

One of the comic books had been the catalyst, while the others were just distractions. A messy finish, tied together with the killer's confession. A mildly interesting novel, but I put it back into a Little Free Library.

Movies.

GAME NIGHT was a 2018 comedy movie written by Mark Perez. The basic plot was about three young couples who attended a murder mystery game. You know the kind, with the guests and some local actors hired to play the parts. Someone dies the hard way during the opening. Your job: find the murderer.

Except that unbeknownst to them, the kidnappers weren't actors. They were after a MacGuffin that a brother of one of the players had, and were willing to kill for it. The players blithely moved through the action assuming everything was staged. They did not realize some of the perpetrators were deadly serious.

There were running gags, as each couple had domestic squabbles that took precedence even as bullets zinged past them. The ending involved multiple twists. The real bad guy kept butting in to mess up the game.

Some of the scenes played just a minute or so too long. After the third twist, the plot got tired fast. I bought this DVD from the bargain bin, so the movie wasn't a total loss. The film was the kind worth viewing once but not bothering about a second time. I put it in a Little Free Library.

SEEN IN THE LITERATURE

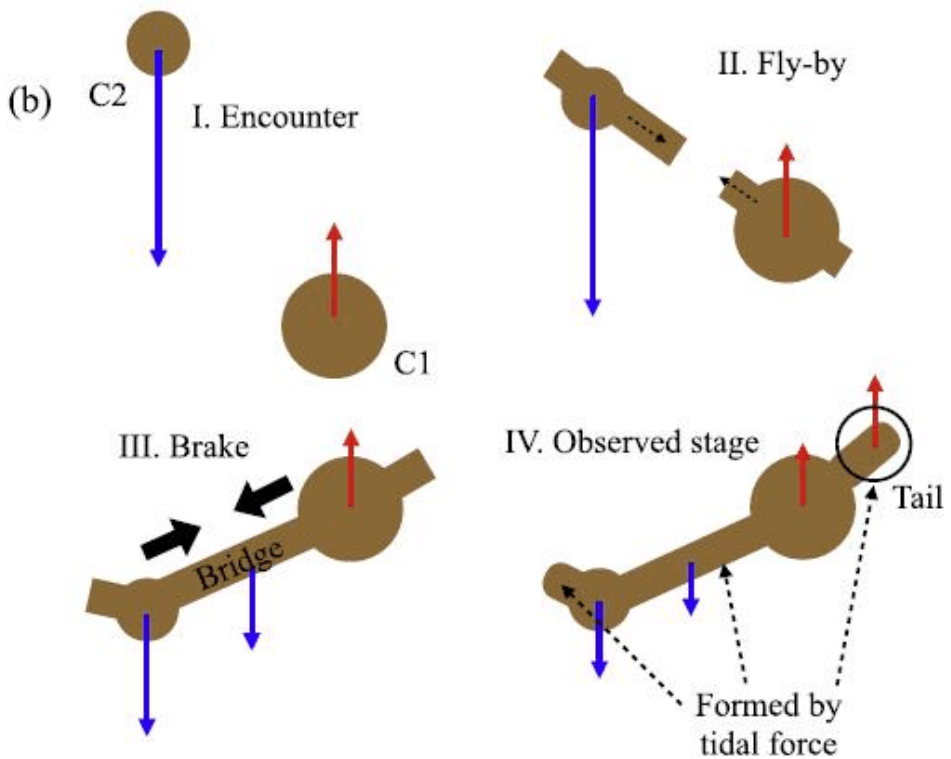
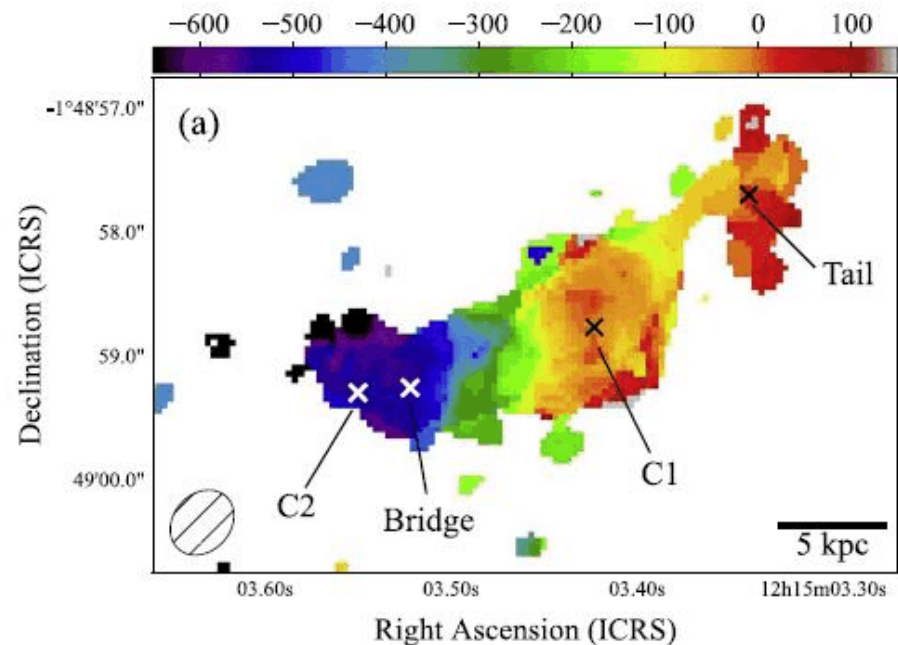
Astronomy.

Izumi, T., et al (2024) **Merging gas-rich galaxies that harbor low-luminosity twin quasars at $z=6.05$: A promising progenitor of the most luminous quasars.** *ASTROPHYSICAL JOURNAL* 972:doi.org/10.3847/1538-4357/ad57c6 (available as a free pdf)

[Two quasars, C1 and C2, are merging to form a single galaxy.]

Authors' abstract: *We present Atacama Large Millimeter/submillimeter Array [C II] 158 μm line and underlying far-IR continuum emission observations toward a quasar-quasar pair system recently discovered at $z=6.05$. The quasar nuclei (C1 and C2) are faint, but we detect very bright [C II] emission bridging the 12 kiloparsecs between the two objects and extending beyond them.*

The [C II]-based total star formation rate of the system is ~ 550 solar masses $[\text{Me}] \text{ yr}^{-1}$ (the IR-based dust-obscured star formation is $\sim 100 \text{ Me yr}^{-1}$), with a [C II]-based total gas mass of $\sim 10^{11} \text{ Me}$. The dynamical masses of the two galaxies are large.



There is a smooth velocity gradient in [C II], indicating that these quasars are a tidally interacting system. We identified a dynamically distinct, fast-[C II] component around C1.

Detailed inspection of the line spectrum there reveals the presence of a broad-wing component, which we interpret as the indication of fast outflows with a velocity of $\sim 600 \text{ km s}^{-1}$.

The expected mass-loading factor of the outflows, after accounting for multiphase gas, is >2 to 3 , which is intermediate between AGN-driven and starburst-driven outflows.

Hydrodynamic simulations in the literature predict that this pair will evolve to a luminous, star bursting quasar after coalescence, one of the most extreme populations in the early Universe.

[Charts are from this paper.]

Garattini, R., and K. Zatrimarylov (2024) **Black holes, warp drives, and energy conditions.** PHYSICS LETTERS B 856:doi.org/10.1016/j.physletb.2024.138910 (available as a free pdf)

Authors' abstract: *Following the work of H. Ellis, we study warp drives in the gravitational field of a Schwarzschild black hole. We find that as long as the warp drive crosses the black hole horizon at a subluminal speed, the horizon would be effectively absent inside the warp bubble.*

Moreover, we discover that the black hole's gravitational field can alleviate the violations of the weak energy condition and the null energy condition and therefore decrease the amount of negative energy required to sustain a warp drive, which may be instrumental for creating microscopic warp drives in lab experiments.

A warp drive is a solution of General Relativity that has the appearance of a "bubble" propagating on some (flat or non-flat) spacetime background. The observers inside the bubble are in an inertial reference frame, which means warp drives do not require external energy sources to accelerate, and they may move at any speed (in principle including superluminal).

This makes them a viable candidate for interstellar travel, but they have one significant downside: in order to sustain a bubble, one requires exotic matter with negative energy density.

Stars.

Lin, Z., et al (2024) **The unluckiest star: A spectroscopically confirmed repeated partial tidal disruption event AT2022dbl.** ASTROPHYSICAL JOURNAL LETTERS 971:doi.org/10.3847/2041-8213/ad638e (available as a free pdf)

Authors' abstract: *The unluckiest star orbits a supermassive black hole elliptically. Every time it reaches the pericenter, it shallowly enters the tidal radius and gets partially tidally disrupted, producing a series of flares.*

Confirmation of a repeated partial tidal disruption event (pTDE) requires not only evidence to rule out other types of transients but also proof that only one star is involved, as TDEs from multiple stars can also produce similar flares.

In this Letter, we report the discovery of a repeated pTDE, AT 2022dbl. In a quiescent galaxy at $z = 0.0284$, two separate optical/UV flares have been observed in 2022 and 2024 with no bright X-ray, radio, or mid-infrared counterparts.

Compared to the first flare, the second flare has a similar blackbody temperature of $\sim 26,000$ K, slightly lower peak luminosity, and slower rise and fall phases.

Compared to the Zwicky Transient Facility TDEs, their blackbody parameters and light-curve shapes are all similar. The spectra taken during the second flare show a steeper continuum than the latetime spectra of the previous flare, consistent with a newly risen flare.

More importantly, the possibility of two independent TDEs can be largely ruled out because the optical spectra taken around the peak of the two flares exhibit highly similar broad Balmer, N III, and possible He II emission lines, especially the extreme ~ 4100 Å emission lines.

This represents the first robust spectroscopic evidence for a repeated pTDE, which can soon be verified by observing the third flare, given its short orbital period.

Panyushkina, I.P., et al (2024) **The timing of the ca-660 BCE Miyake solar-proton event constrained to between 664 and 663 BCE.** COMMUNICATIONS EARTH AND ENVIRONMENT 5:doi.org/10.1038/s43247-024-01618-x (available as a free pdf)

Authors' abstract: *Extreme solar energetic particle events, known as Miyake events, are rare phenomena observed by cosmogenic isotopes, with only six documented. The timing of the ca. 660 BCE Miyake event remains undefined until now.*

Here, we assign its occurrence to 664 to 663 BCE through new radiocarbon measurements in gymnosperm larch tree rings from arctic-alpine biomes.

Using a 22-box carbon cycle model and Bayesian statistics, we calculate the radiocarbon production rate during the event that is 3.2 to 4.8 times higher than the average solar modulation, and comparable to the 774 to 775 CE solar-proton event.

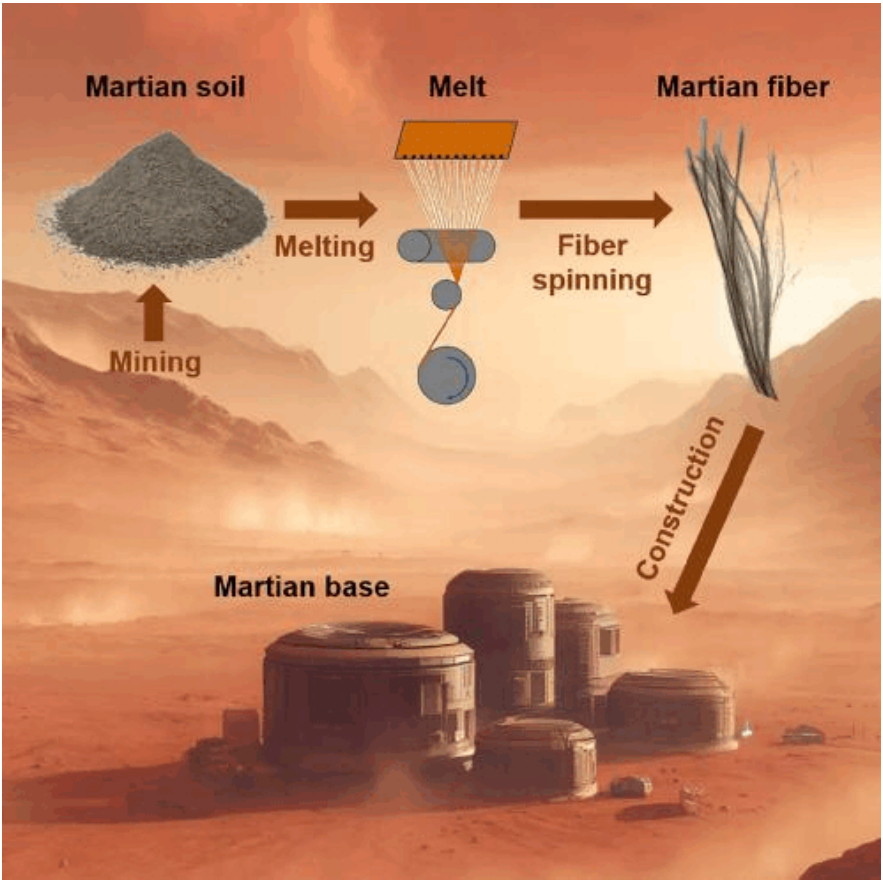
The prolonged radiocarbon signature manifests a 12% rise over two years. The non-uniform signal in the tree rings is likely driven by the low rate of CO₂ gas exchange between the trees and the ambient atmosphere, and the high residence time of radiocarbon in the post-event stratosphere.

We caution about using the event's pronounced signature for precise single year-dating.

Planets.

Guo, Z.S., et al (2024) **Production of Martian fiber by in-situ resource utilization strategy.** ISCIENCE (not to be confused with SCIENCE) 27:doi.org/10.1016/j.isci.2024.110408 (available as a free pdf)

Authors' abstract: *Many countries and commercial organizations have shown great interest in constructing a Martian base. In situ resource utilization (ISRU) provides a cost-effective way to achieve this ambitious goal.*



In this article, we proposed to use Martian soil simulant to produce a fiber to satisfy material requirement for the construction of Martian base.

The composition, melting behavior, and fiber forming process of the soil simulant was studied, and continuous fiber with maximum strength of 1320 MPa and elastic modulus of 99 GPa was obtained on a spinning facility.

The findings of this study demonstrate the feasibility of ISRU to prepare Martian fiber from the soil on the Mars, offering a new way to obtain key materials for the construction of a Martian base.

[Image is from this paper.]

Sulcanese, D., et al (2024) **Evidence of ongoing volcanic activity on Venus revealed by Magellan radar.** NATURE ASTRONOMY 8:doi.org/10.1038/s41550-024-02272-1

Authors' abstract: *The surface of Venus has undergone substantial alterations due to volcanic activity throughout its geological history, and some volcanic features suggest that this activity persisted until as recently as 2.5 million years ago.*

Recent evidence of changes in the surface morphology of a volcanic vent has been interpreted as a potential indication of ongoing volcanic activity.

To investigate more widespread alterations that have occurred over time in the planet's surface morphology, we compared radar images of the same regions observed from 1990 to 1992 with the Magellan spacecraft.

We found variations in the radar backscatter from different volcanic-related flow features on the western flank of Sif Mons and in western Niobe Planitia.

We suggest that these changes are most reasonably explained as evidence of new lava flows related to volcanic activities that took place during the Magellan spacecraft's mapping mission with its synthetic-aperture radar. This study provides further evidence in support of a currently geologically active Venus.

Asteroids And Kuiper Objects.

Fischer-GÖDDE, M., et al (2024) **Ruthenium isotopes show the Chicxulub impactor was a carbonaceous-type asteroid.** SCIENCE 385:doi.org/10.1126/science.adk4868

Authors' abstract: *An impact at Chicxulub, Mexico, occurred 66 million years ago, producing a global stratigraphic layer that marks the boundary between the Cretaceous and Paleogene eras. That layer contains elevated concentrations of platinum-group elements, including ruthenium.*

We measured ruthenium isotopes in samples taken from three Cretaceous-Paleogene boundary sites, five other impacts that occurred between 36 million to 470 million years ago, and ancient 3.5-billion to 3.2-billion-year-old impact spherule layers.

Our data indicate that the Chicxulub impactor was a carbonaceous-type asteroid, which had formed beyond the orbit of Jupiter. The five other impact structures have isotopic signatures that are more consistent with siliceous-type asteroids, which formed closer to the Sun.

The ancient spherule layer samples are consistent with impacts of carbonaceous-type asteroids during Earth's final stages of accretion.

Bertrand, T., et al (2024) **How obliquity has differently shaped Pluto's and Triton's landscapes and climates.** PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES USA 121:doi.org/10.1073/pnas.2408226121

Authors' abstract: *Triton and Pluto are believed to share a common origin, both forming initially in the Kuiper Belt but Triton being later captured by Neptune. Both objects display similar sizes, densities, and atmospheric and surface ice composition, with the presence of volatile ices N_2 , CH_4 , and CO .*

Yet their appearance, including their surface albedo and ice distribution strongly differ. What can explain these different appearances? A first disparity is that Triton is experiencing significant tidal heating due to its orbit around Neptune, with subsequent resurfacing and a relatively flat surface, while Pluto is not tidally activated and displays a pronounced topography.

Here we present long-term volatile transport simulations of Pluto and Triton, using the same initial conditions and volatile inventory, but with the known orbit and rotation of each object. The model reproduces, to first order, the observed volatile ice surface distribution on Pluto and Triton.

Our results unambiguously demonstrate that obliquity is the main driver of the differences in surface appearance and in climate properties on Pluto and Triton, and give further support to the hypothesis that both objects had a common origin followed by a different dynamical history.

Pena-Asensio, E., et al (2024) **Delivery of DART impact ejecta to Mars and Earth: opportunity for meteor observations.** ARXIV PREPRINT arXiv:2408.02836v1 [astro-ph.EP] (available as a free pdf)

Authors' abstract: *NASA's DART and ESA's Hera missions offer a unique opportunity to investigate the delivery of impact ejecta to other celestial bodies. We performed ejecta dynamical simulations using 3 million particles categorized into three size populations (10 cm, 0.5 cm, and 30 μ m) and constrained by early post-impact LICIAcube observations.*

The main simulation explored ejecta velocities ranging from 1 to 1,000 metres/second, while a secondary simulation focused on faster ejecta with velocities from 1 to 2 km/s. We identified DART ejecta orbits compatible with the delivery of meteor-producing particles to Mars and Earth.

Our results indicate the possibility of ejecta reaching the Mars Hill sphere in 13 years for launch velocities around 450 m/s, which is within the observed range. Some ejecta particles launched at 770 m/s could reach Mars's vicinity in 7 years.

Faster ejecta resulted in a higher flux delivery towards Mars and particles impacting the Earth Hill sphere above 1.5 km/s. The delivery process is slightly sensitive to the initial observed cone range and driven by synodic periods.

The launch locations for material delivery to Mars were predominantly northern the DART impact site, while they displayed a southwestern tendency for the Earth-Moon system. Larger particles exhibit a marginally greater likelihood of reaching Mars, while smaller particles favor delivery to Earth-Moon, although this effect is insignificant.

Origin Of Life.

Strong, V., et al (2024) **Electro-active polymer hydrogels exhibit emergent memory when embodied in a simulated game environment.** CELL REPORTS PHYSICAL SCIENCE 5:doi.org/10.1016/j.xcrp.2024.102151 (available as a free pdf)

Authors' abstract: *The goal of artificial neural networks is to utilize the functions of biological brains to develop computational algorithms. However, these purely artificial implementations cannot achieve the adaptive behavior found in biological neural networks (BNNs) via their inherent memory.*

Alternative computing mediums that integrate biological neurons with computer hardware have shown similar emergent behavior via memory, as found in BNNs. By applying current theories in BNNs, can emergent memory functions be achieved with alternative mediums?

Electro-active polymer (EAP) hydrogels were embedded in the simulated game-world of Pong via custom multi-electrode arrays and feedback between motor commands and stimulation.

Through performance analysis within the game environment, emergent memory acquisition was demonstrated, driven by ion migration through the hydrogels.

Agrawal, A., et al (2024) **Did the exposure of coacervate droplets to rain make them the first stable protocells?** SCIENCE ADVANCES 10:doi.org/10.1126/sciadv.adn9657 (available as a free pdf)

Authors' abstract: *Membraneless coacervate microdroplets have long been proposed as model protocells as they can grow, divide, and concentrate RNA by natural partitioning.*

However, the rapid exchange of RNA between these compartments, along with their rapid fusion, both within minutes, means that individual droplets would be unable to maintain their separate genetic identities.

Hence, Darwinian evolution would not be possible, and the population would be vulnerable to collapse due to the rapid spread of parasitic RNAs.

In this study, we show that distilled water, mimicking rain/freshwater, leads to the formation of electrostatic crosslinks on the interface of coacervate droplets that not only suppress droplet fusion indefinitely but also allow the spatiotemporal compartmentalization of RNA on a timescale of days depending on the length and structure of RNA.

We suggest that these nonfusing membraneless droplets could potentially act as protocells with the capacity to evolve compartmentalized ribozymes in prebiotic environments.

Paleobiology.

Meier, J.S., et al (2024) **The earliest evidence of large animal fossil collecting in mainland Greece at Bronze Age Mycenae.** SCIENTIFIC REPORTS 14:doi.org/10.1038/s41598-024-68778-w (available as a free pdf)

Authors' abstract: *Fossils of large animals have long influenced social practices and ideologies in human societies, including the fantastic myths of giants, heroes, and gods in ancient Greece. It has been estimated that purposeful fossil collecting in Greece began in the Late Bronze Age. However, previous archaeological finds of fossils from mainland Greece were not well documented in secure contexts that dated this far back in time.*

Herein, we present a newly recognized fossilized astragalus bone recently found in the legacy collections of the archaeological site of Mycenae. It was originally recovered by excavations in the 1970s and recently reanalyzed at the Mycenae Museum.

Our analysis explored the available evidence of the find location, the state of fossil preservation, and the species represented. The results suggest that a fossilized rhinoceros (Stephanorhinus) astragalus was collected in the past, possibly from afar.

Evidence indicates it was brought to Mycenae, where it was deposited near an interesting array of artifacts in a basement storage area of the Southwest Quarter, sometime in the thirteenth century BCE. This find represents the earliest secure evidence of large animal fossil use by people in mainland Greece, dating to the Late Bronze Age.

Dinosaurs.

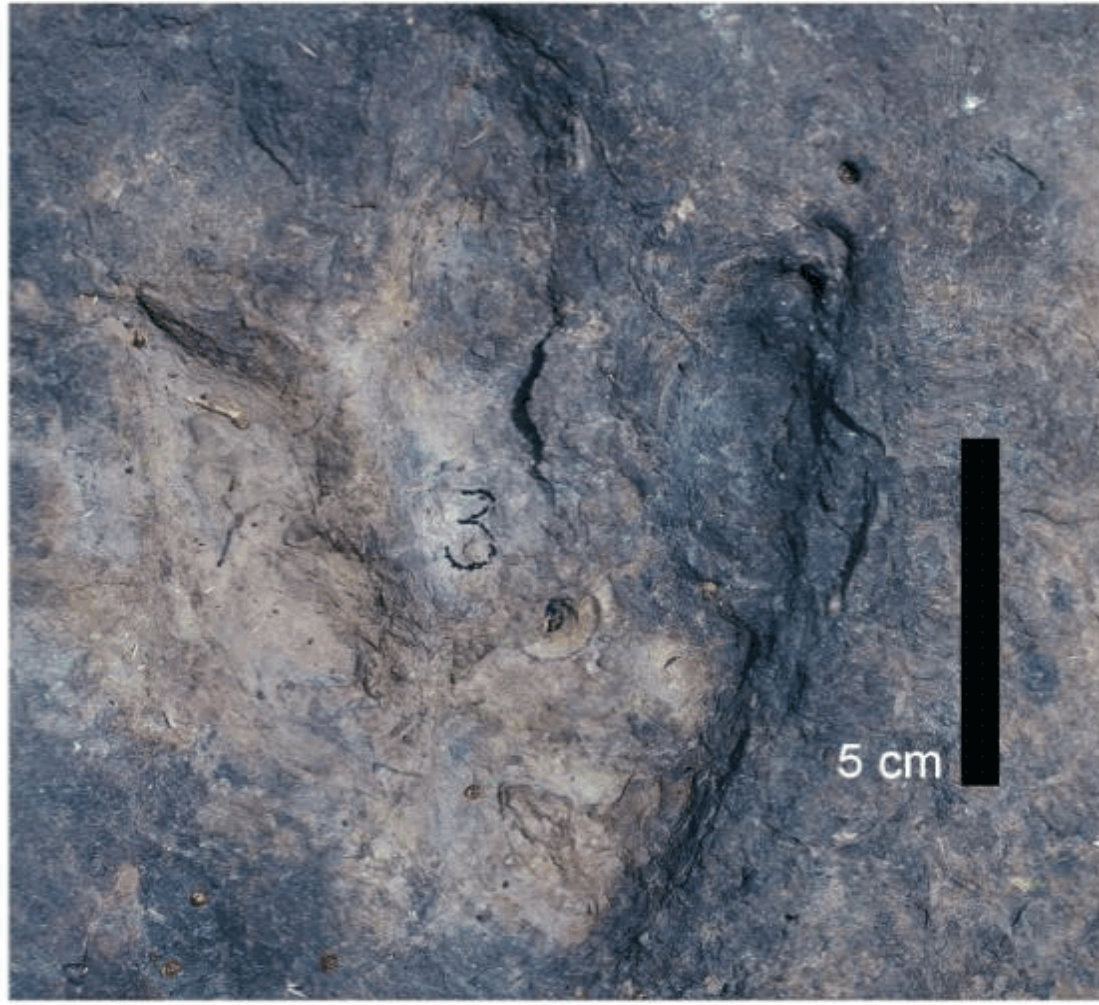
Jacobs, L.L., et al (2024) **The Early Cretaceous Borborema-Cameroon dinosaur dispersal corridor.** NEW MEXICO MUSEUM OF NATURAL HISTORY AND SCIENCE BULLETIN 95:199-212 (available as a free pdf)

Authors' abstract: *Early Cretaceous (>120 Ma) dinosaur tracks occur on both sides of the Atlantic Ocean in fluvio-lacustrine sediments preserved in half grabens developed on Neoproterozoic basement of the Borborema Shear Zone System in Brazil, continued as the West and Central African Rift Zones in Nigeria and Cameroon.*

On both continents, the tracks are impressed on top of thin sandstone strata interbedded with silt and mud.

The dinosaur tracks found in pre-Aptian Brazil and Cameroon sediments were originally produced 1,000 km apart on a single Gaondwanan continent under similar paleoclimatic and sedimentological conditions in structurally similar basins formed by tectonic processes resulting in the formation of the South Atlantic Ocean. They now lie on opposite sides of that ocean some 6,000 km apart.

[Images are from this paper.]



A

B

FIGURE 5. Two representative tridactyl (theropod) tracks from the Koum Basin: **A**, footprint 3 from locality KB-3 (Jacobs et al., 1989); **B**, footprint 5-3 from locality KB-17. Black scale bar for both = 5 cm.

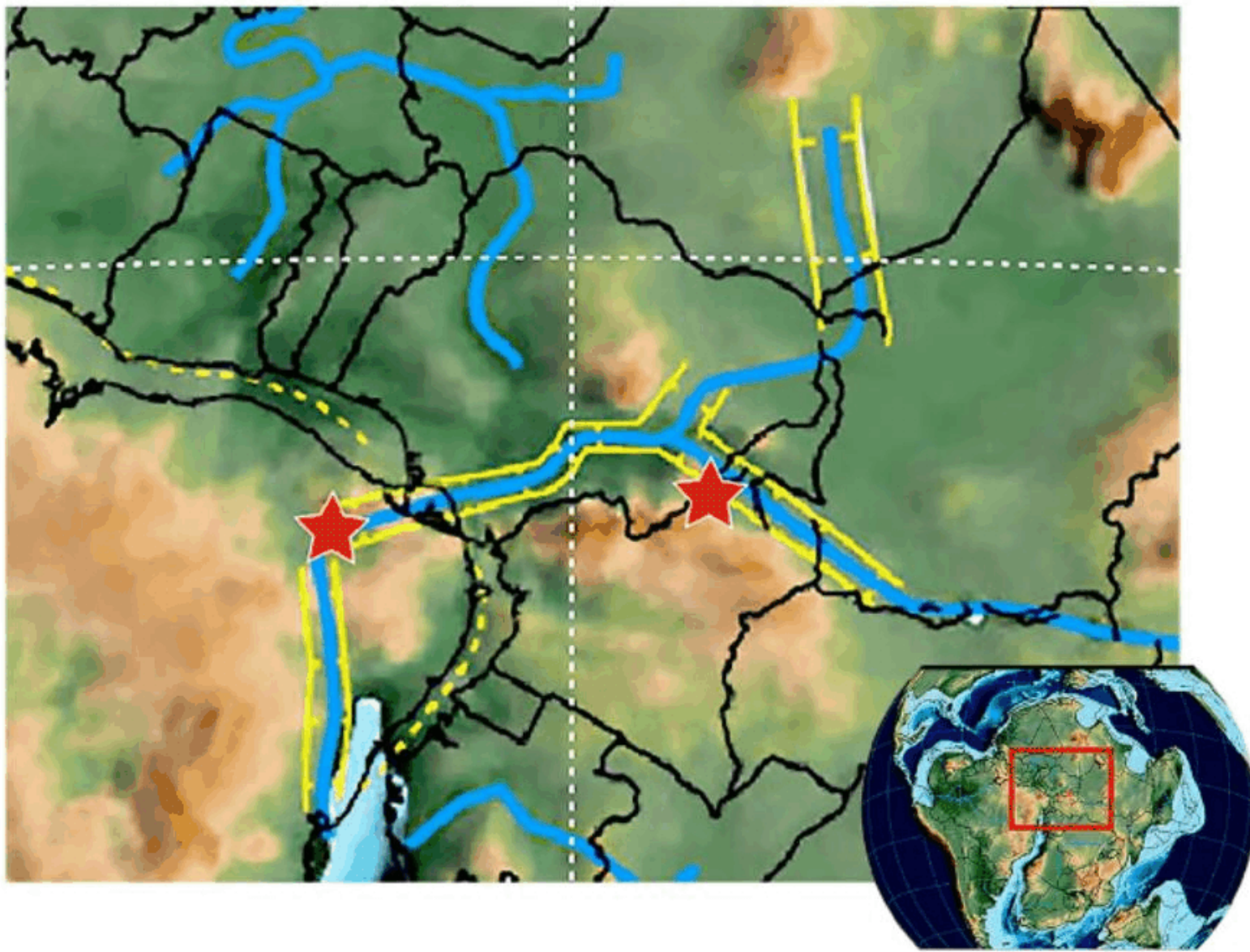


FIGURE 7. Enlargement of Borborema-Cameroon Dinosaur Dispersal Corridor. Yellow hatched lines are stylized rift areas of the Recôncavo Basin, the nascent Benue Rift, through which flowed the proto-Benue River, the West Africa Rift Zone, and the Central Africa Rift Zone. The West and Central African rifts conjoin into the Benue Trough.

Botany.

Taylor-Kearney, L.J., et al (2024) **Evolution and origins of rubisco.** CURRENT BIOLOGY 34:doi.org/10.1016/j.cub.2024.06.024

[You may never have heard of rubisco but all animal life depends on this plant enzyme. Rubisco turns carbon dioxide into sugars using the energy supplied by photosynthesis.]

Authors' abstract: *Rubisco (D-ribulose 1,5-bisphosphate carboxylase/oxygenase) is the most abundant enzyme in the world, constituting up to half of the soluble protein content in plant leaves. Such is its ubiquity that its chemical fingerprint can be detected in the geological record spanning billions of years.*

Rubisco catalyses the conversion of inorganic CO₂ into organic sugars, which underpin almost all of the biosphere, including our entire food chain. Due to its central role in the global carbon cycle, rubisco has been the subject of intense research for over 50 years.

Rubisco is often considered inefficient due to its slow rate of carboxylation compared with other central metabolism enzymes, and its promiscuous oxygenase activity, which competes with the productive carboxylation reaction.

It is hoped that engineering improved CO₂ fixation will have significant advantages in agriculture and climate change mitigation. However, rubisco has proven difficult to engineer, with decades of efforts yielding limited results.

Recent research has focused on reconstructing the evolutionary trajectory of rubisco to help elucidate its cryptic origins. Such evolutionary studies have led to a better understanding of both the origins of more complex rubisco forms and the broader relationship between rubisco's structure and function.

Zoology.

Davis, A.K., and C. Vu (2024) **How to give a spider a heart attack: Evaluating cardiac stress reactions of *Trichonephila* and *Argiope* spiders.** PHYSIOLOGICAL ENTOMOLOGY 49:doi.org/10.1111/phen.12463 (available as a free pdf)

Authors' abstract: *All animal species, from arthropods to vertebrates, must deal with occasional stressors in their lives, though most research on this has been focused on vertebrates. Meanwhile, our understanding of stress reactions in arthropod species like spiders is nascent.*

*In the United States, a non-native orb-weaving spider, *Trichonephila clavata* (joro spider), is spreading as is its already-established cousin in the United States, *T. clavipes* (golden silk spider).*

*Prior study has revealed how these two species have a unique behavioural reaction to physical stressors, whereby they remain in a thanatosis state for a prolonged period compared with other species. Here, we investigate the physiological stress reactions of these *Trichonephila* spiders by evaluating how each species' dorsal vessel contractions (heart rates) become elevated after being subjected to a non-lethal stressor.*

*For comparison, we also evaluate two similarly-sized orb weavers, *Argiope aurantia* (garden spider) and *A. trifasciata* (banded garden spider). We record baseline heart rates of inactive, resting, spiders in our lab, then restrain them under an electronic, 'optocardiographic', sensor for 10 minutes, to record their 'stressed' heart rates.*

**Argiope aurantia* has a pronounced heart rate elevation, for reasons unknown. We observe that all spider heart rates increase during restraint, though each has a species-specific pattern of elevation over time under restraint.*

*Notably, heart rates of both *Trichonephila* spiders are less variable under stress, since they tend not to struggle during restraint. Meanwhile, both *Argiope* spiders frequently struggle, leading to marked fluctuations in cardiac output. The stress reactions of *Trichonephila* spiders could be characterized as 'even-tempered', which may factor into their ability to live in habitats with frequent disturbances.*

Environmental Science.

Ma, D., et al (2024) **Global expansion of human-wildlife overlap in the 21st century.** SCIENCE ADVANCES 10:doi.org/10.1126/sciadv.adp7706 (available as a free pdf)

Authors' abstract: *Understanding the extent to which people and wildlife overlap in space and time is critical for the conservation of biodiversity and ecological services. Yet, how global change will reshape the future of human-wildlife overlap has not been assessed.*

We show that the potential spatial overlap of global human populations and 22,374 terrestrial vertebrate species will increase across ~56.6% and decrease across only ~11.8% of the Earth's terrestrial surface by 2070.

Increases are driven primarily by intensification of human population densities, not change in wildlife distributions caused by climate change.

The strong spatial heterogeneity of future human-wildlife overlap found in our study makes it clear that local context is imperative to consider, and more targeted area-based land-use planning should be integrated into systematic conservation planning.

Xiao, K., et al (2024) **Widespread crab burrows enhance greenhouse gas emissions from coastal blue carbon ecosystems.** COMMUNICATIONS EARTH AND ENVIRONMENT 5:doi.org/10.1038/s43247-024-01621-2 (available as a free pdf)

Authors' abstract: *Fiddler crabs, as coastal ecosystem engineers, play a crucial role in enhancing biodiversity and accelerating the flow of material and energy. Here we show how widespread crab burrows modify the carbon sequestration capacity of different habitats across a large climatic gradient.*

The process of crab burrowing results in the reallocation of sediment organic carbon and humus. Crab burrows can increase more greenhouse gases emissions compared to the sediment matrix (CO₂: by 17 to 30%; CH₄: by 49 to 141%).

Straightforward calculations indicate that these increased emissions could offset 35 to 134% of sediment carbon burial in these two ecosystems.

This research highlights the complex interactions between crab burrows, habitat type, and climate which reveal a potential lower carbon sink function of blue carbon ecosystems than previously expected without considering crab burrows.

Foucher, A., et al (2024) **Uncontrolled deforestation and population growth threaten a tropical island's water and land resources in only 10 years.** SCIENCE ADVANCES 10:doi.org/10.1126/sciadv.adn5941 (available as a free pdf)

Authors' abstract: *Mayotte Island (France, Comoros Archipelago) is one of these regions already endangered by overpopulation and land use changes.*

This tropical island of 374 km² is affected since the beginning of the 2000s by a rapid and continuous population growth +80% between 2002 and 2021 (310,000 inhabitants), considering only the official population] induced by an uncontrolled migration flow from neighboring islands (e.g., Comoros Islands, Madagascar).

These migration dynamics are explained by geopolitical reasons, as this island changed status from an "oversea collectivity" ("collectivité d'outre-mer") to a proper "oversea department" ("département d'outre-mer") in 2011, and, as a result, it also became an outermost region of the European Union in 2014.

This status change and the gradual transition to the same legal and social protection regime as in mainland France has led to an increase in illegal immigration.

The resulting overpopulation (defined in this study as the situation where the current population exceeds the capacity that may be reasonably supported by the environment) of the island leads to a decline in the use of traditional and sustainable agricultural practices (a type of agroforestry referred to as Mayotte garden or "jardin mahorais") in favor of intensive monocultures (e.g., banana and cassava) aimed at increasing food production.

Rapid demographic growth in tropical islands can exacerbate conflicts and pressures on natural resources, as illustrated by the French island of Mayotte where resources are limited.

In only 10 years, uncontrolled migration and population growth (+80% of population between 2002 and 2021) have led to a pronounced 3,600% increase in deforestation rates (2010-2014) and an intensification of agricultural practices, escalating conflicts over limited land, water, and biodiversity resources.

Implementing an original multi-proxy approach to sediment cores, our study reveals a staggering 300% acceleration in erosion during the first wave of migration (2011-2015), followed by a further 190% increase (2019-2021) under sustained migratory and demographic pressures.

Sedimentary DNA analysis provided insights into increased connectivity and community changes. By 2050, the population of this region will increase by 74 and 103%, in Comoros and Madagascar islands, respectively.

Macias, A.L., et al (2024) **Electrodeposition of calcareous cement from seawater in marine silica sands.** COMMUNICATIONS EARTH AND ENVIRONMENT 5:doi.org/10.1038/s43247-024-01604-3 (available as a free pdf)

Authors' abstract: The erosion of marine sediments is a pressing issue for coastal areas worldwide. Established methods to mitigate coastal erosion fail to provide lasting and sustainable solutions to protect marine ecosystems.

Here we demonstrate the application of mild electrical stimulations to precipitate calcareous mineral binders from seawater in the pores of marine soils via electrodeposition, an alternative approach to mitigating coastal erosion.

Results of electrochemical laboratory experiments unveil that the polymorphs, precipitation sites, intrusion mechanisms, and effects of electrodeposited minerals in marine sands vary as a function of the magnitude and duration of applied voltage, soil relative density, and electrolyte ionic concentration.

Surprisingly, in addition to the precipitation of calcium carbonate and magnesium hydroxide, the formation of hydromagnesite is also observed due to electrically driven fluctuations in the local pH.

These electrodeposits lead to enhanced mechanical and hydraulic properties of the marine sands, indicating that electrodeposition routes could be developed to reinforce marine soils in coastal areas that more closely mimic natural systems.

Human Prehistory.

Byram, R.S., et al (2024) **Clovis points and foreshafts under braced weapon compression: Modeling Pleistocene megafauna encounters with a lithic pike.** PLOS ONE 19:doi.org/10.1371/journal.pone.0307996 (available as a free pdf)

Authors' abstract: Historical and ethnographic sources depict use of portable braced shaft weapons, or pikes, in megafauna hunting and defense during Late Holocene millennia in North and South America, Africa, Eurasia and Southeast Asia.

Given the predominance of megafauna in Late Pleistocene North America during the centuries when Clovis points appeared and spread across much of the continent (13,050 to 12,650 cal BP), braced weapons may have been used in hunting of megaherbivores and defense against megacarnivores.

Drawing from historical examples of pike use against lions, jaguars, boars, grizzlies, carabao and warhorses we consider the possibility of a fluted lithic pike.

Associated osseous rods have been problematic as Clovis foreshafts due to the bevel angle and the apparent weakness of the splint haft when great strength is needed for deep penetration in megafauna hunting.

However our review of Late Holocene pike use in megafauna encounters indicates the sharp tip becomes less important after hide or armor has been pierced because compression is sustained. Thus, foreshaft collapse after hide entry may not limit but rather increase the efficacy of the braced weapon.

We conduct preliminary static experiments to model a fluted pike that adjusts during compression such that haft collapse and point detachment (when point jams on impact with bone) preserve the fluted biface, beveled rod and wooden mainshaft tip.

In addition to Clovis point attributes and association with osseous rods, potential archaeological correlates of Clovis pike use include the high frequency of Clovis point isolates and concentrations of complete points with unbutchered mammoth remains at sites such as Naco in Arizona.

Clarke, A.J.I., et al (2024) **A Scottish provenance for the Altar Stone of Stonehenge.** NATURE 632:doi.org/10.1038/s41586-024-07652-1 (available as a free pdf)

Authors' abstract: *Understanding the provenance of megaliths used in the Neolithic stone circle at Stonehenge, southern England, gives insight into the culture and connectivity of prehistoric Britain. The source of the Altar Stone, the central recumbent sandstone megalith, has remained unknown, with recent work discounting an Anglo-Welsh Basin origin.*

Here we present the age and chemistry of detrital zircon, apatite and rutile grains from within fragments of the Altar Stone. The detrital zircon load largely comprises Mesoproterozoic and Archaean sources, whereas rutile and apatite are dominated by a mid-Ordovician source.

The ages of these grains indicate derivation from an ultimate Laurentian crystalline source region that was overprinted by Grampian (around 460 million years ago) magmatism. Detrital age comparisons to sedimentary packages throughout Britain and Ireland reveal a remarkable similarity to the Old Red Sandstone of the Orcadian Basin in northeast Scotland.

Such a provenance implies that the Altar Stone, a 6 tonne shaped block, was sourced at least 750 km from its current location. The difficulty of long-distance overland transport of such massive cargo from Scotland, navigating topographic barriers, suggests that it was transported by sea.

Such routing demonstrates a high level of societal organization with intra-Britain transport during the Neolithic period.

Rodney Edvinsson (24 Jul 2024): **Applying a transaction cost perspective to decode Viking Scandinavia's earliest recorded value relation: Insights from the Forsa ring's runic inscription.** SCANDINAVIAN ECONOMIC HISTORY REVIEW 72:doi.org/10.1080/03585522.2024.2378465 (available as a free pdf)

Author's abstract: *This article reevaluates the inscription of the Viking-era Forsa Ring, which contains Scandinavia's oldest extant legal codex.*

The inscription's fine reads 'uksa ... auk aura tua', previously translated as 'ox ... and two öre [silver]' and interpreted as a payment of both ox and silver, suggesting cumbersome transactions.

This study applies a transaction cost perspective and draws on economic, legal and etymological contexts to propose that the fine could be paid with either an ox or two öre silver, not mandatorily both.

This reinterpretation positions the Forsa Ring as Scandinavia's earliest documented instance of a value relation. The value of an ox at two öre of silver corresponds to the valuation of an ox at 30 pence in Anglo-Saxon Laws during the same period.

Modern Humans.

Smith, N.M.T., and R. Dukas (2024) **Winner and loser effects and social rank in humans.** QUARTERLY REVIEW OF BIOLOGY 99:doi.org/10.1086/732049

Authors' abstract: *In many animals, the winners of a fight are more likely to win subsequent contests, while the losers tend to lose their following fights. Such winner and loser effects can have a large influence on individual behavior and fitness.*

Recent studies indicate that winner and loser effects occur in humans as well. Here we provide a narrative review of the relevant similarities and distinctions between nonhumans and humans with the goal of assessing the causes and consequences of winner and loser effects in humans.

In both nonhumans and humans, winner and loser effects probably guide individuals to behave according to their apparent social rank, with winners adopting assertive postures and losers becoming submissive.

Physical formidability is the dominant dimension determining social rank in nonhuman species. In adult humans, physical formidability plays a lesser role, while social conventions, physical attractiveness, competence in complex skills, and social competence are more important for social rank.

Recent data indicate that human winner and loser effects may influence behavior and social rank in nonaggressive contexts.

Human Health.

Bodien, Y.G., et al (2024) **Cognitive motor dissociation in disorders of consciousness.** NEW ENGLAND JOURNAL OF MEDICINE 391:doi.org/10.1056/NEJMoa2400645

[25% of humans in a coma may still be aware of their surroundings.]

Authors' abstract: *Patients with brain injury who are unresponsive to commands may perform cognitive tasks that are detected on functional magnetic resonance imaging (fMRI) and electroencephalography (EEG).*

This phenomenon, known as cognitive motor dissociation, has not been systematically studied in a large cohort of persons with disorders of consciousness.

In this prospective cohort study conducted at six international centers, we collected clinical, behavioral, and taskbased fMRI and EEG data from a convenience sample of 353 adults with disorders of consciousness.

We assessed the response to commands on task-based fMRI or EEG in participants without an observable response to verbal commands (i.e., those with a behavioral diagnosis of coma, vegetative state, or minimally conscious state–minus) and in participants with an observable response to verbal commands. The presence or absence of an observable response to commands was assessed with the use of the Coma Recovery Scale–Revised (CRS-R).

Data from fMRI only or EEG only were available for 65% of the participants, and data from both fMRI and EEG were available for 35%.

The median age of the participants was 37.9 years, the median time between brain injury and assessment with the CRS-R was 7.9 months (25% of the participants were assessed with the CRS-R within 28 days after injury), and brain trauma was an etiologic factor in 50%.

We detected cognitive motor dissociation in 60 of the 241 participants (25%) without an observable response to commands, of whom 11 had been assessed with the use of fMRI only, 13 with the use of EEG only, and 36 with the use of both techniques.

Cognitive motor dissociation was associated with younger age, longer time since injury, and brain trauma as an etiologic factor. In contrast, responses on task-based fMRI or EEG occurred in 43 of 112 participants (38%) with an observable response to verbal commands.

Approximately one in four participants without an observable response to commands performed a cognitive task on fMRI or EEG as compared with one in three participants with an observable response to commands.

Zhou, W., et al (2024) **Somatic nuclear mitochondrial DNA insertions are prevalent in the human brain and accumulate over time in fibroblasts.** PLOS BIOLOGY 22:doi.org/10.1371/journal.pbio.3002723 (available as a free pdf)

[Mitochondria are the respiratory organelles inside every cell, essential for cell survival. Biologists agree they are primitive bacteria that formed a synergy with the first cells and then degenerated to a single function. Mitochondria have their own chromosomes and reproduce when the cell does.]

Authors' abstract: *The transfer of mitochondrial DNA into the nuclear genomes of eukaryotes (Numts) has been linked to lifespan in nonhuman species and recently demonstrated to occur in rare instances from one human generation to the next.*

Here, we investigated numtogenesis dynamics in humans in 2 ways. First, we quantified Numts in 1,187 postmortem brain and blood samples from different

individuals. Compared to circulating immune cells (n = 389), postmitotic brain tissue (n = 798) contained more Numts, consistent with their potential somatic accumulation.

Within brain samples, we observed a 5.5-fold enrichment of somatic Numt insertions in the dorsolateral prefrontal cortex compared to cerebellum samples, suggesting that brain Numts arose spontaneously during development or across the lifespan.

Moreover, an increase in the number of brain Numts was linked to earlier mortality. The brains of individuals with no cognitive impairment who died at younger ages carried approximately 2 more Numts per decade of life lost than those who lived longer.

Second, we tested the dynamic transfer of Numts using a repeated-measures whole-genome sequencing design in a human fibroblast model that recapitulates several molecular hallmarks of aging.

These longitudinal experiments revealed a gradual accumulation of 1 Numt every ~13 days. Numtogenesis was independent of large-scale genomic instability and unlikely driven by cell clonality.

Targeted pharmacological perturbations including chronic glucocorticoid signaling or impairing mitochondrial oxidative phosphorylation only modestly increased the rate of numtogenesis, whereas patient-derived SURF1-mutant cells exhibiting mtDNA instability accumulated Numts 4.7-fold faster than healthy donors.

Combined, our data document spontaneous numtogenesis in human cells and demonstrate an association between brain cortical somatic Numts and human lifespan.

These findings open the possibility that mito-nuclear horizontal gene transfer among human postmitotic tissues produces functionally relevant human Numts over timescales shorter than previously assumed.

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