OPUNTIA

572

Early May 2024

Opuntia is published by Dale Speirs, Calgary, Alberta. It is posted on www.efanzines.com and www.fanac.org. 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.

ABOUT THE COVER

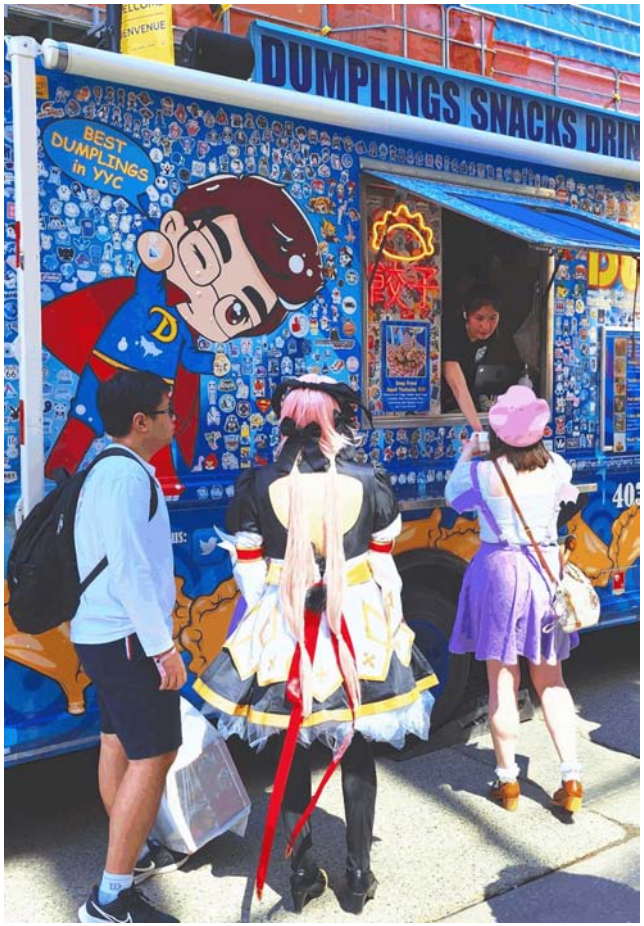
2024-05-01

photo by Dale Speirs

Why did the crow cross the road? To get to the other side, of course. I saw this bird while waiting at a bus stop. It waddled across safely after the vehicle passed.

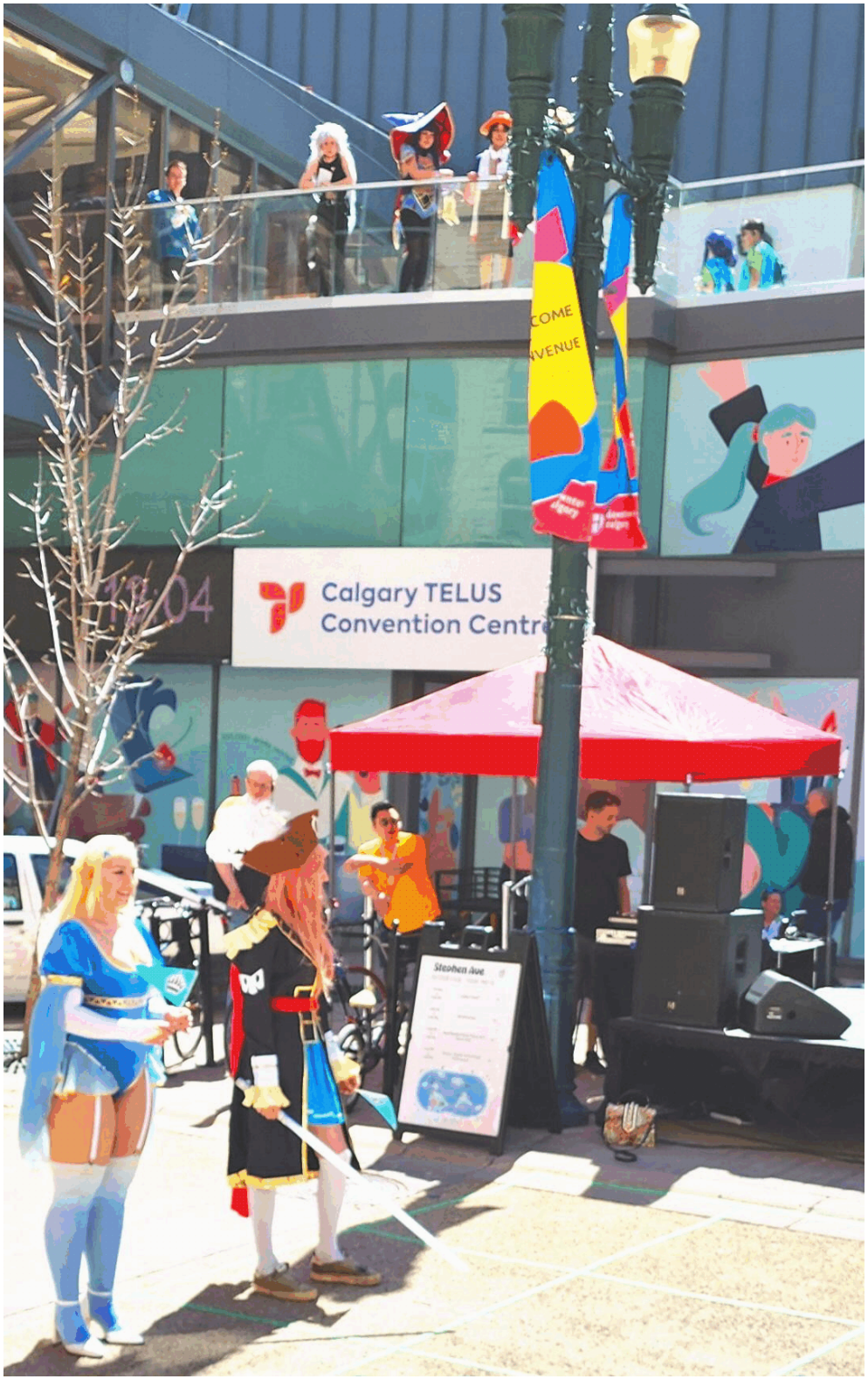
OTAFEST 2024

photos by Dale Speirs



Otafest, Calgary's annual anime convention was held May 10 to 12 at the Telus Convention Centre downtown.

I have no interest in anime but the Centre straddles the Stephen Avenue pedestrian mall, where cosplayers put on a show for passersby.

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DEATH OF A MALL
photos by Dale Speirs

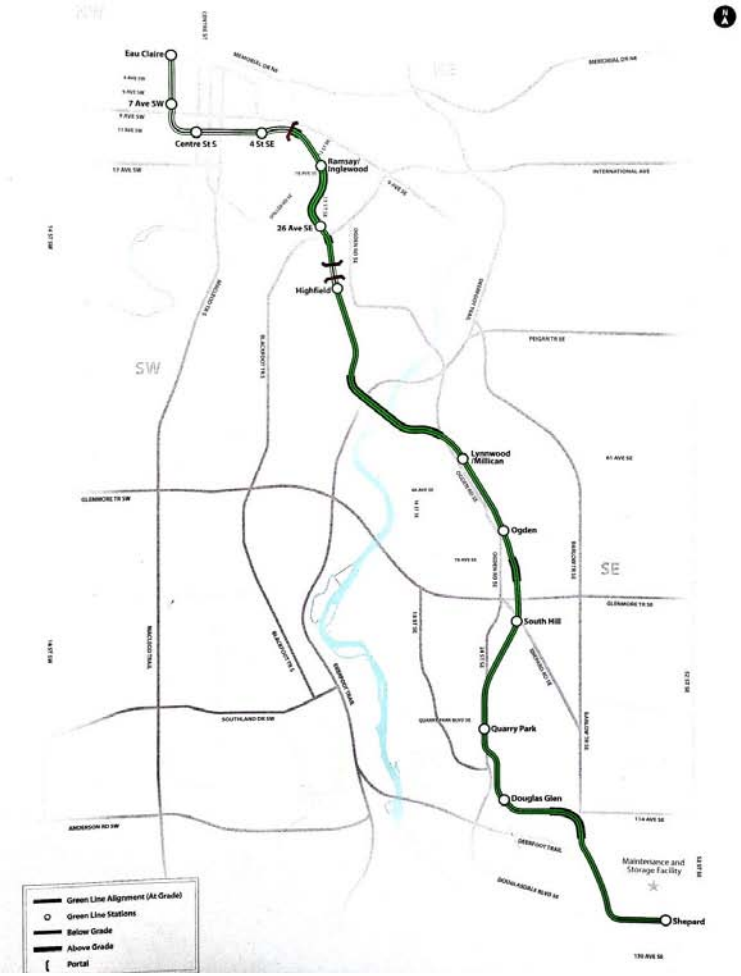
The Eau Claire Market was a shopping mall built downtown in 1993 on the south bank of the Bow River, directly across from Prince's Island Park. The mall always struggled because at that time there was little residential development to sustain it and the boutique shops sold junk no one wanted.

Various redevelopment plans for residential towers were proposed but Calgary Transit sounded the death toll when the new Green Line was plotted through the area. The mall will be demolished and replaced by an LRT station. On May 11, the management and the City put on a Farewell Festival before the wrecking crews move in. Below is the south end of the mall facing the downtown core. At bottom is the north end, with the Bow River behind the camera.

The LRT Green Line will run north from Deep South Calgary and terminate at Eau Claire. The original plan was to extend the line to far north-central Calgary, but the budget went over several billions so that will be postponed.

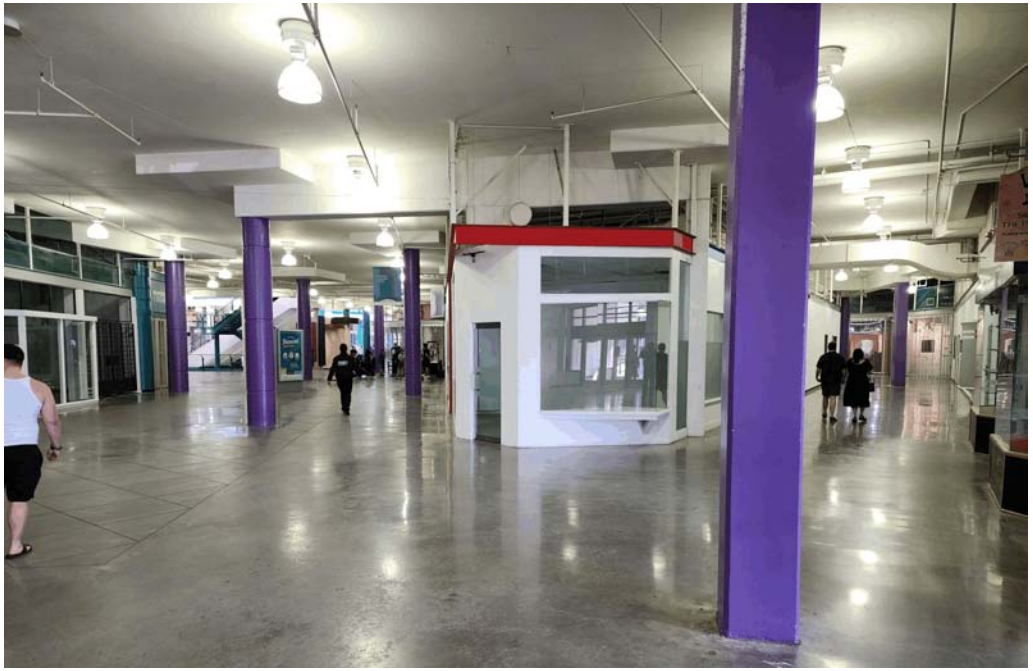
Green Line LRT

Phase 1 of the Green Line is the largest LRT project to be constructed in our City's history, connecting Shepard in the southeast to Eau Claire downtown, with 18 km of track and 13 stations.



Since the food court inside the mall was abandoned, food trucks were brought in. I had the egg and pork burger from Bastion Burger. Delicious..

The inside of the mall. Further down though, there was a DJ. A bunch of Cowtowners got up to dance. Believe it or not, you can square-dance to gangsta rap music.

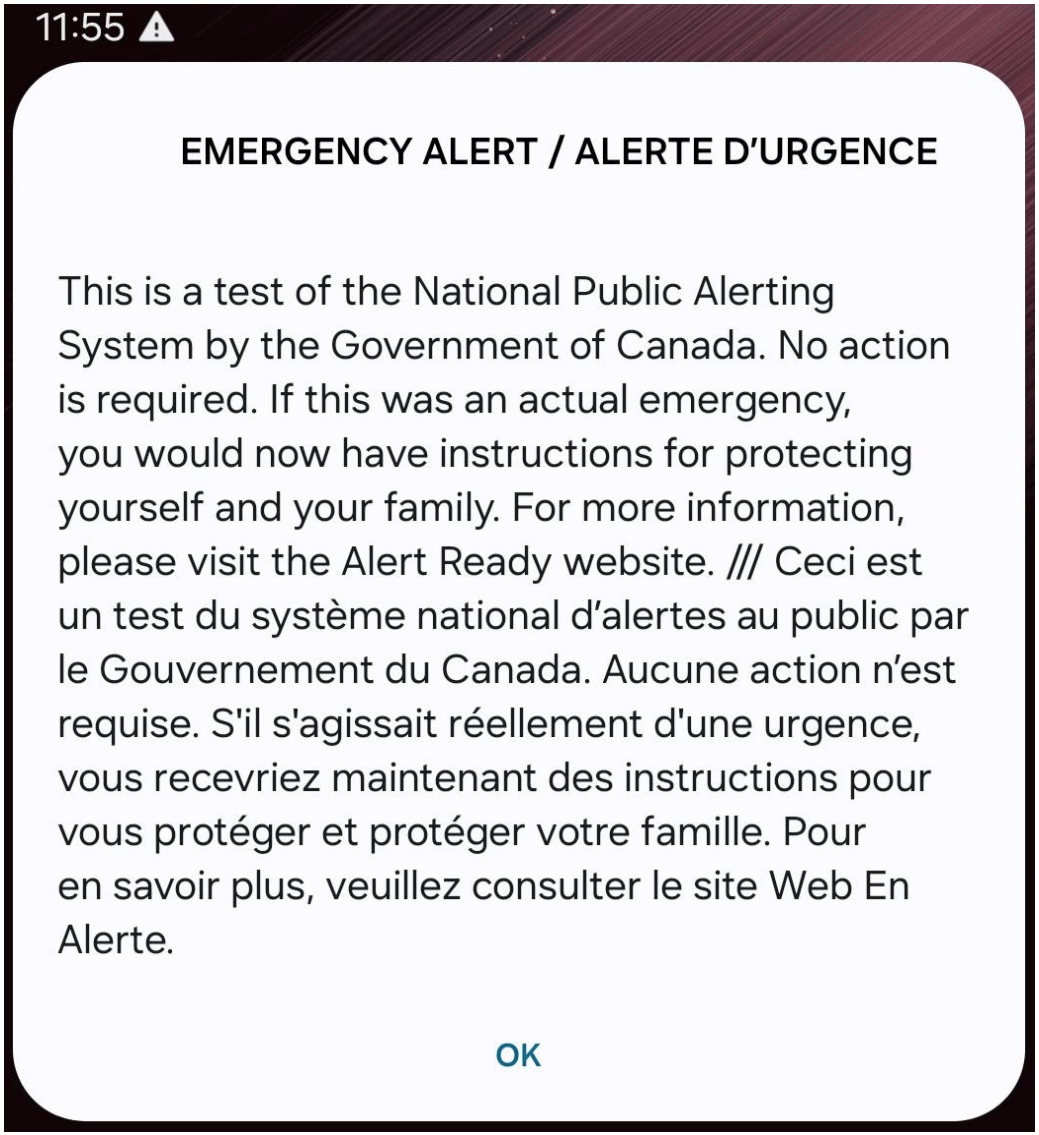


Outside the north end there was more entertainment.

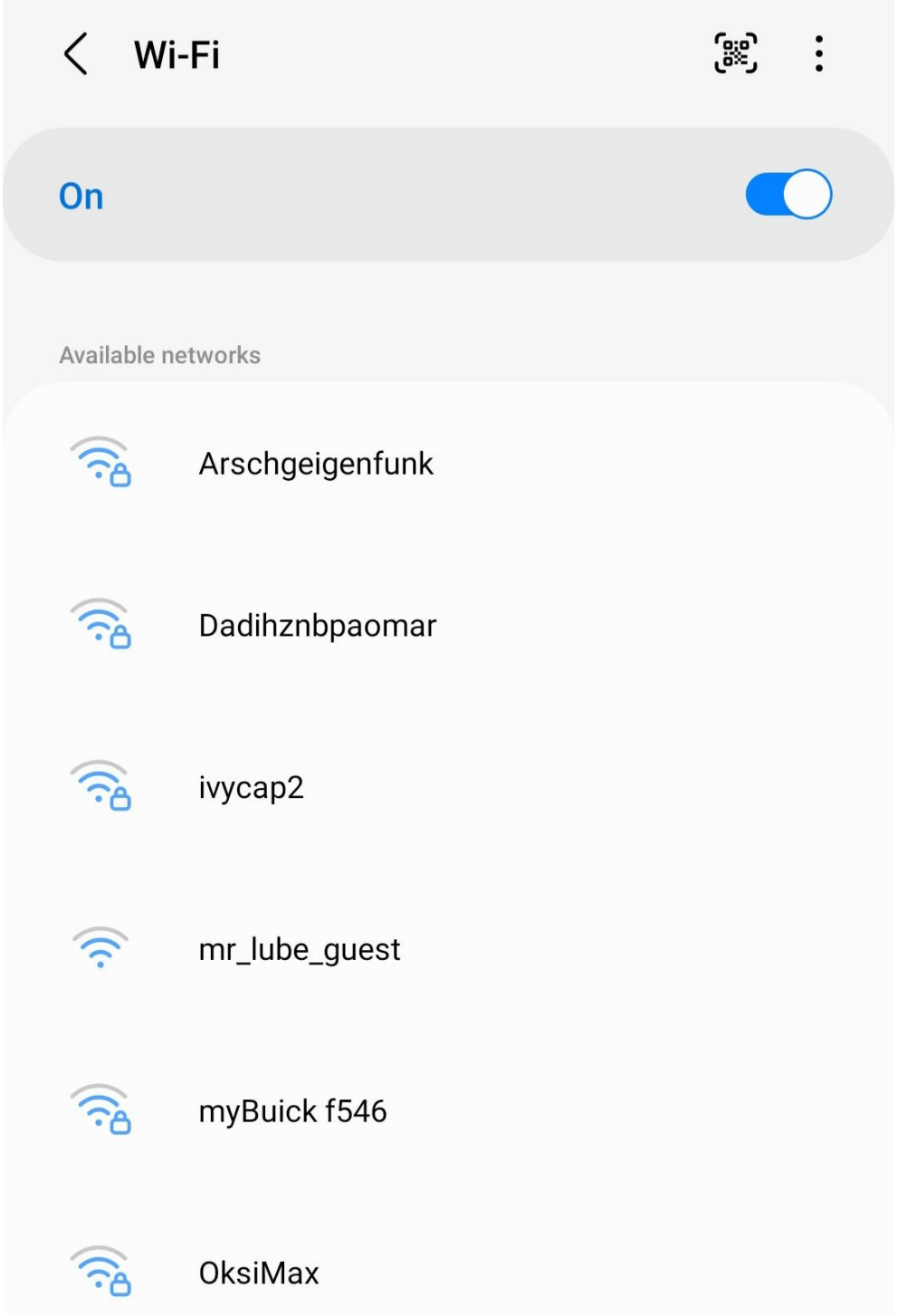
THE NUMBER YOU HAVE DIALED: PART 6
by Dale Speirs

[Parts 1 to 5 appeared in OPUNTIAs #413, 462, 497, 516, and 545.]

This was a text blast almost every Canadian received on May 8 at 11h55.

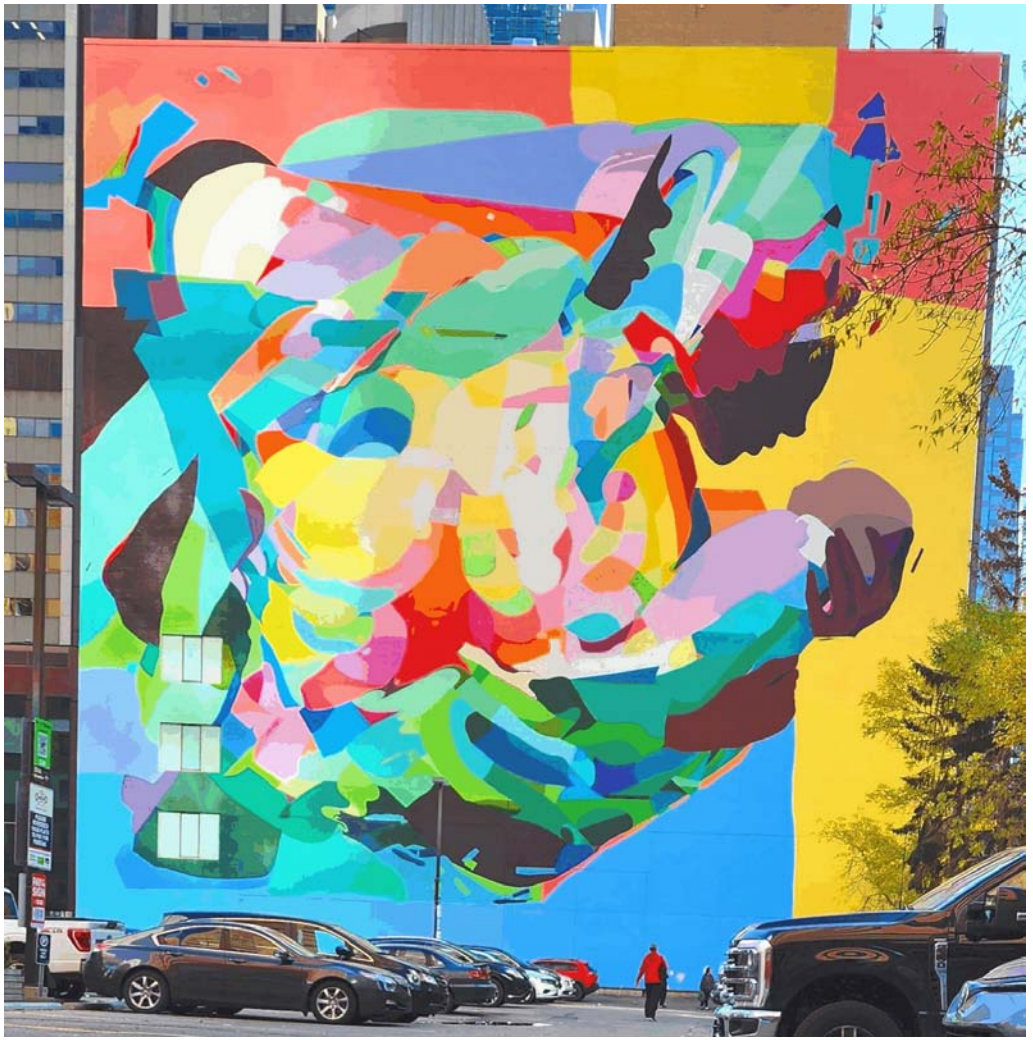


Seen while looking for public wifi on my smartphone.



SEEN AROUND COWTOWN
photos by Dale Speirs

Downtown core at 7 Avenue SW, west of 6 Street SW.



Alexandra Dance Hall, 9 Avenue SE in the Inglewood district.

Inglewood street concrete barriers used during the summer patio season.

The City of Calgary allows restaurants to expand over their sidewalks to encourage more pedestrian traffic and boost sales.

Above left: Another Inglewood barrier.

Below left and above right: Seen at a mini-park adjacent to the Sunnyside LRT station. The Sunnyside district is across the Bow River northwest of the downtown core, between the river and high cliffs.

Car decals in my neighbourhood.

Devonian Gardens, an indoor park operated by the City of Calgary in a downtown skyscraper. The koi pond is always popular. Koi are Japanese coloured carp that can reach a metre in length.

And no, “Carpe diem” does not mean “Eat fish every day”.

BEHIND THE CREAKING DOOR: PART 2
by Dale Speirs

[Part 1 appeared in OPUNTIA #533.]

INNER SANCTUM MYSTERIES was an old-time radio anthology series which aired from 1941 to 1952 and is available free from www.otrr.org/OTRRLibrary.

The episodes ranged from mystery to fantasy to horror. The host was a smarmy man who liked to make ghoulish puns. The opening sequence was the famous sound of an old door loudly creaking open. It was actually done with a squeaking swivel chair.

"Musical Score" aired on 1945-05-20 and was written by Christopher Mayo. Five shipwreck survivors were in a lifeboat drifting off the Maine coast. One was a composer Peter Toll who kept humming annoyingly. His wife Marsha was a sick woman.

Rations ran low. The narrator, never named, threw the couple overboard. The others agreed to say they died naturally and were buried at sea. After 23 days, the three were rescued in a state of starvation, which made their story plausible.

Sometime later the narrator received a telephone call from a friend of the Tolls. Peter had written a manuscript of the music he had been humming. The friend hummed it for the narrator. That tune kept running around the narrator's head.

The narrator was worried the other survivors would break their silence so he hunted them down and killed them. The last one was on board a ship bound for Halifax.

After murdering him, the narrator took a boat to go back to shore. But wherever he went he saw the dead coming after him. The Tolls had actually survived. They caught the narrator and confined him to a room where they tortured him with the music and drove him to suicide.

"Death Of A Doll" was written by Fred Maytho and aired on 1948-10-18. Willy Harper was a reporter who became involved with the death of a Jane Doe in the city morgue. The police had not been able to identify her after fishing her body out of the river.

There was no sign of cause of death. The only clue was a talking doll she had been clutching. The editor let Harper investigate. The doll seemed to be talking to Harper, and he imagined her words.

Harper found an artist Bo Cousins who had painted a portrait of the woman and the doll, and identified her as Hazel. He confirmed the doll was saying Karanana, the name of a devil. They pooled their money and gave her a decent burial. Then they went looking for Karanana.

Karanana went looking for Harper, and the two clashed, constantly crossing paths. In the final confrontation Harper went to pieces. There was a twist ending when Cousins was revealed as the true murderer. Gunfire saved the cost of a trial. The doll fell silent and never spoke again.

"Corpse Without A Conscience" was written by Ed Adamson and Robert Sloane and aired on 1949-06-20. After the squeaking door opened, the host bid the listeners to enter.

He said to pay no mind to the corpse wrapped in a shroud, who didn't want to be seen dead in the place. As for the others, they were just the skeleton crew. There was a party going on but no one was smiling because they were grave characters.

Having run out of puns, the host had to yield to the episode's story. Mario Belini was reposing in a hilltop tomb. An elderly woman Edna Ferguson in a house adjacent to the cemetery was convinced he had risen from the dead. She thought she smelled the incense he liked to burn in his lifetime.

Her young nephew Charles told her she was imagining things. He couldn't smell any incense. She showed him a note she had received from Belini the day before his death. He said he would return from the grave a year after his death and avenge himself against her. That was nigh.

She said she didn't know what he wanted revenge for. However Charles got her to admit that her last business transaction with him, in which she took Belini's property, was more than just a shrewd deal.

Charles and the butler Horton took her up to the tomb and began chiseling open the crypt to show her that Belini was still there.

She was quite upset but Charles told her she had nothing to worry her except her conscience. "*That's an ugly thing to say to me*", she protested. The three went down into the crypt. The stone trapdoor was too heavy for one man to lift, so both Charles and Horton had to put their backs into it. Belini was still there.

Once more in the big house, Edna remained nervous. If not his body, then Belini's spirit could continue to haunt her. And so it did. She pulled a knife but the ghost drove it into her and killed her. Charles and Horton faced a locked room mystery. On the floor was a gold ring with the initials M.B.

They went back to the crypt. Belini's body was still there, albeit missing his gold ring. His other hand was stained with fresh blood. The corpse sat up in the coffin. Horton panicked and ran, saying he would call the police. Charles shot him dead. Belini remonstrated with him. Yes, his death was faked.

The idea had been for Belini to return from the grave, frighten Aunt Edna to death by heart attack, and have Charles inherit the estate. Charles would live well and Belini would have his revenge. Unfortunately Aunt Edna's heart wasn't as weak as they thought it was.

The two men squabbled about their failed plan. Their solution was to fake Edna's murder by Horton. The police inspector attending the scene mentioned a neighbour had reported two suspicious men loitering at the tomb. He would check the tomb tomorrow.

Belini was hiding in the big house. After the police left, Belini said he was going to scarper on the next train. Charles killed him and then had to haul his corpse up the hill to the tomb. Not an easy task.

The body had to go there, elsewise the police would be suspicious about the empty coffin. To get the stone trapdoor open by himself, Charles had to lever it up with a pry bar. The listener will easily guess that as he hauled the body down, the trapdoor slammed shut. Finis.

VENUS IN HER GLIMMERING SPHERE: PART 8

by Dale Speirs

[Parts 1 to 7 appeared in OPUNTIAs #324, 329, 368, 373, 381, 413, and 458.]

Old Venus.

Way back when, Venus stories assumed the planet was covered by oceans or steamy Carboniferous jungles, based on the assumption its cloud cover was water. Alas, the 1960s space probes demonstrated otherwise.

"Spawn Of The Venus Sea" by Harry Walton (1941 Fall, PLANET STORIES, available as a free pdf from www.archive.org) told of the troubles of a trawler on a Venusian ocean when its net brought up a giant white slug that wouldn't die but certainly could kill. The captain had his own problems because the crew didn't respect him.

The slug had the ability to vanish and reappear at will, striking at crew members and then vanishing. The explanation in the denouement was that the slug had one physical body but nine energy field manifestations to help it collect food. The captain managed to kill the body and thus obliterate the duplicates.

"Crisis!" by Cecil Corwin (1942 Spring, SCIENCE FICTION QUARTERLY) is available as a free download from www.gutenberg.org The author's name was a pseudonym of Cyril M. Kornbluth.

A fracas had erupted between Earth and Venus. On our planet, the diplomatic corp was a dumping ground for incompetents. There were a few who could do their jobs and one of the clerks, named Weems, was sent out to keep the peace.

The Martians were trying to stir up trouble on the quiet, in the expectation they would be able to supply weapons to both sides. Weems was assisted by his colleague Helen Carewe, and obstructed by his boss Jowett Osgood, who was the idiot in anything requiring an idiot plot.

Osgood could always be relied on to do the stupid thing. Tensions rose. Weems made friends with the Jovians and convinced them to form an alliance with Earth. The Venusians could easily defeat Earth alone but not Earth and Jupiter together. They yielded and the crisis was solved.

"The Saprophyte Men Of Venus" by Nat Schachner (1936 October, ASTOUNDING, available as a free pdf from www.archive.org) began during an astronomical conjunction when Venus lined up between Earth and the Sun. Our planet was suddenly bathed in massive radiation.

Venusians had used their planet as a focal lens to concentrate the Sun's energy as a beam to disrupt life on Earth. Stage 2 was the arrival of fungus creatures which were mobile and capable of grabbing Earth life and digesting it. The fungus creatures were eventually stymied by a superscience machine. (Image is from this story.)

A story more topical today than it might have been otherwise was "Ricardo's Virus" by William Tenn, pseudonym of Philip Klass (1953 March, PLANET STORIES). A virus was sweeping through the Earthlings colonizing Venus. It was transmitted by a scratch or wound contaminated by virus-bearing soil or objects. Graff Dingle was one such unfortunate man.

Most of the story was a standard action-adventure jungle plot, with dastardly villains and the beautiful heroine. The hero fought not only the environment and the bad guys but the disease that had wiped out most of the Earthlings.

Dingle survived because he had been born on Venus and had picked up partial immunity during infancy. He was quite ill for a while but made it through. What does not kill you makes you stronger.

"The Yes Men Of Venus" by Ron Goulart (1963 July, AMAZING, available as a free download from www.gutenberg.org). Ostensibly this was a completion by Goulart of an unfinished story by Arthur Wright Beemis, well remembered from the pages of THURSBY'S ALL-STAR ELECTRICAL FICTION WEEKLY.

Beemis was a pulp writer of such classics as ROO-SO OF THE JUNGLE, ROO-SO'S REVENGE, and ROO-SO, FRIEND OF ANIMALS, plus 23 novels such as VANDALS OF VENUS, VAGRANTS OF VENUS, MERMEN OF MARS, MISFITS OF THE MOON, and PLUNDERED ON PLUTO.

The hero was Hyacinth Robinson, who had been standing next to a reservoir in upstate New York. When the water evaporated he went with it, floating off to Venus. Much more logical than anything ERB wrote about Mars.

This sequel began with Robinson back on Earth, cruising over the Pacific Ocean in his private Zeppelin when someone shot it down. He fell into the ocean, was swallowed by a giant clam, then rescued by a millionaire named Lowell Hawthorne.

The story then took a right-angle as Hawthorne began narrating his life as a reincarnated Egyptian priest who was mugged in Central Park, New York City, and beaten unconscious. He woke up on Mars and had many adventures with the green-skinned natives.

Thrown into a Martian dungeon, Hawthorne's cellmate Joel Lars began narrating his life. He had grown up on Venus a la Tarzan but misfortunes dragged him down. His girlfriend was a captive of the Yes Men.

At this point, the prison guards took the two men to the gladiator games. The story terminated with the author's admonition to buy his next book. The Yes Men never did take centre stage.

Venusians Invade Earth.

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"The Vanguard Of Venus" (1928) by Landell Bartlett was published by Hugo Gernsback in an unusual format. The story appeared only as a free booklet from the publisher of AMAZING STORIES, not in the magazine itself. Now available as a free download from www.gutenberg.org

Readers had to send in a coupon from the magazine identifying where they had bought their copy. As explained by Gernsback, the purpose was to track individual news agents to reduce unsold returns.

The 13-page story itself wasn't much. Geologist Stanley Murdock was prospecting in the New Mexico desert in 1923 when he was kidnapped by underground beings. The tour guide, if it could be called that, was Oomlag-Tharnar-Illnag, or Oomlag for short.

Oomlag told Murdock that its parents were from Venus and had arrived a century ago. They were preparing the way for colonists, as Venus was over-crowded and wanted the open spaces of Earth.

"*After we have conquered you and eventually exterminated you, as all your own superior tribes have done to your own inferior ones, we shall be the absolute masters of the two planets. With what we already know, plus things we shall find out as we begin to expand, I know that our population problem will not bother us again for untold centuries.*"

"*After we have consolidated our position here, we intend to make an expedition to the ruddy planet you call Mars. We do not intend to settle, as conditions are not at all favorable for prolonged life there for us; but we do intend to see that the Martian civilization is broken and we ourselves secure from their menace. Though we cannot live comfortably on their planet, they can on yours, so it is wise to crush them as soon as possible, as they have a rather advanced civilization and might outdo us later.*"

Oomlag took Murdock to meet the Field General. The Venusians did a lot of bwah-ha!-ha!-ing. They had mined enough radioactives to power their superscience machines. Der Tag was set for August 21, 1931.

Murdock was then released, much to his surprise. Oomlag pointed out that no one would believe his story of Venusians hiding underground. Indeed.

Old Time Radio Venus.

"Queen Of Venus" was an episode of THE SEALTEST PROGRAM that aired on 1940-12-12. This long-running series was sponsored by the Sealtest ice cream company. They kept changing the title of the series and the host every so often. Available as free downloads from the Old Time Radio Researchers at www.otrr.org/OTRRLibrary

At the time this episode aired, Rudy Vallee was the host. Marlene Dietrich and John Barrymore were the special guests. The latter spoke in the opening sequence, hot for Dietrich, but was firmly told by Vallee to wait.

Barrymore played a defrocked astronomy professor and Vallee a rocketship inventor. Off to Venus they went. They were welcomed by Queen Marlene, who was seeking a mate. The two men jockeyed for position while Dietrich purred interrogatory questions.

Vallee crooned a romantic song while Barrymore declaimed in Shakespearean style. She couldn't decide between them, so while she thought over the matter, the announcer leapt in with a commercial for Sealtest ice cream.

Returning to Venus, there was another romantic song, this time by Dietrich. After some repartee and cross-talk between the two men, Vallee sang another love song. She tested them by kissing.

While they anxiously awaited her choice, she mentioned in passing that her mate would rule as King for a year, then be executed. That remark suddenly cooled off their ardour.

New Venus.

The Carboniferous jungles have gone but there is still hope for Venusian fiction. A modern example is "Venus Exegesis" by Christopher Mark Rose (2022 Mar/Apr, ASIMOV'S), set in the near future when an international expedition went to Venus.

No, not to land on the planet, obviously impossible, but to float in the clouds in balloons. The trouble began when life was discovered, fluffy pancake thingys that floated about. They attached themselves like leeches to the gondolas, bringing down the balloons.

ACTION ADVENTURE ON THE AIR: PART 13

by Dale Speirs

[Parts 1 to 12 appeared in OPUNTIAs #426, 447, 476, 487, 494, 502, 518, 526, 531, 537, 546, and 563.]

The old-time radio series mentioned below are available as free downloads from the Old Time Radio Researchers at www.otrr.org/OTRRLibrary

Frankie Does Radio.

ROCKY FORTUNE aired for the 1953-54 season. The scripts were untitled, as a result of which many episodes circulate under multiple titles.

Frank Sinatra played the hero Rocky Fortune, born Rocko Fortunato, as was specifically mentioned in the second episode. The character was an odd-job man, sent out by his employment agency to a different and strange job each week.

Sinatra's career had declined because the bobby-soxers were gone but his movie and nightclub career was only just beginning. He hit it big in the movies shortly after this series was transcribed and moved on to better things.

"On The Trail Of A Killer" was written by Norm Sickle and aired on 1954-01-05. Rocky Fortune was commiserating with a woman of a certain age who had spent her best years raising her younger siblings. Ellie was lonely but had met a possible suitor named Elmer who might be the one.

They married but Ellie died six months later under suspicious circumstances. The coroner's verdict was accidental death. Her brother Sam shouted her death was murder and publicly vowed to get Elmer.

Rocky was suspicious about the circumstances and believed Elmer killed her for the life insurance. He told him that he was going to investigate and so he did. Rocky began stalking Elmer, applying psychological warfare.

Elmer was tough and wouldn't break. The chase went across the country via transcontinental railway. The ending was difficult to believe, with a last-second save by the police. Then again, Rocky was booked for the series, so listeners knew he wasn't going to die.

"The Museum Murder" was written by George Lefferts and aired on 1954-01-19. Rocky Fortune was now a tour bus guide. The next stop was the Museum of Ancient History.

He only had three tourists on his current trip, but managed to lose one, Linda Cooperman, just after entering the museum. He found her dead inside a sarcophagus. Someone then immediately slugged him unconscious.

Well of course they did. It was a rule. Every detective or adventurer in old-time radio was rendered unconscious once per episode, sometimes more. After a few episodes, such heroes should have been drooling vegetables, but they just shrugged off the impacts.

He was revived by the others but the corpse was missing. There was a only a mummy in the sarcophagus. They went back to the bus where they found the deceased's purse. Fortune opened it and found a bundle of letters.

At that point, one of the surviving tourists, a Southern Colonel, pulled a gun and demanded the letters. He forced the others out and drove off with the bus and the letters.

Fortune and a southern belle named Honey Fairchild went back inside the museum. They searched about and found Cooperman's body in an air vent. Once more the corpse went missing. There was a hue and cry. For a dead woman, Cooperman certainly got around.

So did the letters. For lack of anything better to do, Fortune searched the curator's desk and found them again. The curator arrived and pulled a gun. Blackmail the letters had been, and Cooperman learned too late that blackmailers have shortened lives.

Since Fortune was booked for the series, his life was extended. Fairchild got the police just in time and saved him.

Bogie And Baby.

BOLD VENTURE was a syndicated old-time radio series that aired during the 1951-52 season and is available as free mp3s from www.otrr.org/OTRRLibrary. It was a star vehicle for Humphrey Bogart and his wife Lauren Bacall, with all episodes written by Morton Fine and David Friedkin.

The series was transcribed and then marketed to independent radio stations. The stories were two steps removed from Ernest Hemingway's novel TO HAVE AND HAVE NOT via the 1944 movie version starring Bogart and Bacall. The radio series was vaguely similar to the book and somewhat similar to the movie, although it actually owed as much to CASABLANCA.

The setting was Havana, Cuba, long before the Communist takeover. Slate Shannon (played by Bogart) owned a boat called Bold Venture and did odd jobs with it to earn his living. His other business was a cheap hotel called Shannon's Place. His sort-of girlfriend was Sailor Duval (Bacall).

A calypso singer King Moses interpolated songs every so often. The plots were basic and often owed something to Hemingway.

"Mystery Of The Mary Kay" aired on 1952-04-21. Slate Shannon and Sailor Duval were returning to Havana on the Bold Venture when they spotted a lifeboat with four dead men, riddled by machine guns. The lifeboat was from the Mary Kay, reported missing a year before.

Any suspense was immediately ruined by a jump cut to a conversation between smugglers. Their specialty was taking payment from refugees who wanted to infiltrate into the USA. They took the refugees out to open sea in the Mary Kay, put them in lifeboats, and then machine-gunned them until the boat sank.

They got careless and didn't stay around to ensure the most recent boat sank. The Mary Kay was kept out of sight in a hidden cove. After a commercial, King Moses summarized the plot in calypso time.

The rest of the episode was predictable alarums and idiot plotting. Shannon drank a drugged cup of coffee, Duval was kidnapped, etcetera. They were put in with a load of refugees but organized a mutiny. Much shouting, fisticuffs, and a tommy-gun, but a happy conclusion.

Sharp Practice.

THE THIRD MAN aired on old-time radio for a season in 1951-52, with Orson Welles as Harry Lime. No writers were credited. The mp3s are often labeled with varied series titles using the name Harry Lime. The character came from Graham Greene's movie and later novel adaptation. Well worth downloading as free mp3s from www.otrr.org/OTRRLibrary.

Lime was a confidence man constantly traveling throughout Europe. He met a nasty end in the original movie. In the opening narration of the radio episodes, Welles told the audience that these stories were set before Lime was shot dead fleeing through the sewers of Vienna like a rat.

In the radio series, most of his schemes seemed to fall through, yet he always had money to live well and go gambling in casinos. Lime narrated all the episodes as if he were a god speaking from Olympus, complacent in his superiority over the lumpenproletariat while oblivious of the fact that he lost more often than he won.

The most distinctive part of the radio series, and what set it apart from other radio shows, was the theme and incidental music, played on a zither by Anton Karas. Even today it would stand out on a television series.

As part of the radio episodes, the music could be considered as important as Welles' rich voice. The existing mp3s are somewhat distorted from old tape recordings but allowing for that they cannot fail to impress.

"The Blue Caribou" aired on 1952-07-18. Harry Lime was in Rimini, Italy, when he was approached by a fortune teller Pietro who told him that he would receive a letter from Jennifer Chase. Lime told the psychic that wasn't much of a prediction since he had already received the letter.

Chase told Lime that she was a buyer for a New York City art gallery. Stolen from her was a pottery piece, a blue caribou. She had seen it for sale in a shop at junk lot prices even though it was worth thirty times that in her professional estimation. She bought the bargain but didn't have it long.

A fat man who had bought a companion piece mugged her and stole the caribou. She was willing to pay 2,000 Swiss francs for Lime's assistance in retrieving it. Pietro re-appeared, stalking Lime. A minor annoyance.

The next morning Lime visited the antiques shop where Chase had bought the blue caribou. The manager introduced himself as Condoni and said the owner of the shop was an American named Louis di Julio.

Lime recognized that name as a Mafioso who had been deported from America, got into trouble with Italian police, and was now sheltering in the nearby republic of San Marino.

(Which really exists. It is an autonomous postage-stamp enclave inside Italy, independent of its neighbour. San Marino is a microstate consisting of a single large mountain and some bottomlands. It was founded in 310 AD and is the world's oldest sovereign state in continuous existence.)

Lime and Chase went up to San Marino. He noticed a suspicious character tailing them. Night was falling so they booked separate hotel rooms, not wishing to offend censors of the network airing the show. Lime had an exciting evening with the fat man, who told him di Julio wanted them out of San Marino pronto.

Lime visited di Julio, who denied knowing the fat man. Speaking of the devil, who should barge in but the big guy himself. The three-way conversation terminated in gunfire.

There was a jump cut to Lime and Chase enjoying themselves. She regretted that now the fat man was dead she would never retrieve the blue caribou. Lime regretted he wouldn't get the SF2,000.

Just to complicate the plot, Pietro came by and mentioned he had seen Condoni with the fat man. Lime figured that Condoni was pilfering the stock, not directly but by selling pieces cheap to his confederate to get them out of the shop without di Julio suspecting.

Lime eventually got the blue caribou back, plus his SF2,000, plus the girl. And so to the zither music. The only unanswered question was why someone made a blue caribou pottery piece.

He Hunts The Biggest Of All Game.

THE GREEN HORNET aired on old-time radio from 1936 to 1952. The main writer was Fran Striker, who also wrote THE LONE RANGER. While not strictly a spin-off, the Green Hornet, wealthy newspaper publisher Britt Reid, was the grand-nephew of John Reid, the Lone Ranger.

Britt operated in disguise, specializing in the fight against conspiracies and racketeering. He was assisted by his faithful valet Kato, originally Japanese but who became a Filipino after Pearl Harbor. What they learned in their undercover investigations became front-page scoops for Britt's newspaper.

The newspaper's main reporter was Mike Axford, a blithering idiot who spoke with a phony Boston Irish accent that went out of style after vaudeville. He usually started the plot rolling in each episode by stumbling into a crime and walking out oblivious to what he had seen.

Axford would then describe the situation to Britt Reid, who recognized what really happened and then sneak out as the Green Hornet. The series was never as popular as Batman. Revivals on television and the movies in modern times were generally considered boring.

"Figure In The Photograph" was written by Dan Beattie and aired on 1946-04-13. The opening scene was noisy. Mike Axford and the newspaper photographer Jack attended a big fire at a department store, with multiple alarms and lots of sound effects. The fire chief died when a wall caved in.

The next morning Britt Reid asked to see the entire sequence of photographs before and after the collapse. He noticed off to one side a tiny figure clambering out of a building window a few seconds before the wall fell. Enlargements were made and official enquiries were made.

Jump cut to the store owner John Fairbury talking to the arsonist Niles. Insurance fraud, it was. Niles had shot the fire chief who discovered him inside the store. Fairbury and Niles threatened each other with blackmail but were in a standoff.

The police and fire department thought the figure in the photograph was the dead chief, who must have gone back inside for something just as the wall collapsed. Reid felt that was impossible because only a few seconds elapsed between the photographs. The Green Hornet set a special delivery letter to the police asking them why the figure was wearing the dead man's helmet and coat. Fairbury called the newspaper and offered a $5,000 reward for the arrest of the Green Hornet for shooting the fire chief.

That got the editorial department in an uproar because no report had ever been made that the fire chief had been shot. Fairbury became the centre of attention. The Green Hornet and Kato hopped into their powerful sedan, the Black Beauty, and roared off to Fairbury's mansion.

The Green Hornet put Fairbury into a tizzy, then Niles, who had kept the helmet and coat for later disposal. The two criminals rendezvoused at Fairbury's cabin in the wood. The Green Hornet tipped off the police. The rest was standard procedure.

"Chickens Come Home To Roost" aired on 1947-03-18. James Hartford, millionaire and sharp-practice man, was dead, supposedly from suicide. The stock market wobbled.

Britt Reid and Mike Axford were on the story, the former cranking out an editorial about how Hartford's shady dealings led to his death after his chickens came home to roost. The dead man's nephew Charles showed up at Reid's office threatening a lawsuit over the editorial. Reid sent him on his way.

Julius Cornwall was the next victim, shot dead by an intruder into his mansion. He had been sent a threatening letter with a crude drawing of two sets of claws on a horizontal rod. Reid was next to get the warning. He was, after all, a multimillionaire publisher.

So did Farlow Murray, a financier with connections to Cornwall. They had been mixed up with James Hartford. Reid decided the Green Hornet should take proactive action. However the villain, now nicknamed The Claw, got the jump on him and Kato.

The action to- and fro-ed as The Green Hornet and The Claw pursued each other. At the Murray residence, Charles Hartford duped security and penetrated the mansion. The listener will guess who The Claw was. So did The Green Hornet, who shot first and wrapped up the case. A straightforward episode.

The Magician.

BLACKSTONE, THE MAGIC DETECTIVE was an old-time radio series that aired from 1948 to 1950. There were 79 episodes, written by Walter B. Gibson and Nancy Webb. Available as free mp3s from the Old Time Radio Researchers at www.otrr.org/OTRRLibrary

The episodes were 15 minutes with commercials, which were edited out in the mp3s, reducing them to about 12 minutes each. Quick and easy listening on your morning commute.

The character was based on a real magician Harry Blackstone Sr, although the plots weren't. Rhoda Brent played his assistant. In each epilogue Blackstone would explain a simple magic trick the audience could do at home.

The first episode was "The Ghost That Trapped A Killer" and aired on 1948-10-03. Blackstone and Brent were playing a tank town when the local sheriff asked for help. He had the suspect, method, and opportunity, but not enough for conviction.

The three lurked as the culprit Parker went about his nefarious business. Blackstone used a ghost to frighten the murderer into a confession. The ghost was generated by mixing two common chemicals (not named) available from any drugstore.

The mixture produced a fog that rose straight up and swirled about like a ghost. Parker thought the ghost of his victim was coming back to haunt him and babbled a confession.

"The Reluctant Buzz Saw" aired the following week. Blackstone and Rhoda were testing a new buzz saw trick. You know the one, where the woman is cut in half. Rhoda stepped out for a moment, in time for her to witness a bank robbery across the street.

The robbers saw her and chased her back inside. Instead of just shooting her and Blackstone, they decided to fake an accident with the buzz saw. That way the homicide detectives wouldn't pursue. Didn't work. Rhoda got the jump on them, grabbing a gun from one of the robbers.

Blackstone then demonstrated a couple of tricks. In his clenched hand, he held three coins, totalling 35 cents. He said one of them was not a nickel.

The baffled announcer tried to figure out the combination but failed. Blackstone opened his hand to show a quarter and two nickels. He had told the truth because one of the coins was indeed not a nickel.

His next trick was to line up six glasses. From left to right, the first three were filled with a beverage (not specified) and the three on the right were empty. The puzzle was to re-arrange the glasses so they alternated with odd-numbered glasses filled and even glasses empty.

That is, from left to right, full, empty, full, empty, full, empty. The trick was that only one glass could be moved without touching any of the others. The answer was to pick up the middle full glass and pour its contents into the middle empty glass.

"The Emerald In The Fish Bowl" was the third episode and aired on 1948-10-17. The story began with Blackstone explaining how he came to use a fish bowl in his act. Dowager Van Laden owned the largest emerald in the world.

The setting was a party in her mansion, where she told Blackstone that someone was trying to steal the emerald. She decided to hide the stone in the coloured gravel of her aquarium. Topton the butler was the only other person who knew, as she explained to Blackstone and Rhoda.

The lights went out. Someone screamed. The lights came back on. The emerald was gone. Topton's hands were dry. Nonetheless Blackstone searched Topton and found the emerald on him. Yes, the butler did it.

The solution was that Topton had coated his hands with stearated powder, widely used in industry as a waterproofing and anti-stick agent. The powder shed the water off his hands instantly.

Midnight In Toronto The Good.

MIDNIGHT CAB aired on CBC Radio from 1992 to 1996, written by James W. Nichol. Available as free mp3s from www.otrr.org/OTRRLibrary

Walker Devereaux, 19 years old from Big River, Ontario, had gone to Toronto to seek his fortune as a Beat writer. Since that kind of fiction had been obsolete for decades, he wound up as a cab driver on the midnight shift.

The boss Alfonso Piatelli was desperate for drivers. The fact that Devereaux spoke English as a first language put him well ahead of his co-workers. He made friends with the dispatcher Krista Papadopoulos, who was confined to a wheelchair.

The first episode was "The Mystery Of The Blue-Eyed Man", which aired on 1992-11-14. During his first hour on the job, Devereaux found the body of a John Doe in the trunk of his cab. Devereaux hadn't done the usual safety check before driving out. Then again he had no training and didn't have a chauffeur licence.

There were two drivers who had that taxicab before Devereaux on their shifts. They denied knowing the body was in the trunk. One of them was Jacob Karonski, an illegal immigrant with no papers. He fled into hiding from fear of the immigration authorities.

Devereaux tried out as an amateur sleuth, running afoul of the police. The Inspector, Wilfred Kiss, was a kindly man who was willing to overlook the interference. Karonski was found hanging underneath a bridge. Suicide or murder?

The denouement was not bang!-bang!-bang! and fisticuffs, only Devereaux explaining to Krista what the police later told him. The dead man had been a cohort of Karonski in the Old Country. They were both wanted by the government thereof for trying to overthrow the regime. Karonski chose suicide instead of being repatriated and tortured.

Krista had the final line: "*Welcome to the big city!*".

The second episode was "The Mystery Of 22 Crier Drive" and aired on 1992-11-21. A passenger had left a package in Devereaux's cab, not noticed until back at the depot. Krista told Devereaux to open it. If it was valuable, he would take the package to the address for the cost of the cab fare. If not, the contents would go on a shelf.

Upon opening the package, Devereaux and Krista found a large jar filled with preservative. Floating in it were back-to-back Siamese twin piglets. Devereaux took it back to his fare's destination at a motel. Inspector Kiss and homicide police were there.

The passenger had a bullet through his heart. Devereaux neglected to tell the Inspector about his fare and the bottled piglets. He tagged along as the Inspector did a walk-around. Opening the trunk of the victim's car revealed another glass jar, this one with a single large horse eye.

The car had New Jersey plates. As the Inspector said, whenever Toronto police dealt with New Jersey men, nothing good ever came of them. Devereaux kept digging himself in deeper. Krista called on the radio to find out if he got paid for returning the piglets. He lied and told her the client wasn't there, then began sleuthing.

His methodology included criminal trespass, break-and-enter, and obstructing police in the course of their duties. Krista was on to him but helped him anyway. They didn't tell the boss why Devereaux wasn't out earning fares.

They did find the owner of the piglets, so Devereaux delivered the package. He set off quite a scene. Dr Julian Smith was the owner but the family told him that Julian had been kidnapped. They didn't want the police to be notified.

Devereaux finally went to Inspector Kiss and told him everything. The Inspector said the only reason Devereaux wouldn't be arrested was because he made a good irregular, like the Baker Street Irregulars.

The conclusion both made was that the kidnappers had an inside contact in the Smith mansion. Devereaux bumbled his way along, not entirely a blithering idiot but not far removed either.

Peeping through the windows of the Smith mansion, Devereaux saw Julian with some family members. The plot wrapped up with a summary of how a greedy relative was tired of waiting for her inheritance. She decided to get it tax-free with a staged kidnapping.

LETTERS TO THE EDITOR

[Editor's remarks in square brackets. Please include your name and town when sending a comment. Email to opuntia57@hotmail.com]

FROM: Lloyd Penney 2024-04-19
Etobicoke, Ontario

OPUNTIA #567: [re: footprints across frozen Bow River] Ah, death by misadventure, trying to cross the Bow. I am sure the coroners at the cop shop would like to say death by stupidity, but they know they can't.

[I believe the legal term is indeed death by misadventure.]

[re: licence plates] Great plates. I see so many here, maybe I need to start taking some photos myself.

[Be cautious though. I always pretend I'm texting on my smartphone so no one pays attention.]

[re: THE LAST OF US filmed in southern Alberta] Local programmes are always fun. We enjoy Murdoch Mysteries because it takes place in historic areas we've been in many times.

I will say that many of the great houses that are used for location shots in this show are not in Toronto, but in many other places all over southern and central Ontario. Toronto charges for location shooting, and the rest of the province does not. We are also enjoying LAW & ORDER: TORONTO: CRIMINAL INTENT for much the same reasons.

My last letter: I don't think I'd be going to When Words Collide any time soon. Cancon is much more accessible to me. I am finding that a relatively new editor like me is not getting much love from the local authors, so I will have to put up with that, and do what I can. Perhaps Cancon in a future year. 2024 is already quite planned.

[Calgary's annual readercon When Words Collide was 95% sold in middle April. Details from: www.alexandrawriters.org/when-words-collide-2024.html]

OPUNTIA #568: We're just now getting some spring, and this weekend, the cherry blossoms should be at their peak at High Park.

The When Words Collide bourse is much like the World Fantasy Convention dealers' room. The only other WFC we were at was in Montreal in 2001, and we bought probably the only non-book item in the whole room, a set of two cloisonné pins of Marvin the Martian. We had people asking us where they got that, and the rest of the pins were quickly bought out. Even bookfans are looking for something else other than books sometimes.

OPUNTIA #569: I'd heard people talking about snow falling this morning in Toronto. Spring is sometimes take two steps forward and one back. It will be here soon, but never soon enough.

The Ukraine stamps are beautiful, and as you say, they have more messages than just that of something to mail your mail.

[re: hawk sitting on garden gate] Any idea what species? Harris hawk, perhaps?

[I have since consulted with a friend who is an advanced bird watcher. The bird was a sharp-shinned hawk, *Accipiter striatus*, probably a female. The species overwinters in southern USA and breeds in the Canadian boreal forest. She was probably migrating north when she stopped off in my yard to snack on an English sparrow or magpie.]

Our next convention is in about five weeks, Anime North, and we will have a table in the Artists' Alley, selling our jewelry and tropical shirts. We just have to get our stuff cleaned up for that, and then comes the NASFiC in Buffalo.

2024-05-06

OPUNTIA #570: [re: ground squirrels] We have groundhogs, and plenty of black and grey squirrels, so we have the holes in the ground, and the frantic scramble of a surprised squirrel.

We tried our hand at the eclipse, but as we predicted, it clouded over around the time of eclipse, and cleared up not long after.

Many of the CanStruction displays, we see bits of in supermarkets, but no one has had the idea to make art out of it all. I'm tempted to send this along to the

overpriced supermarkets nearby, and see if they can use this to bring people back again.

We are about to get a few cat cafés in Toronto, and as much as I'd like to check it out, I expect to see them empty out with folks with unsuspected allergies, and I'd give them the end of the year before they all close.

OPUNTIA #571: [re: Calgary Comic Expo parade] Who knew wookies were so popular? A few minutes ago, I saw Yannick Bisson with a wookie. Must have been at one of the local comic cons.

We know better than to walk down a city street in costume; makes all of us the prime target. At the end of the month is our own giant anime convention, Anime North, and we will have a table in the Artists' Alley, selling our steampunk jewelry and tropical shirts.

We have part of the day reserved for the World Wide Party. Might pick up something stronger for the little party, but a quiet evening with toasting and some fannish discussions usually does it for us.

WORLD WIDE PARTY ON JUNE 21

Founded by Benoit Girard (Quebec) and Franz Miklis (Austria) in 1994, the World Wide Party is held on June 21st every year. 2024 will be the 31st year of the WWP. Mark your calendars now!

At 21h00 local time, everyone is invited to raise a glass and toast fellow members of zinedom around the world. It is important to have it exactly at 21h00 your time. The idea is to get a wave of fellowship circling the planet. Rescheduling it to a club meeting or more convenient time negates the idea of a wave of celebration by SF fans and zinesters circling the globe.

At 21h00, face to the east and salute those who have already celebrated. Then face north, then south, and toast those in your time zone who are celebrating as you do. Finally, face west and raise a glass to those who will celebrate WWP in the next hour. Raise a glass, publish a one-shot zine, have a party, or do a mail art project for the WWP. Let me know how you celebrated the day.

ZINE LISTINGS

[I only list zines I receive from the Papernet. If the zine is posted on www.efanzines.com or www.fanac.org, then I don't mention it since you can read it directly.]

THE FOSSIL #399 (US$10 per year from The Fossils Inc, Tom Parson, 157 South Logan Street, Denver, Colorado 80209) This issue is certainly an interesting one, beginning with the story of the zines published by Richard Loeb, of the infamous Loeb-Leopold thrill killing of 1924.

Following on was an investigation into a listing in the 1917 Los Angeles city directory for Howard P. Lovecraft, boilermaker. No, not that one, who never went west of the Mississippi River.

SEEN IN THE LITERATURE

Planets.

Chaffin, M.S., et al (2024) **Venus water loss is dominated by HCO^+ dissociative recombination.** NATURE 629:doi.org/10.1038/s41586-024-07261-y

Authors' abstract: *Despite its Earth-like size and source material, Venus is extremely dry, indicating near-total water loss to space by means of hydrogen outflow from an ancient, steam-dominated atmosphere.*

Such hydrodynamic escape likely removed most of an initial Earth-like 3-km global equivalent layer (GEL) of water but cannot deplete the atmosphere to the observed 3-cm GEL because it shuts down below about 10 to 100 metres GEL.

To complete Venus water loss, and to produce the observed bulk atmospheric enrichment in deuterium of about 120 times Earth, nonthermal H escape mechanisms still operating today are required.

Early studies identified these as resonant charge exchange, hot oxygen impact, and ion outflow, establishing a consensus view of H escape that has since received only minimal updates. Here we show that this consensus omits the most important present-day H loss process, HCO^+ dissociative recombination.

This process nearly doubles the Venus H escape rate and, consequently, doubles the amount of present-day volcanic water outgassing and/or impactor infall required to maintain a steady-state atmospheric water abundance.

These higher loss rates resolve long-standing difficulties in simultaneously explaining the measured abundance and isotope ratio of Venusian water and would enable faster desiccation in the wake of speculative late ocean scenarios.

Design limitations prevented past Venus missions from measuring both HCO^+ and the escaping hydrogen produced by its recombination; future spacecraft measurements are imperative.

Gasda, P.J., et al (2024) **Manganese-rich sandstones as an indicator of ancient oxic lake water conditions in Gale crater, Mars.** JOURNAL OF GEOPHYSICAL RESEARCH: PLANETS 129:doi.org/10.1029/2023JE007923 (available as a free pdf)

Authors' abstract: *Manganese has been observed on Mars by the NASA Curiosity rover in a variety of contexts and is an important indicator of redox processes in hydrologic systems on Earth.*

Within the Murray formation, an ancient primarily fine-grained lacustrine sedimentary deposit in Gale crater, Mars, have observed up to 45× enrichment in manganese and up to 1.5× enrichment in iron within coarser grained bedrock targets compared to the mean Murray sediment composition.

This enrichment in manganese coincides with the transition between two stratigraphic units within the Murray: Sutton Island, interpreted as a lake margin environment, and Blunts Point, interpreted as a lake environment.

On Earth, lacustrine environments are common locations of manganese precipitation due to highly oxidizing conditions in the lakes.

Here, we explore three mechanisms for ferromanganese oxide precipitation at this location: authigenic precipitation from lake water along a lake shore, authigenic precipitation from reduced groundwater discharging through porous sands along a lake shore, and early diagenetic precipitation from groundwater through porous sands.

All three scenarios require highly oxidizing conditions and we discuss oxidants that may be responsible for the oxidation and precipitation of manganese oxides. This work has important implications for the habitability of Mars to microbes that could have used Mn redox reactions, owing to its multiple redox states, as an energy source for metabolism.

On Earth, manganese becomes enriched because of oxygen in the atmosphere and this process is often sped up by the presence of microbes. Microbes on Earth can use the many oxidation states of manganese as energy for metabolism. If life was present on ancient Mars, the increased amounts of manganese in these rocks along the lake shore would be a helpful energy source for life.

Dinosaurs.

Caspar, K.R., et al (2024) **How smart was *T. rex*? Testing claims of exceptional cognition in dinosaurs and the application of neuron count estimates in palaeontological research.** ANATOMICAL RECORD 307:doi.org/10.1002/ar.25459 (available as a free pdf)

Authors' abstract: *Recent years have seen increasing scientific interest in whether neuron counts can act as correlates of diverse biological phenomena.*

Lately, Herculano-Houzel argued that fossil endocasts and comparative neurological data from extant sauropsids allow to reconstruct telencephalic neuron counts in Mesozoic dinosaurs and pterosaurs, which might act as proxies for behaviors and life history traits in these animals.

According to this analysis, large theropods such as Tyrannosaurus rex were long-lived, exceptionally intelligent animals equipped with "macaque- or baboon-like cognition", whereas sauropods and most ornithischian dinosaurs would have displayed significantly smaller brains and an ectothermic physiology.

Besides challenging established views on Mesozoic dinosaur biology, these claims raise questions on whether neuron count estimates could benefit research on fossil animals in general.

Here, we address these findings by revisiting Herculano-Houzel's work, identifying several crucial shortcomings regarding analysis and interpretation.

We present revised estimates of encephalization and telencephalic neuron counts in dinosaurs, which we derive from phylogenetically informed modeling and an amended dataset of endocranial measurements. For large-bodied theropods in particular, we recover significantly lower neuron counts than previously proposed.

Furthermore, we review the suitability of neurological variables such as neuron numbers and relative brain size to predict cognitive complexity, metabolic rate and life history traits in dinosaurs, coming to the conclusion that they are flawed proxies for these biological phenomena.

Geology.

Boyd, A.J., et al (2024) **3.7 billion year old detrital sediments in Greenland are consistent with active plate tectonics in the Eoarchean.** COMMUNICATIONS EARTH AND ENVIRONMENT 5:doi.org/10.1038/s43247-024-01376-w (available as a free pdf)

Authors' abstract: *Plate tectonic processes modulate element cycling, crust generation, and differentiation, yet at what point in Earth's history these processes emerged remains debated.*

Here we present evidence that parts of the >3.7 Ga Isua Supracrustal Belt formed within a fore-arc setting, consistent with the operation of plate tectonics in the Eoarchean.

We show that the oldest known sequence of detrital meta-sedimentary rocks were deposited conformably above chemical sediments on a volcanic basement. Mineral and trace elemental compositions show that turbiditic and pelagic detrital sediments were derived from terrains, comprising both basalts and differentiated tonalitic igneous rocks.

The boninitic volcanic basement would have formed in a tensile environment before the adjacent terrains which sourced the clastic sediments. This suggests formation within a fore-arc during the initial few million years of subduction. This environment may have facilitated the local proliferation of life suggested by the frequent occurrence of layers rich in biogenic graphite.

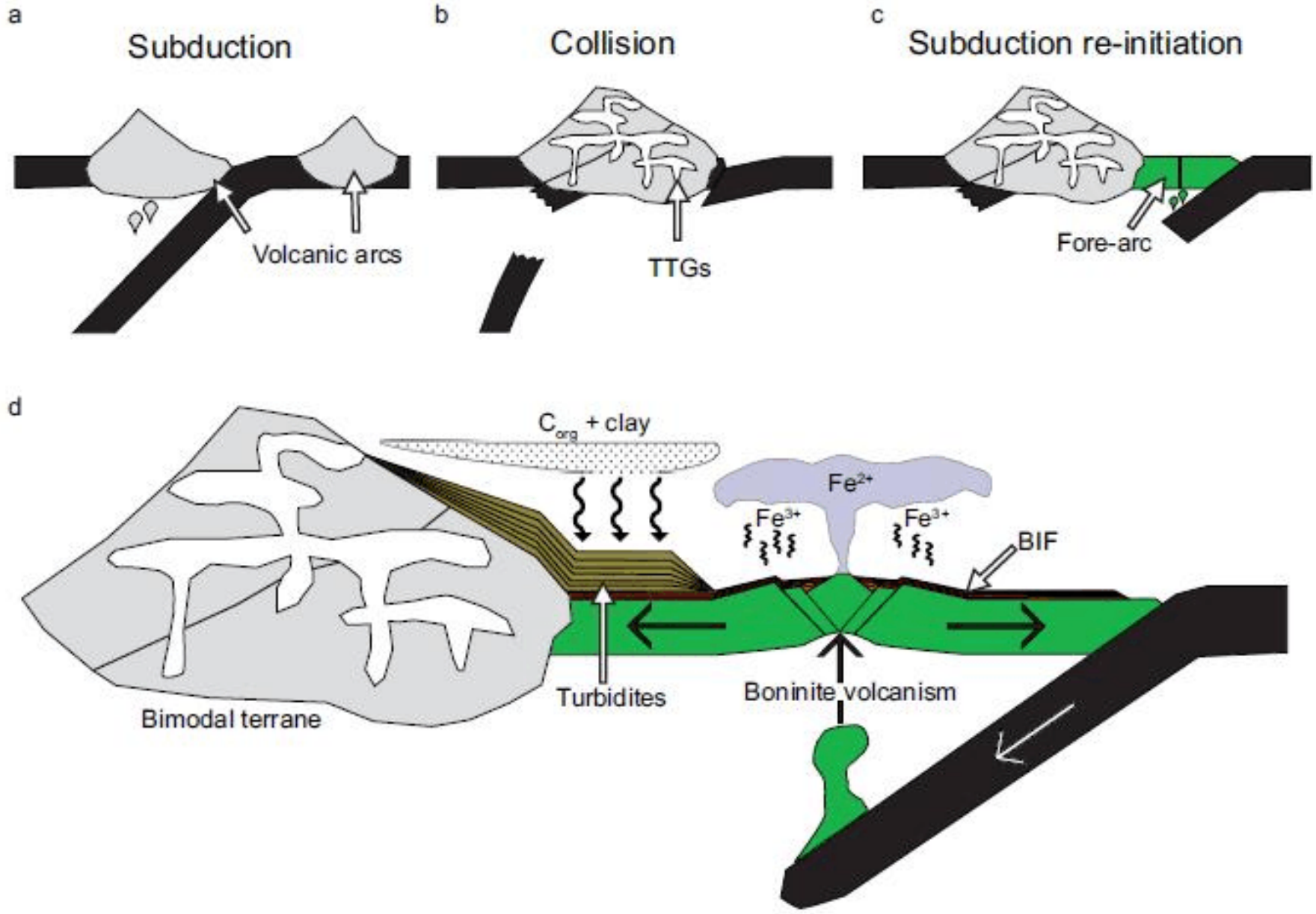
On modern Earth, the crust moves laterally through the process of plate tectonics, in which oceanic crust is formed at spreading ridges and recycled in subduction zones.

As a consequence of this recycling, volcanic island arcs, typically consisting of thickened and, on average, more differentiated igneous rocks form above subduction zones and may become further thickened and differentiated through accretion or collisions of other thickened crustal terrains.

These processes modulate climate and the abundance of organic life, as the enhanced topography leads to increased weathering and erosion, causing sediments to be deposited in adjacent basins and increasing the flux of biologically essential nutrients to the ocean.

However, there is considerable disagreement on when plate tectonics started, with estimates ranging from 850 megayears ago to 4.2 gigayears ago. With a late origin of plate tectonics, many of the oldest preserved terrains are argued to have formed on a stagnant (i.e., immobile) crust, localized above long-lived zones of vertically upwelling mantle.

[Images are from this paper.]



Nordt, L., et al (2024) **The early Cretaceous was cold but punctuated by warm snaps resulting from episodic volcanism.** COMMUNICATIONS EARTH AND ENVIRONMENT 5:doi.org/10.1038/s43247-024-01389-5 (available as a free pdf)

Authors' abstract: *The Cretaceous is characterized as a greenhouse climate from elevated atmospheric carbon dioxide concentrations, transgressive seas, and temperate ecosystems at polar paleolatitudes.*

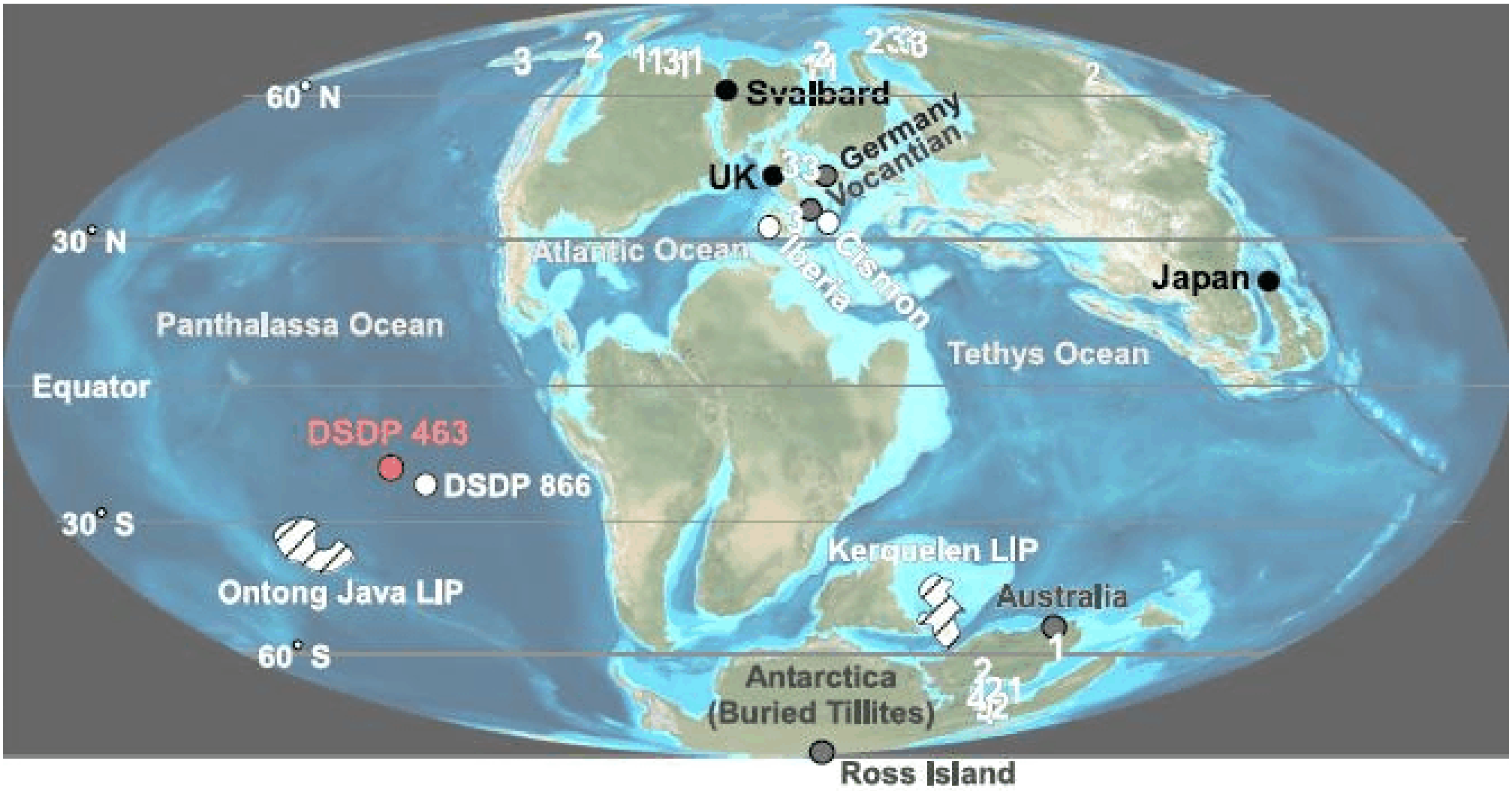
Here we test the hypothesis that the early Cretaceous was a cold climate state with a new Aptian atmospheric carbon dioxide record from the C3 plant proxy and early Cretaceous sea level curve from stable oxygen isotopes of belemnites and benthic foraminifera.

Results show that carbon dioxide concentrations were persistently below 840 ppm during the Aptian, validating recent General Circulation Model simulations of ice sheets on Antarctica at those concentrations.

In addition, sea level was estimated to be within the ice sheet window for much of the early Cretaceous prior to the Albian. This background state appears to have been episodically interrupted by Large Igneous Province volcanism followed by long-term carbon burial from weathering.

We hypothesize that the early Cretaceous was largely an icehouse punctuated by warm snaps.

[Map is from this paper and shows Earth as it was in the early Cretaceous.]



Paleobiology.

Huang, W., et al (2024) **Near-collapse of the geomagnetic field may have contributed to atmospheric oxygenation and animal radiation in the Ediacaran Period.** COMMUNICATIONS EARTH AND ENVIRONMENT 5:/doi.org/10.1038/s43247-024-01360-4 (available as a free pdf)

[The Edicaran era was the period 600 to 542 megayears ago when multicellar life evolved.]

Authors' abstract: *Earth's magnetic field was in a highly unusual state when macroscopic animals of the Ediacara Fauna diversified and thrived. Any connection between these events is tantalizing but unclear.*

Here, we present single crystal paleointensity data from 2,054 and 591 megayear pyroxenites and gabbros that define a dramatic intensity decline, from a strong Proterozoic field like that of today, to an Ediacaran value 30 times weaker.

The latter is the weakest time-averaged value known to date and together with other robust paleointensity estimates indicate that Ediacaran ultra-low field strengths lasted for at least 26 million years.

This interval of ultra-weak magnetic fields overlaps temporally with atmospheric and oceanic oxygenation inferred from numerous geochemical proxies.

This concurrence raises the question of whether enhanced H ion loss in a reduced magnetic field contributed to the oxygenation, ultimately allowing diversification of macroscopic and mobile animals of the Ediacara Fauna.

Zhang, M., et al (2024) **Shifts in magnetic mineral assemblages support ocean deoxygenation before the end-Permian mass extinction.** COMMUNICATIONS EARTH AND ENVIRONMENT 5:doi.org/10.1038/s43247-024-01394-8 (available as a free pdf)

[Anoxia is de-oxygenation of the oceans. The end-Permian extinction 251 megayears ago was the greatest mass extinction in Earth's history, wiping out 97% of all life due to overheating by flood lavas known as the Siberian Traps.]

Authors' abstract: *Expansion of oceanic anoxia is a prevailing hypothesis for driving the marine end-Permian mass extinction and is mainly based on isotopic geochemical proxies. However, long-term oceanic redox conditions before the end-Permian mass extinction remain unresolved.*

Here we report a secular redox trend based on rock magnetic experiments and cerium anomalies through the Changhsingian and across the Permian-Triassic boundary at the Meishan section, China.

Magnetic mineral assemblages changed dramatically at ca. 252.8 million years age (Ma), which indicates that oceanic deoxygenation started about 0.9 million years earlier than the end-Permian mass extinction.

The magnetite-dominant post end-Permian mass extinction interval suggests a ferruginous dysoxic conditions with enhanced weathering in the earliest Triassic.

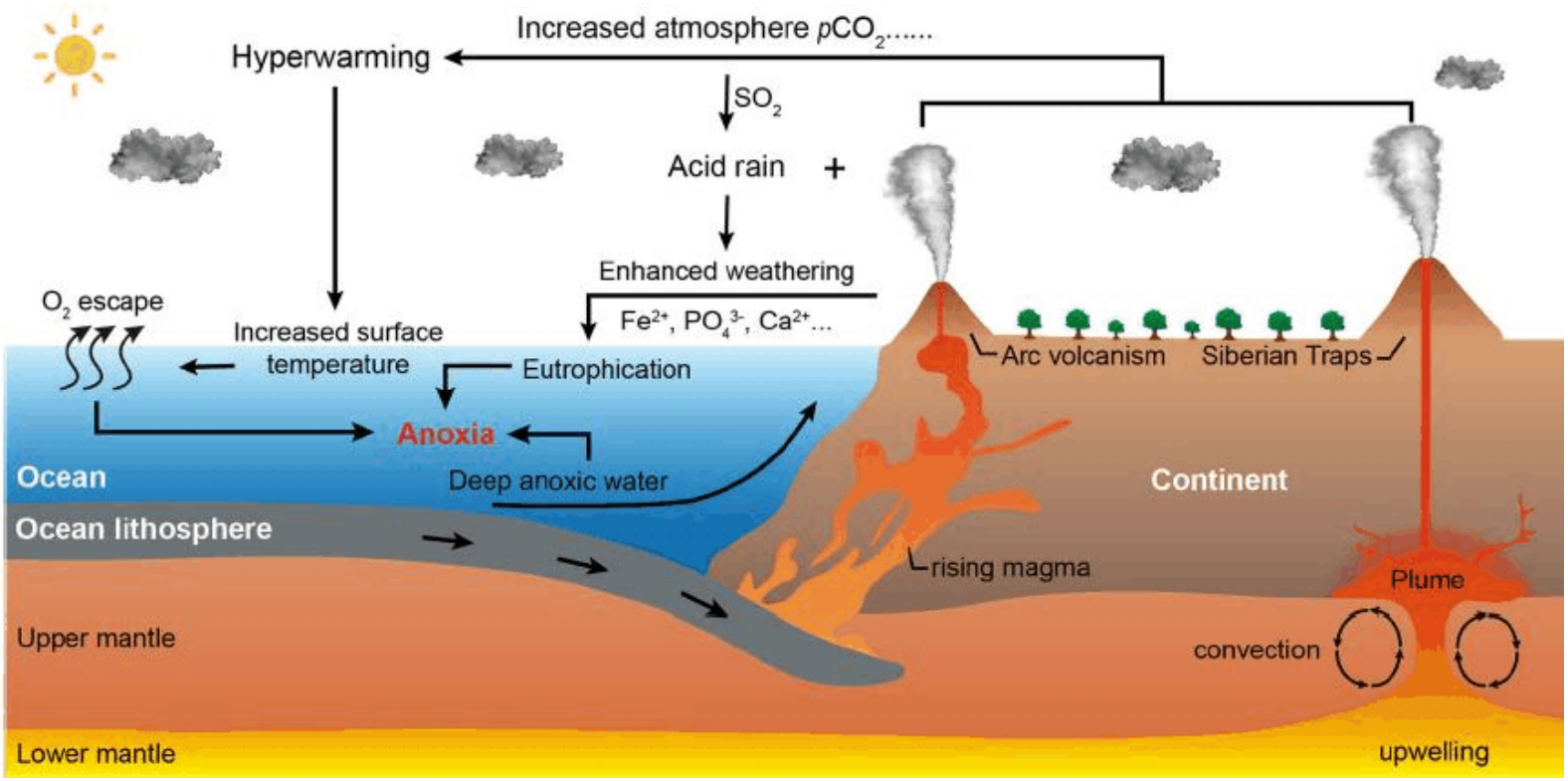
Also, a gradual magnetite abundance decrease to pre-extinction levels is observed at ca. 251.5 Ma, coinciding temporally with the waning of Siberian Trap and arc volcanism.

All of these observations demonstrate that environmental deterioration began much earlier than the end-Permian mass extinction and finally collapsed in the end-Permian.

The end-Permian mass extinction (EPME) was marked by the loss of up to 81% of marine species in a short time interval of 61 ± 48 kyr and is considered the most severe biocrisis in Earth history.

Numerous studies suggest that widespread marine anoxia likely drove the marine mass extinction. A shift toward more dysoxic conditions at the EPME has been implicated in most global oceanic settings based on biomarkers, iron speciation, and geochemical and isotopic proxies.

[Images on the next page are from this paper.]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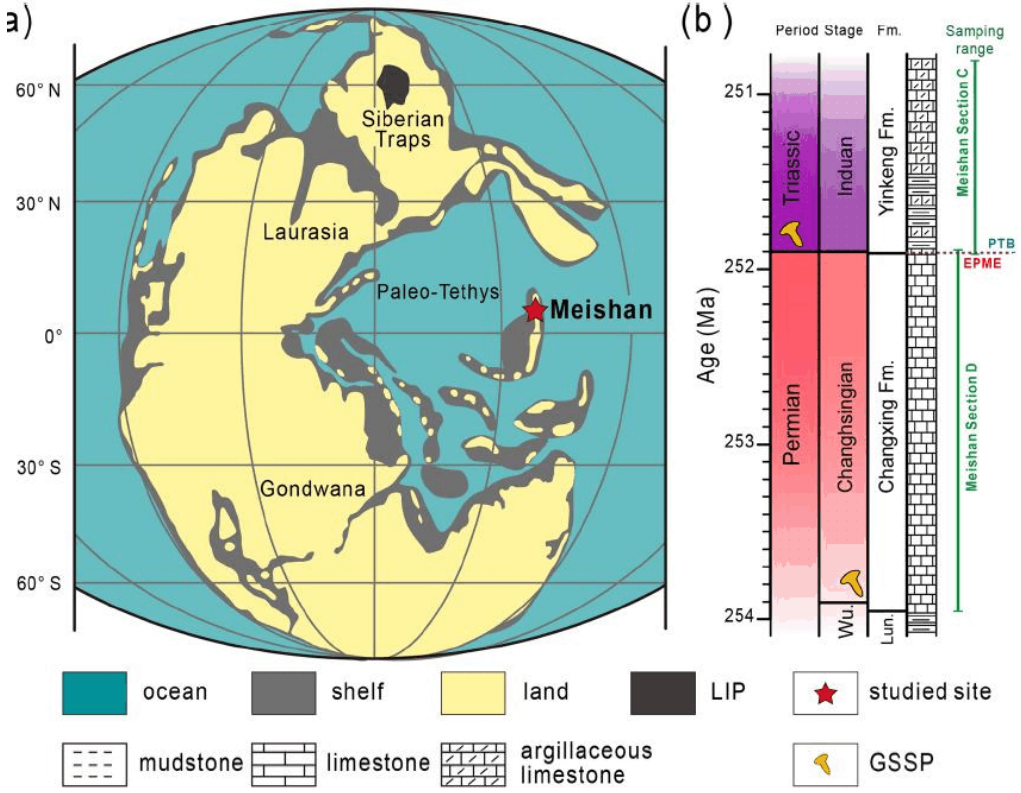
Hyperwarming
SO_2
Acid rain +
Enhanced weathering
Fe^{2+}, PO_4^{3-}, Ca^{2+}...
O_2 escape
Increased surface temperature
Eutrophication
Anoxia
Deep anoxic water
Arc volcanism
Siberian Traps
Ocean
Continent
Ocean lithosphere
rising magma
Plume
Upper mantle
convection
Lower mantle
upwelling


a)
60° N
30° N
0°
30° S
60° S
Siberian Traps
Laurasia
Paleo-Tethys
Meishan
Gondwana
ocean
shelf
land
LIP
studied site
mudstone
limestone
argillaceous limestone
GSSP
(b)
Period
Stage
Fm.
Samping range
Age (Ma)
251
252
253
254
Triassic
Permian
Induan
Changhsingian
Wu.
Lun.
Yinkeng Fm.
Changxing Fm.
Meishan Section C
Meishan Section D
PTB
EPME

Zoology.

Poquérusse, J., et al (2024) **Assessing contemporary Arctic habitat availability for a woolly mammoth proxy.** SCIENTIFIC REPORTS 14:doi.org/10.1038/s41598-024-60442-7 (available as a free pdf)

Authors' abstract: *Interest continues to grow in Arctic megafaunal ecological engineering, but, since the mass extinction of megafauna ~ 12 to 15 kiloyears ago, key physiographic variables and available forage continue to change.*

Here we sought to assess the extent to which contemporary Arctic ecosystems are conducive to the rewilding of megaherbivores, using a woolly mammoth (M. primigenius) proxy as a model species. We first perform a literature review on woolly mammoth dietary habits.

We then leverage Oak Ridge National Laboratories Distributive Active Archive Center Global Aboveground and Belowground Biomass Carbon Density Maps to generate aboveground biomass carbon density estimates in plant functional types consumed by the woolly mammoth at 300 metres resolution on Alaska's North Slope.

We supplement these analyses with a NASA Arctic Boreal Vulnerability Experiment dataset to downgrade overall biomass estimates to digestible levels. We further downgrade available forage by using a conversion factor representing the relationship between total biomass and net primary productivity for arctic vegetation types.

Integrating these estimates with the forage needs of woolly mammoths, we conservatively estimate Alaska's North Slope could support densities of 0.0 to 0.38 woolly mammoth per square kilometre across a variety of habitats.

Murray, M.M., et al (2024) **Animal cognition: Dogs build semantic expectations between spoken words and objects.** CURRENT BIOLOGY 34:doi.org/10.1016/j.cub.2024.03.045

Authors' abstract: *A recent study has used scalp-recorded electroencephalography to obtain evidence of semantic processing of human speech and objects by domesticated dogs.*

The results suggest that dogs do comprehend the meaning of familiar spoken words, in that a word can evoke the mental representation of the object to which it refers.

Laumer, I.B., et al (2024) A**ctive self-treatment of a facial wound with a biologically active plant by a male Sumatran orangutan.** SCIENTIFIC REPORTS 14:doi.org/10.1038/s41598-024-58988-7 (available as a free pdf)

Authors' abstract: *Although self-medication in non-human animals is often difficult to document systematically due to the difficulty of predicting its occurrence, there is widespread evidence of such behaviors as whole leaf swallowing, bitter pith chewing, and fur rubbing in African great apes, orangutans, white handed gibbons, and several other species of monkeys in Africa, Central and South America and Madagascar.*

To the best of our knowledge, there is only one report of active wound treatment in non-human animals, namely in chimpanzees. We observed a male Sumatran orangutan (Pongo abelii) who sustained a facial wound.

Three days after the injury he selectively ripped off leaves of a liana with the common name Akar Kuning (Fibraurea tinctoria), chewed on them, and then repeatedly applied the resulting juice onto the facial wound.

As a last step, he fully covered the wound with the chewed leaves. Found in tropical forests of Southeast Asia, this and related liana species are known for their analgesic, antipyretic, and diuretic effects and are used in traditional medicine to treat various diseases, such as dysentery, diabetes, and malaria.

Previous analyses of plant chemical compounds show the presence of furanoditerpenoids and protoberberine alkaloids, which are known to have antibacterial, anti-inflammatory, anti-fungal, antioxidant, and other biological activities of relevance to wound healing.

This possibly innovative behavior presents the first systematically documented case of active wound treatment with a plant species know to contain biologically active substances by a wild animal and provides new insights into the origins of human wound care.

Environmental Science.

Richter, B.D., et al (2024) **Colorado River no longer reaches the sea.** COMMUNICATIONS EARTH AND ENVIRONMENT 5:doi.org/10.1038/s43247-024-01291-0 (available as a free pdf)

[This article caught my eye because Alberta has the headwaters of all the prairie rivers in Canada. Our province has agreements with downstream provinces, territories, and Montana. For more information about water use in Alberta, visit: https://albertawater.com/alberta-s-transboundary-water-agreements/]

Authors' abstract: *Persistent overuse of water supplies from the Colorado River during recent decades has substantially depleted large storage reservoirs and triggered mandatory cutbacks in water use.*

The river holds critical importance to more than 40 million people and more than two million hectares of cropland. Therefore, a full accounting of where the river's water goes en route to its delta is necessary.

Here we apply authoritative primary data sources and modeled crop and riparian/wetland evapotranspiration estimates to compile a water budget based on average consumptive water use during 2000 to 2019.

Overall water consumption includes both direct human uses in the municipal, commercial, industrial, and agricultural sectors, as well as indirect water losses to reservoir evaporation and water consumed through riparian/wetland evapotranspiration.

Irrigated agriculture is responsible for 74% of direct human uses and 52% of overall water consumption. Water consumed for agriculture amounts to three times all other direct uses combined. Cattle feed crops including alfalfa and other grass hays account for 46% of all direct water consumption.

Barely a trickle of water is left of the iconic Colorado River of the American Southwest as it approaches its outlet in the Gulf of California in Mexico after watering many cities and farms along its 2,330-kilometer course.

There were a few years in the 1980s in which enormous snowfall in the Rocky Mountains produced a deluge of spring snowmelt runoff capable of escaping full capture for human uses, but for most of the past 60 years the river's water has been fully consumed before reaching its delta. In fact, the river was overconsumed (i.e., total annual water consumption exceeding runoff supplies) in 16 of 21 years during 2000 to 2020, requiring large withdrawals of water stored in Lake Mead and Lake Powell to accommodate the deficits.

An average annual overdraft of 10% during this period caused these reservoirs, the two largest in the US, to drop to three-quarters empty by the end of 2022, triggering urgent policy decisions on where to cut consumption.

Despite the river's importance to more than 40 million people and more than two million hectares (>5 million acres) of cropland, producing most of the vegetable produce for American and Canadian plates in wintertime and also feeding many additional people worldwide via exports, a full sectoral and crop-specific accounting of where all that water goes en route to its delta has never been attempted, until now.

Knight, C.A., et al (2024) **Atmospheric river activity during the late Holocene exceeds modern range of variability in California.** COMMUNICATIONS EARTH AND ENVIRONMENT 5:doi.org/10.1038/s43247-024-01357-z (available as a free pdf)

[Every adverse weather event these days is commonly blamed on climate change but are actually part of normal climate variation.]

Authors' abstract: *Atmospheric rivers are associated with some of the largest flood-producing precipitation events in western North America, particularly California. Insight into past extreme precipitation can be reconstructed from sedimentary archives on millennial timescales.*

Here we document atmospheric river activity near Leonard Lake, California, over 3,200 years, using a key metric of atmospheric river intensity, that is silicon/aluminum enriched layers that are highly correlated with modern records of integrated vapor transport.

The late twentieth century had the highest median integrated vapor transport since the onset of the Medieval Climate Anomaly, with integrated vapor transport increasing during the Little Ice Age. The reconstruction suggests California has experienced pluvial episodes that exceeded any in the meteorologic instrumental era, with the largest episodes occurring two and

three millennia ago. These results provide critical data to help avoid underestimation of potential risks and aid future planning scenarios.

Atmospheric rivers (ARs), filaments of concentratedmoisture that deliver water to the midlatitudes' western coasts in both the northern and southern hemispheres, can produce heavy rainfall, generating floods, landslides, and other catastrophic damage affecting people and property.

In recent decades, ARs have been associated with some of the largest flood-producing precipitation events in western North America, particularly in California, where hydrologic impacts of ARs are enhanced by the abrupt topography of the Sierra Nevada range.

As the largest primary storm mechanism in California, the difference of a few large AR storms in a year dramatically changes precipitation totals and drives the state towards surfeit or drought.

For example, during the winter of 2022-2023, California experienced 31 AR storms, resulting in an extraordinary snowpack, replenishing reservoirs, and ending drought conditions across most of the state.

Cox, R., et al (2024) **Gullying and landscape evolution: Lavaka in Lac Alaotra, Madagascar shed light on rates of change and non-anthropogenic controls.** SCIENCE ADVANCES 10:doi.org/10.1126/sciadv.adi0316 (available as a free pdf)

Authors' abstract: *Gully evolution remains poorly understood, largely because multidecadal analysis is lacking. Large gullies (called lavaka) that pepper Madagascar's highlands are generally attributed to human impact but longitudinal data are few, and anthropogenic causation is inferred not verified.*

We focus on Lac Alaotra, Madagascar's largest lake and wetland, its major rice-growing region, and an ecological hotspot surrounded by fault-controlled steep hills with abundant lavaka.

Analysis of historical aerial photographs and recent orthoimagery reveals that the proportion of highly active lavaka has decreased since mid-20th century. At the same time, human population, farming intensity, and livestock density have increased exponentially.

This suggests that background factors, including seismicity, are primary drivers of lavaka formation. Although human activities may contribute to erosion overall, land management policies that overemphasize human causation of gullying and neglect background forcing factors (in Madagascar and elsewhere) are unlikely to be effective in erosion mitigation.

Environmental Science: Backfires And Unintended Consequences.

Zuidema, S., et al (2024) **Existing wetland conservation programs miss nutrient reduction targets.** PNAS NEXUS 3:doi.org/10.1093/pnasnexus/pgae129 (available as a free pdf)

Authors' abstract: *The range in the amount of nitrogen potentially reduced by restoring wetlands across the Mississippi River Basin is explained by considering more realistic constraints on restoration.*

By considering new estimates of the locations where wetland restoration could occur, estimates of flow to groundwater from croplands, and differences in the seasonal timing of nitrogen removal activity in wetlands we estimate that export to the coast could decline by 6 to 27% compared to the 45 to 60% needed to support the marine ecosystem.

The moderate levels of nitrogen reduction provide a range of best-case scenarios suggesting that a collection of interventions is needed to adequately solve the crisis of nutrient loading to our coasts. Restoring wetlands will reduce nitrogen contamination from excess fertilization but estimates of the efficacy of the strategy vary widely.

The intervention is often described as effective for reducing nitrogen export from watersheds to mediate bottom-level hypoxia threatening marine ecosystems.

Other research points to the necessity of applying a suite of interventions, including wetland restoration to mitigate meaningful quantities of nitrogen export.

Here, we use process-based physical modeling to evaluate the effects of two hypothetical, but plausible large-scale wetland restoration programs intended to reduce nutrient export to the Gulf of Mexico.

We show that full adoption of the two programs currently in place can meet as little as 10% to as much as 60% of nutrient reduction targets to reduce the Gulf of Mexico dead zone.

These reductions are lower than prior estimates for three reasons. First, net storage of leachate in the subsurface precludes interception and thereby dampens the percent decline in nitrogen export caused by the policy. Unlike previous studies, we first constrained riverine fluxes to match observed fluxes throughout the basin.

Second, the locations of many restorable lands are geographically disconnected from heavily fertilized croplands, limiting interception of runoff. Third, daily resolution of the model simulations captured the seasonal and stormflow dynamics that inhibit wetland nutrient removal because peak wetland effectiveness does not coincide with the timing of nutrient inputs.

To improve the health of the Gulf of Mexico efforts to eliminate excess nutrient, loading should be implemented beyond the field-margin wetland strategies investigated here.

Hodnebrog, O., et al (2024) **Recent reductions in aerosol emissions have increased Earth's energy imbalance.** COMMUNICATIONS EARTH AND ENVIRONMENT 5:doi.org/10.1038/s43247-024-01324-8 (available as a free pdf)

[Aerosols reflect sunlight back into space and reduce heating of our planet. Yet we are hellbound to zero emissions.]

Authors' abstract: *The Earth's energy imbalance is the net radiative flux at the top-of-atmosphere. Climate model simulations suggest that the observed positive imbalance trend in the previous two decades is inconsistent with internal variability alone and caused by anthropogenic forcing and the resulting climate system response.*

Here, we investigate anthropogenic contributions to the imbalance trend using climate models forced with observed sea-surface temperatures. We find that the effective radiative forcing due to anthropogenic aerosol emission reductions has led to a 0.2 ± 0.1Watts per square metre per decade strengthening of the 2001 to 2019 imbalance trend.

The multi-model ensemble reproduces the observed imbalance trend of 0.47 ± 0.17Wm^{-2} per decade but with 10-40% underestimation. With most future scenarios showing further rapid reductions of aerosol emissions due to air quality legislation, such emission reductions may continue to strengthen Earth's energy imbalance, on top of the greenhouse gas contribution. Consequently, we may expect an accelerated surface temperature warming in this decade.

Jin, X., et al (2024) **China Southern Power Grid's decarbonization likely to impact cropland and transboundary rivers.** COMMUNICATIONS EARTH AND ENVIRONMENT 5:doi.org/10.1038/s43247-024-01363-1 (available as a free pdf)

Authors' abstract: *Decarbonizing the electricity sector requires massive investments in generation and transmission infrastructures that may impact both water and land resources. Characterizing these effects is key to ensure a sustainable energy transition.*

Here, we identify and quantify the unintended consequences of decarbonizing the China Southern Power Grid, China's second-largest grid. We show that reaching carbon neutrality by 2060 is feasible; yet, doing so requires converting 40,000 square kilometers of land to support solar and wind as well as tapping on rivers to build ~32 gigawatts of hydropower.

The impact of wind and solar development would span across multiple sectors, since crop and grassland constitute 90% of the identified sites. The construction of new dams may carry major externalities and trickle down to nearby countries, as most dams are located in transboundary rivers.

Curbing the international footprint of this decarbonization effort would require additional investments (~12 billion United States dollars) in carbon capture technologies.

Human Prehistory.

Ugalde, P.C., et al (2024) **The first peoples of the Atacama Desert lived among the trees: A 11,600 to 11,200-year-old grove and congregation site.** PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES USA 121:doi.org/10.1073/pnas.2320506121

Authors' abstract: *In deserts, water has been singled out as the most important factor for choosing where to settle, but trees were likely an important part of the landscape for hunter-gatherers beyond merely constituting an economic resource. Yet, this critical aspect has not been considered archaeologically.*

Here, we present the results of mapping and radiocarbon dating of a truly unique archaeological record. Over 150 preserved stumps around five Late Pleistocene/Early Holocene archaeological campsites (12,800 to 11,200 cal BP) show that trees were key features in the creation of everyday habitats for the first inhabitants of the Atacama Desert.

At two of these sites, QM12 and QM35, the spatial and chronological correlation between trees and hearths reveals that people located their homes under the tree canopy.

At residential site QM35, artifact distribution coincides with a grove dated to ~11,600 to 11,200 cal BP. A third residential area (QM32) occurred along the grove margins ~12,000 to 11,200 cal BP.

Based on the distinct cultural material of these two camps, we propose that two different groups intermittently shared this rich wetland-grove environment.

The tree taxa suggest a preference for the native Schinus molle, a tree scarcely present on the landscape today, over the endemic, nitrogen-fixing Strombocarpa tamarugo, both for toolmaking and firewood and even though the S. tamarugo was locally more abundant.

Together with the spatial and chronological coincidence of campsites, hearths, and trees, we propose that people spared the most abundant and resilient species to create their homes, in turn promoting fertility oases amid the Atacama's hyperaridity.

Modern Humans.

Sojecka, A.A., and A. Drozd-Rzoska (2024) **Global population: from Super-Malthus behavior to Doomsday criticality.** SCIENTIFIC REPORTS 14:doi.org/10.1038/s41598-024-60589-3 (available as a free pdf)

Authors' abstract: *The report discusses global population changes from the Holocene beginning to 2023, via two Super Malthus (SM) scaling equations.*

SM-1 is the empowered exponential dependence, and SM-2 is the Malthus-type relation with the time-dependent growth rate r(t) or relaxation time. Population data from a few sources were numerically filtered to obtain a 'smooth' dataset, allowing the distortions-sensitive and derivative-based analysis.

The test recalling SM-1 equation revealed the essential transition near the year 1970 (population: ~3 billion): from the compressed exponential behavior to the stretched exponential one.

For SM-2 dependence, linear changes during the Industrial Revolutions period, since ~ 1700, led to the constrained critical behavior where ˜2216 is the extrapolated year of the infinite population.