

#### Halloween 2023

**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:** Autumn foliage of *Cotoneaster lucida* at Chez Opuntia.

# IT'S SUMMER, SO HALLOWEEN MUST BE HERE

photos by Dale Speirs

The rot sets in earlier every year, as stores begin selling holiday merchandise further and further ahead of time. A new record, for me at least, was seeing a downtown Hallmark store plugging Halloween merchandise in July. I took this photo on July 21 but the merchandise had been there for about a week prior.



Christmas candy went on sale in C a l g a r y supermarkets in September.





These photos were taken on August 13 at the Marda Loop Street Festival.

# IT'S AN ECLIPSE, SO THE CLOUDS MUST BE HERE

by Dale Speirs

[Previous reports on eclipses that I viewed were, for lunar, in OPUNTIA #16.5, 323, and 434. Solar eclipses seen by me were in issues #19.5, 288, and 388.]

Whenever a solar or lunar eclipse is due for Calgary, the odds are in favour of cloudy skies, usually beginning about 15 minutes before contact and clearing away an hour after the event. I have managed to see three lunar and three solar eclipses since I moved to Calgary in 1978, and missed more because of weather.

October 14 was an annular solar eclipse way on down south in the USA but was predicted to be a 60% occlusion in Calgary, still very respectable. Maximum occlusion was at 10h30.

The city was blanketed in thick fog during the early morning hours, with maximum visibility about 100 metres. In keeping with tradition, the heavy fog didn't lift until about 12h30, after which we had bright sunshine the rest of the day.

I took this photo from my front yard about 11h00. If the fog had been thin, then it might have actually helped to get a good photo of the Sun without blinding the camera. The fog was so thick that the Sun wasn't visible as even a faint disk.



### WHEN WORDS COLLIDE: VOLUME TWO

Calgary's annual readercon is scheduled for August 16 to 18, 2024, at the Delta Calgary South hotel, corner of Southland Drive SE and Macleod Trail. As of middle October it was 80% sold, so if you are thinking of attending, then hustle. Information is available from www.alexandrawriters.org

# War Of The Words Story Competition.

This contest is open to anyone residing in Canada or the USA and anyone attending When Words Collide 2024. Writers of all ages are invited to participate. Original, unpublished submissions only. Open to all forms of prose, any genre, no theme, be creative.

Entries must be sent by submission form in a .doc, .docx or .pdf format. Please ensure pages are numbered and that you have a title. Your name must not appear anywhere on the document. In the header, please include the title of your story. Your story must be typed and double-spaced in an easy to read, 11 or 12 point font. Submissions must not exceed 2,500 words.

Authors retain all rights to their stories. Submission deadline: March 31, 2024, 23h59 Mountain Time. You do not need to be attending the festival to submit. Submission fee is CDN \$5.

Top 10 winning entries will be published in War of the Words Anthology Volume 1. Authors will receive one free copy of the anthology plus:

1st Prize: \$300 2nd Prize: \$200 3rd Prize: \$100

7 honourable mentions: \$50

# The Times We Live In: An Unfortunately Necessary Stipulation.

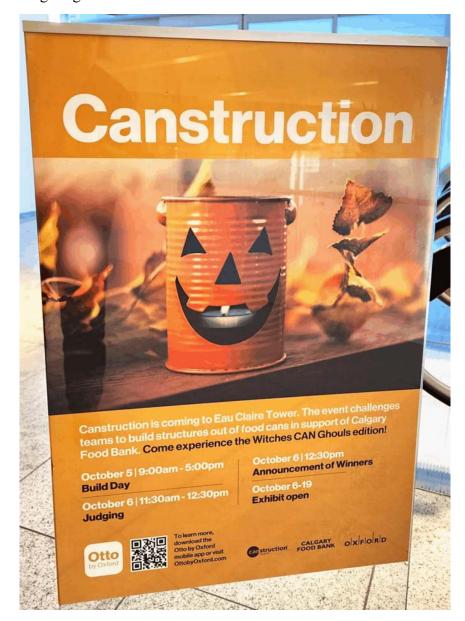
WWC will not accept submissions created with the use of AI such as ChatGPT. If your story is found to be created by AI in any facet, either before, during or after the contest, your submission will be disqualified. We want to protect the intellectual property and copyrights of all writers. Currently the use of AI in this form is unethical and an infringement on those rights.

#### **CANSTRUCTION CALGARY: PART 5**

photos by Dale Speirs

[Parts 1 to 4 appeared in OPUNTIA #409, 439, 469, and 546.]

Canstruction is an installation event in aid of the Calgary Food Bank. Businesses sponsor the construction of sculptures assembled from tinned food. After the event is over, the tins are donated to the Food Bank. The displays shown here were in the downtown core in the week immediately following Thanksgiving. The theme was Halloween.















#### LIFE AT CHEZ OPUNTIA

by Dale Speirs

I renewed my driver licence in October, a two-step process. Alberta Registry is the government agency responsible for driver and vehicle licences, driver tests, vital statistics, corporate and society registrations, and land titles.

Several decades ago the front-line offices were privatized. No more standing in line at a giant DMV office. Instead, there are hundreds of Alberta Registry agencies where one can stand in line instead. To be fair, I only waited about ten minutes, much faster than the old days.

I surrendered my old licence, paid the fee, had my picture taken, and was told my new licence would be mailed to my address. I got it in the mail the day after Thanksgiving, which was pretty good service. The envelope the licence was sent in is shown below. Yes, Alberta has an agency in charge of red tape reduction. They're not joking; that is their real name.

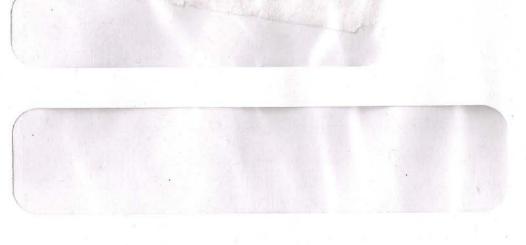


Service Alberta and Red Tape Reduction

Registries P.O. Box 11966 Stn. Main Edmonton, Alberta T5J 3L1







I have a large flock of magpies living in my yard because of my habit of scattering peanuts on the lawn each time I leave the house. The peanuts are intended for the squirrels but magpies like them too. High energy, lots of protein, just what is needed to survive those -30°C nights that will be here all too soon.

The bus stop near my house during the summer. The turf strip fell off a passing landscaping truck so a public-spirited citizen salvaged it for the stop.



#### **HALLOWEEN FICTION: PART 6**

by Dale Speirs

[Parts 1 to 5 appeared in OPUNTIAs #427, 458, 486, 511, and 536.]

#### **Short Fiction.**

"The Spooktacular Sam's Stabbing Spree" by Sarah Cameron (2022 October, MYSTERY MAGAZINE, available from www.mysterymagazine.ca or Amazon print-on-demand) was about two murders over four days, if two murders can be said to be a stabbing spree. First the local high school vice-principal, then the football coach.

Spooktacular Sam was a temporary store for the Halloween season, dealing in costumes, yard props, and party decorations. The first body, in aisle 3, was not part of the store decorations but fortunately the janitor knew how to remove blood stains from floors.

The second victim was stabbed with a Halloween yard sign. Eventually the murderer was identified and Maced before she could finish a third murder. She was an ambitious football mother who wanted to help her son to make the college league.

#### Novels.

MRS CLAUS AND THE HALLOWEEN HOMICIDE (2021) by Liz Ireland (pseudonym of Elizabeth Bass) put me in a quandary as to which column this review should go into. Now you know how I resolved it.

April Claus, wife of Nicholas, had introduced the Halloween holiday into Santaland from her native Oregon. Not all the elves were happy about her action, although the children were thrilled when they learned there was free candy involved.

Someone trashed a greenhouse full of pumpkins. In exchange, someone trashed the elf Tiny Sparkletoe, who had protested the debasement of Christmastown by a foreign holiday.

The village was divided and no one played happy reindeer games. The Halloween festival went on. April made rum-and-sugar cookies which were a

great hit with the reindeer. Unfortunately drunken reindeer on sugar highs were a handle to corral.

The murder had nothing to do with entrenched interests. Family feuds came first, and one elf got too emotional. Other than that, the festival seemed to go well. Happy Halloween to one and all!

#### Who Knows What Evil Lurks?

THE SHADOW, as the opening blurb put it, was in reality Lamont Cranston, wealthy young man about town. He had traveled to Tibet where he learned how to cloud minds so that people could not see him, only hear him.

Lamont Cranston and The Shadow both dealt with Police Commissioner Weston but not simultaneously of course. Weston was usually the arresting officer and frequently worked without any uniformed officers present.

The lovely Margo Lane was the only one who knew Cranston's real identity. Her main functions were to scream every time she saw a corpse, be frequently kidnapped or trapped with a killer, and to have the loose threads explained to her in the denouement.

Available as free downloads from the Old Time Radio Researchers at www.otrr.org/OTRRLibrary

"The Three Ghosts" aired on 1937-10-31, perfectly timed for Halloween. The episode opened in a country mansion where the clock was striking nine. Twas the haunting hour, a refreshing change from the usual cliché of midnight.

And a noisy ghost it was, rattling chains and clumping about in the attic, apparently wearing steel-toed work boots with hobnails. Most people only have problems with mice, so be thankful you don't live in a manor house.

A husband and wife had just moved in. Professor Arthur Sneed wasn't perturbed by the racket, and looked forward to setting up his laboratory. Carolyn was a nervous wreck and fainted.

When she recovered, she called her friend Margo Lane for help. Lamont Cranston drove her out there. Lane didn't like Arthur. Upon arrival, they were admitted by Arthur, who seemed amiable enough. Carolyn was resting in bed so Lane went up to see her. Cranston chatted with Arthur, who said the noises were just the wind and the house settling.

The next day the Professor was in his office in town when The Shadow visited him and uttered threats. As a piece of psychological warfare, The Shadow tossed half of a playing card into Arthur's lap, the ace of spades. He told Arthur that when he got the second half, his end was nigh.

After The Shadow left, two men Spike Collins and Rock Wilson arrived. They knew Arthur from the penitentiary as a black widower, whose wives tended to die just after they changed their wills. They wanted to speed up the process with Carolyn and get a piece of the action.

The Shadow continued his psywar. He visited Collins privately and told him that Arthur was going double-cross him. Wait for him at the entrance road to the manor.

Then he went after Arthur and used mind games while riding in the back seat of his car as he drove home. He made him see a truck that wasn't there. When Arthur saw Collins standing in the road, he thought he was seeing another delusion and ran over him. The thump of the impact shocked him.

At the manor, he insisted Carolyn pack immediately. They were to flee by the next morning. Collins arrived from the grave, shocking Arthur. The gangster had sent Wilson to the road in his place. After Arthur left the scene, Collins switched wallets with the body of Wilson. The police thought Collins had died.

Arthur argued with Collins but suddenly broke off when he saw the other half of the ace of spades on a table. Collins found the switch that controlled the ghost noises, which blew Arthur's cover with Carolyn. Not a good evening for Arthur.

The Shadow arrived a minute before the police. Arthur departed this life a minute later, shot by Collins as the police broke through the door. There was no doubt that Collins would depart this life, not a minute later but after his final court appeal.

# He Hunts The Biggest Of All Game.

THE GREEN HORNET episode "Halloween Adventure" aired on radio on 1944-10-24, written by Fran Striker. Newspaper publisher Britt Reid operated

in disguise as the vigilante Green Hornet, assisted by his faithful valet Kato (originally Japanese but suddenly a Filipino after Pearl Harbor). The radio series is available as free downloads from the Old Time Radio Researchers at www.otrr.org/OTRRLibrary

Twas the day itself, and at the Effingham manor preparations were underway for that night's costume ball. Edna Effingham was complaining about the difficulty of getting supplies because of the war. Her son Lynn rebuked her, rightfully so, pointing out the war effort took priority.

He and his father Buxton hadn't arranged for their own costumes, so they had to rush to the shops. Lynn decided to dress as the Green Hornet. The two men tried everywhere and finally wound up in the rough side of town at the Burlesque Theatrical Costumers.

What they didn't know was that the proprietor, known as Pop, was a fence. When they arrived, he was in a back room with a pair of thieves, Lou and Joe, squabbling over some minor pieces of jewelry. Pop told the thieves they should hit some better places instead of playing the small time.

Pop went out front to deal with the Effinghams while the thieves listened from behind a door. Because the two men were running late, they proposed to put on their costumes then and there. They would have the fun of arriving at the Halloween party already disguised.

Lou and Joe thought up the obvious plan. After knocking the Effinghams unconscious during a brief struggle, the thieves stole the costumes and headed for the manor. Already there was one of the invited guests, Britt Reid. Needless to say, Reid was nonplused to learn from Mrs Effingham that her son was going to dress as the Green Hornet. Ah well, he thought, no real harm in that.

The newspaper's reporter Mike Axford, for whom the phrase "blithering idiot" was invented, showed up unexpectedly. The society editor had suddenly taken ill, so he volunteered because he wanted to see high society.

Axford blundered about picking up clues without knowing they were clues. Fortunately he reported back regularly to his boss, so Reid was able to pick up the traces. He telephoned Kato to bring a mask and the Black Beauty car, and park behind the Effingham manor.

The party was disrupted when Lou and Joe pulled guns. They never had a chance when the Green Hornet and Kato jumped in to foil them. The rest was details, although the party goers and police were baffled by two Green Hornets fighting each other. Wasn't that a party?

# Cozy Halloweens.

Laura Childs (pseudonym of Gerry Schmitt) has a food cozy series about Theodosia Browning of Charleston, South Carolina. She operated the Indigo Tea Shop and was the biggest murder magnet in the state.

HAUNTED HIBISCUS (2021) was the 22nd novel in the series. The tea shop was catering a Halloween event at the Bouchard Mansion, supposedly haunted. Attending the party were people dressed as Edgar Allan Poe, Lady Macbeth, and the Headless Horseman (sans both head and horse).

The mansion owner Timothy Neville was hosting a book signing for his grandniece Willow French, whose new book was about true crimes in the Carolinas.

Unfortunately she became the subject of a future book when someone tossed her out a third floor window with a rope around her neck. Said one of the witnesses in Chapter 6: "It was garish." Indeed.

Neville asked Theodosia to investigate. The police? What of them? The alarums multiplied as they so often do, including shootings, a claimant to the mansion, Willow's publisher, and assorted other diversions.

The tea shop was busy as well. Besides the café and takeout counter, they were catering several events, including a Sherlock Holmes soiree. They were also thinking about starting a Tea of the Month Club to boost Internet sales.

The perpetrator came from out of nowhere, a fanatic insanely jealous of Willow's luxurious lifestyle. As everyone knows, published authors are rolling in money and always stay at the finest hotels.

The denouement was a fight between Theodosia and the murderer in a van while it was roaring down the highway at full speed. There was a big smash-up since no steering wheel can serve two masters. Once Theodosia was patched up at the hospital, it was time for healing with food.

The recipes appendix began with Pumpkin Soup since the events happened at Halloween. Then on to Tarragon Chicken Salad, Chai-Flavoured Cupcakes, Crab And Avocado Sandwiches, Southern Peach Crisp, Ham And Corn Muffins, Apple Pudding, Banana Bread, and Pork Tenderloin. All of that washed down with Haunted Hibiscus Cooler (rum optional).

LADY OF BONES (2022) by Carolyn Haines was a novel in a cozy series about Sarah Booth Delaney of Zinnia, Mississippi. Twas Halloween and the bunting was up everywhere.

Sarah was asked to investigate the disappearance of six young women in New Orleans, one every year around Halloween. The suspects were a cult called People of Eternity, or POE for short. Edgar would not be pleased. They believed they could slow the aging process.

The whole gamut of their actions was exposed, from blood sacrifice to brainwashing to murder. Not a pleasant group. Sarah was captured and seemed likely to die at Samhain.

No suspense though, since the reader will know she was booked for the series and would survive. Most of the mess and culprits were left for the NOPD to clean up.

KILL THEM WITH CANVAS (2022) by Bailee Abbott (pseudonym of Kathryn Long) was a novel in a cozy series about sisters Chloe and Izzie Abbington in the lake resort of Whisper Cove, upstate New York.

They carried on the tradition in Marpleism of operating strange businesses that made little economic sense, although in their case they had a family trust fund. Their company Paint With A View catered painting parties. Customers were trotted out to a scenic view, handed a canvas and paints, and told to have at it.

The village was on the shore of Chautauqua Lake. The sisters had been hired for an excursion just before Halloween so the clients could paint The Lady of Chautauqua. She was the local ghost, a woman murdered a century before. Every All Hallows Eve she rose from the lake to haunt passersby.

The sisters' Aunt Constance got into a loud argument with local society leader Viola Finnwinkle, whose corpse was found floating in the lake the next day. The police took the easy way in their investigation, so Constance begged her

nieces for help. The usual family feuds were uncovered, high society squabbles, nor did the trick-or-treat candy escape inspection. The alarums culminated on Halloween night when at least one of the ghosts and ghoulies was the real thing.

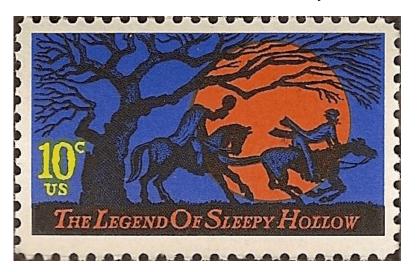
The murderer had killed Viola on the lake dock, left her floating on the water, and then gone back to the painting party. In the final chapter, all the survivors recited missing details of the case to each other and industriously tied off the loose threads.

HOWLOWEEN MURDER (2020) by Laurien Berenson was a novel in a dog cozy series about Melanie Travis of Greenwich, Connecticut. Lots of dogs around, mostly poodles, plus the occasional human corpse. In between dogs and family, Melanie did some sleuthing.

Melanie was involved with a private school called the Howard Academy. One of their staff was Harriet Bloom, who was renowned for her marshmallow puffs. Alas, one of those puffs was flavoured with cyanide and killed Bloom's elderly neighbour.

As the resident Miss Marple, there was no surprise when Melanie was called into the case. The police too, of course. The usual scandal mongering ensued. The deceased had dementia and a daughter who resented having to care for him instead of having her own life.

At the costume party, Melanie dressed as Morticia and her husband Sam as Gomez. The murderer, also in costume, made his move. Not successfully, since Melanie was a continuing character and he wasn't. The book ended with the recipe for Harriet Bloom's Marshmallow Puffs. Sans cyanide.



# IF YOU AREN'T SQUAMOUS, THEN WHY ARE YOU TRYING TO BE ELDRITCH?: PART 21 by Dale Speirs

[Parts 1 to 20 appeared in OPUNTIAs #298, 333, 340, 352, 365, 395, 410, 415, 422, 443, 465, 480, 486, 492, 498, 504, 513, 530, 536, and 549.]

## The Night Gallery.

Rod Serling's television series NIGHT GALLERY often made reference to H.P. Lovecraft, sometimes in passing or sometimes as an adaptation of a story. Serling and the producer Jack Laird also adapted stories by Lovecraft's acolyte August Derleth.

It must be remembered that this was a time when HPL was ignored by the general public. His memory was carried on by only a few devoted fans. Not like today, where there is an entire industry built around the Cthulhu Mythos.

NIGHT GALLERY also used stories based on the Mythos but not of it. I reviewed an episode of this series which made fun of the Mythos, "Professor Peabody's Last Lecture" in issue #480 of this zine.

From the second season of NIGHT GALLERY, "Pickman's Model" aired on 1971-12-01. Unlike HPL's story, the protagonist was female. Set in the 1800s, Mavis Goldsmith was a student of Richard Pickman. She wasn't much more stable than Pickman.

When Pickman told her to paint what she saw, she did. If he saw ghouls in a graveyard, what she saw was just as unsettling. She pursued him romantically and also investigated the stories of ghouls living underground in tunnels beneath the city.

Mavis tracked Pickman to his studio, which was above the entrance to the nether world. One of the ghouls got him but she escaped. She had the underground entrance bricked over.

Flash forward to the present-day, or at least 1971. A new tenant wondered what was the purpose of the bricked-over structure in the basement. He got a pickaxe and began to break it open.

Unlike the usual butchery of stories by Hollywood, this version wasn't too bad. Mavis and the romantic sub-plot were thrown in for the usual studio reasons. The plot, what there was of it, followed the original story fairly closely.

After viewing this episode, I re-read the print story. HPL was always heavily into mood and scenery, which makes some of his works impossible to adapt because nothing happened.

The Pickman story, narrated by a male friend, was mostly setting up the finale, which happened off stage. The ending was telegraphed in a different way, that Pickman was painting the monsters from life.

"Cool Air" was another HPL story anthologized on NIGHT GALLERY, which aired on 1971-12-08. The print story was about Dr Juan Muñoz, who had died 18 years ago but kept himself alive by refrigeration. Came the fateful day when the refrigerator pump failed and could not be repaired in time. He rotted away.

Once again the narrator was changed to a woman and the doctor's name to Munos for no apparent reason. But the basic plot was kept. The denouement was a dark and stormy night riddled with clichés.

#### **Short Stories.**

SHOGGOTHS IN TRAFFIC (2021) was a collection of 23 stories by Tobias S. Buckell. Among the stories was "Shoggoths In Traffic" an interesting take on the Cthulhu Mythos. Someone or some group programmed GPS systems and Google routes to move vehicle traffic in patterns that would summon Lovecraftian nasties.

Instead of having to walk around pentagrams and all that tedious business, Cthulhu's acolytes had travelers re-routed through streets to form pentagrams on behalf of the summoning.

# Chapbooks.

William Meikle published a series of inexpensive chapbooks, each containing three novellas and available from Amazon print-on-demand. "The Colour That Came To Chiswick" (2020) by Meikle (from his chapbook SPORE) was a Sherlock Holmes pastiche mixed in with a HPL story. A brewery hired Holmes to investigate suspected industrial espionage.

Someone had spiked the vats with some sort of green slime that turned the beer into a bitter brew indeed. The sample of green slime sent to Holmes got away from him, not to mention that which was spreading from the brewery out in the country.

The slime digested humans horribly. Holmes and Watson went out to the brewery and found the point of origin was a small hollow meteorite. The slime could be contained with lots of caustic solution or bleach. The question was whether it could be, given how far the slime had been dispersed.

From Meikle's chapbook NURSERY (2020) was "The Petrified Forest". Edward Malone's editor sent him to the coast to cover a story about the discovery of a Jurassic petrified forest. Professor Challenger came along.

The tree trunk sections were excavated and loaded into a luggage car of a train for a trip back to London. Only they weren't fossilized tree trunks. They sprouted tentacles and began sucking railwaymen dry.

They were in fact shoggoths. Much alarm and such, but the invasion was forestalled by setting fire to the luggage van. The railway company was not pleased but the world was saved.

#### Dear Old Alma Mater.

MISKATONIC UNIVERSITY: ELDER GODS 101 (2022) by Matthew and Michael Davenport had as its main protagonist Ralph Allen, although many others filled out the cast. A new scholastic season began, with students checking into dormitories and settling in to classes.

Allen was on a football scholarship (Go Night Gaunts!) and being someone with the Innsmouth look, he was sensitive about his past. His roommate Carlos Davies had his problems as well, being far too perceptive about others and unable to keep his mouth shut.

Other students and faculty were introduced, a long list of characters. Some were descended from the cultists that Lovecraft wrote about a century ago, and others didn't want the descent of those students overlooked. Bigotry wasn't just against skin colour.

The first day of classes was rougher than at most universities. Portions of the Miskatonic campus came unmoored from Earth reality, allowing shoggoths and whatnot to enter. Such as the cafeteria, where students were on the menu.

The university, or at least parts of it, continued to shift in and out of various realities and dimensions as certain Lovecraftian students worked out their personal problems.

Midway through the novel, the plot came to a dead stop in Chapter 11. The Dean of the university and his assistant explained at great length that the campus was not only the gate to other realities but the anchor of our reality.

The campus was working its way loose from its dimensional foundations. That explained the problems with the reality shifts. If the Final Break, as the Dean capitalized it, occurred, then the end of the universe was nigh.

The students with Lovecraftian connections were needed to prevent the crisis. They included an Innsmouthian, a Dunwich descendant, a grandniece of Herbert West the reanimator, and a woman who could see into the angles of other dimensions.

Off they went, fighting cultists and things that came from between the dimensions. There were alarums left, right, centre, and in the angles between the spaces. The novel finished up with a battle on campus between the Lovecraftians and the cultists.

Messy and traumatizing to bystanders, but finally the cultists were stymied in their plan to unmoor the university from this reality. And so back to classes.

CROSS AND MISKATONIC UNIVERSITY (2021) by Nicholas E. Efstathiou was a chapbook of vignettes about the Cross satellite campus of Miskatonic University. I got my copy from Amazon print-on-demand.

The narrator was Duncan Blood, who hated the university and its staff. He was centuries old and considered himself the guardian of all in the Cross district. Blood regularly murdered individuals from the staff.

They in turn sent assassins, whom Blood shot on sight without any exchange of quips like Hollywood movies. Both sides dealt with eldritch horrors lurking about the countryside, one reason why the Cross campus had been established.

The university purchased many artifacts they ought not to have bought. As a consequence, there was considerable attrition of faculty and staff, with few of them living long enough to collect their pensions. There are many ways to die in the Mythos, none of them pleasant.

Each vignette was tied to an antique photo which the author used as inspiration for a brief story. They tended to get bloodier as they go along, but messing with the Mythos is not for the faint of heart.

#### **WEIRD FICTION: PART 9**

by Dale Speirs

[Parts 1 to 8 appeared in OPUNTIAs #412, 458, 484, 493, 501, 511, 536, and 542.]

## Ye Olde Weird.

THE HALL OF FANTASY aired on radio from Chicago for the 1952-53 season. Richard Thorne wrote and directed the episodes.

"The Golden Bracelet Of Amoniris" aired on 1953-08-03. The narrator Andrew had gone to Egypt with an archaeological expedition led by Dr Jason Freeman and Professor Porter. They got lucky and found an untouched tomb, that of Queen Amoniris.

As they looted the tomb, they heard a female voice whispering a curse. In English, a language that didn't exist until 5,000 years after the dynasty. Somewhere in the distance a jackal howled.

They unwrapped the mummy, which had a gold bracelet on its wrist in the form of a snake. Porter thought he saw the snake move and turned into a nervous ninny. He was reprimanded by Freeman. A jackal howled. They left the tomb for the night.

In the dark of the early morning they heard a scream from the tomb. Rushing over, they found a dead labourer wearing the bracelet. He had a snake bite on his wrist. Porter blubbered and in the distance a jackal howled. Both annoyed everyone else.

They continued to loot, pardon me, excavate the tomb. A few weeks later they were back in America with the mummy and jewelry. Freeman gave the bracelet to his wife Laura.

The mummy broke loose from the museum. The story paused for an infodump on the biography, death, and curse of Amoniris. In the background, a jackal howled. What, in an American city?

Laura took off the bracelet, Porter blithered, that damn jackal kept howling, and Andrew correctly predicted the mummy would show up at the Freeman house.

It did. They threw some kerosene-soaked rags on the mummy and ignited them, burning down the Freeman house in the process. Nothing was left and the bracelet melted down into a lump. The best news was that the jackal finally shut up.

"Mrs Hyde" by David Dean (2023 Mar/Apr, ELLERY QUEEN MYSTERY MAGAZINE) began with an appeal to Dr Beckett Marchland by Mrs Edward Hyde. Her husband was being treated by a quack named Dr Henry Jekyll.

When Marchland investigated, he learned there was no Mrs Hyde and Edward was a fugitive wanted for murder. In due time Marchland confronted Hyde/Hyde's housekeeper/Jekyll, all one and the same person. Marchland killed him/her/him or them, whichever pronoun you prefer.

WELCOME TO NIGHT VALE (2015) by Joseph Fink and Jeffrey Cranor was a novel based on a humourous podcast series. I reviewed a few episodes in OPUNTIA #370. This series continues online at welcometonightvale.com

The basic premise of the show is the town of Night Vale, somewhere in the American Southwest desert. All conspiracy theories are true there. The inhabitants go about their daily lives without fretting over those mysterious lights in the sky or aliens wandering about. The citizens were free to do as they were told.

Think of the novel as soap opera with interdimensional beings. Community events included the Imaginary Corn Festival, Free Sample Day at the funeral home, and Smell Like A Pirate Day.

The Sheriff had his own secret police, who would issue press releases and then retract them the next day. The Night Vale Council for Language Management ordered citizens to used new definitions for words. Lots of black helicopters flying around.

"The Beelzebub Wish" by Norman Daniels (1967 September, MAN FROM UNCLE MAGAZINE) was a deal-with-the-devil story. Ted Kimball saw Satan, on vacation on Earth, doing a good deed and helping a little old lady across the street. Kimball blackmailed Satan for doing a good deed, then got him to do a second good deed. With that, he was satisfied. To remember the story by, he took a handwritten chapbook by Satan as a souvenir.

## **Ghoul Hunters.**

Victoria Laurie wrote a series about ghost hunters, not quite cozies but more humourous than standard ghost stories. The narrator was M.J. Holliday, who had two partners, Gilley Gillespie and Dr Steven Sable.

The latter financed the operation as a hobby. He was also canoodling with M.J. as more than a hobby. She called him Dr Delicious. He was handsome and rich. What else is there?

DEMONS ARE A GHOUL'S BEST FRIEND (2008) took the trio to Lake Placid, New York, where a ghost known as Hatchet Jack was haunting a boarding school. No prizes for guessing why he was called that.

His hobby was chasing students. His image didn't show up on security cameras, so it was safe to say he was a real ghost and not a cosplayer. The school management were not happy about the circumstances and thus uncooperative.

Hatchet Jack would not go quietly into the night and M.J.'s crew had many alarums. M.J. decided to block the portal the ghost came through and seal it with magnetized stakes. The problem was to locate the portal. Eventually they did.

The denouement was a complicated explanation of Hatchet Jack's life and times. Not pleasant reading because he was a child molester and serial killer. Then it was the school dean's turn, for he had his own sins to repent.

GHOULS JUST HAUNT TO HAVE FUN (2009) took M.J. Holliday and her crew to San Francisco. They were paid by a television show HAUNTED POSSESSIONS to stay at a haunted hotel. Unfortunately a portal was opened and in came a demon to do all the nasty acts that demons do.

Not just a matter of screaming and making eldritch noises either. M.J. and her crew got a goodly share of knife slashes and bruises. Lots of shouting and running up and down the hotel corridors. Besides the demon, the crew were deghosting the hotel of spectral guests who had committed suicide or been murdered over the past century.

As Gillie said: "We'll know if things go bad. The screaming, running, and general pandemonium should alert us." The noise did in fact rise to a crescendo, especially after the crew realized there were flesh-and-blood hotel thieves using the ghosts as a cover to loot the place.

The only baffling part, for me at least, was that the real thieves were stealing wall mirrors out of the hotel rooms. Jewels and watches I could understand but I find it difficult to believe there is an underground market for mirrors.

GHOULS GONE WILD (2010) moved the action to a Scottish village near Edinburgh. M.J. Holliday and company were filming a new cable television series called GHOUL GETTERS. The locale was a set of haunted caverns where a century ago seven witches had been murdered by the villagers.

The legend was that once a century, seven villagers would die from the witches' vengeance. Having found the body of a maintenance worker freshly dead in the caverns, M.J. and the crew wondered if now was the time or if someone was settling a more modern grudge.

The producer was Peter Gophner, commonly known as Gopher. He was jittery at the best of times and the caverns were not the best of times. The story alternated between alarums and infodumps about local history and ghosts in general.

The crew did get lots of good footage for the show. The ghosts of the original witches put in an appearance and were not happy to see anyone. Matters were not helped by their modern descendants joining in the fray. Lots of screaming and physical altercations before the finale ended.

# **Ghost Skeptics.**

Tamara Berry had a cozy series about Eleanor Wilde, a ghost hunter who operated a cleansing service. For those who believed their house was haunted, she would rid them of the ghost. For a suitable fee, of course, meaning several thousand dollars. Eleanor didn't believe in ghosts but she had a sister in long-term care and the medical bills were very high.

SEANCES ARE FOR SUCKERS (2018) by was the first novel in the series. Nicholas Hartford III of Castle Hartford, England, was plagued by his mother's belief that the stately pile was haunted.

He was a skeptic like Eleanor and hired her to come across the Atlantic to clean up the place. For all of her clients, Eleanor was very good at faking ghosts and their subsequent demise, using a variety of cutting-edge SFX.

At Castle Hartford her main problem was a real corpse, which came and went. Nothing to do with ghosts but someone involved in sharp practice. There was also a skeleton in the closet, and not just figuratively.

The police were antagonistic to Eleanor, and the feeling was mutual. She remarked: "I cannot and will not respect a man named Inspector Peter Piper.", as indeed he was.

There were family matters that almost got Eleanor killed at the final seancé, one for which the murderer brought her own SFX. The motive was the fate of the castle and the estate funds. Too bad people had to die to settle the matter. There were no ghosts to mourn.

POTIONS ARE FOR PUSHOVERS (2019) was the sequel. Eleanor Wilde settled into a thatched cottage (the roof leaked like a sieve) where she sold fake potions and spells, aided by some clever trickery. She was courting Nicholas Hartford III but that wasn't going well.

She agreed to volunteer for the village fete in the hopes that the villagers would grow to like her. The first organizational meeting didn't go well. One of the committee Sarah Blackthorne keeled over dead from poisoning. One of Eleanor's potion vials was on the body.

Inspector Peter Piper was on the case. Because Eleanor was operating without a business licence or paying VAT, this gave Piper a hold on her. Conversely, since she was dating the lord of the manor, Piper had to step carefully. He was also on a tight budget, so reluctantly let Eleanor investigate unofficially with him.

Eleanor's comatose sister Winnie had died and her ghost now haunted her. Since she died on the other side of the Atlantic, this made the reader wonder if a ghost had actually flown over or was entirely in Eleanor's mind. Winnie was a cheerful lost soul, so the haunting wasn't in a bad way, but she could be annoying with her interruptions.

During the course of her investigations, Eleanor picked up two apprentice witches. They had the killer spotted as a werewolf. The alarums alternated with cries of "Witch! Witch!", so Eleanor's plan to win over the villagers didn't work that well.

Eventually the motive for the murder came out. Blackthorne was a blackmailer, a category of scoundrels who tend to have a shortened lifespan.

#### Paranormal Cozies.

According to her biography, Carol J. Perry truly was born in Salem, Massachusetts, on Halloween Day. Be that as it may, her paranormal cozies set in Salem are presumably not autobiographical. The protagonist of her Witch City Mysteries series was Lee Barrett, assisted by her psychic cat O'Ryan.

CAUGHT DEAD HANDED (2014) was the first novel in the series. Lee Barrett took a job at WICH-TV as a call-in psychic and late-night horror movie host. Her predecessor Ariel Constellation had failed to foresee her own murder.

Lee inherited Ariel's obsidian ball to gaze into and see the future, and a cat named O'Ryan. Both had magical powers. Lee had found Ariel's body, which gave her Miss Marple rights. Or perhaps I should say Fletchering rights, since Salem is a seaport just down the coast from Maine.

The death toll increased, plus the rioting between Wiccans and Christian fundamentalists. There's never a dull moment in Salem. Lee's sleuthing uncovered some nasty family abuse stories, culminating in a knife fight in a burning building. O'Ryan saved the day by pouncing with all claws extended.

TAILS, YOU LOSE (2015) had Lee Barrett volunteering at the Tabitha Trumbull Academy of Arts, formerly Trumbull's Department Store. The class she was teaching were researching the history of the store, which had a network of tunnels below the streets of Salem.

Bill Sullivan, the handyman who looked after the building, was murdered while on the job. Strangely, his body was found on the waterfront, not in the store. The academy carried on.

Lee soon learned there were three ghosts in the building. They provided a focus for her students to film a documentary about the store's history. The tunnels, once discovered, proved to have a long history with smugglers, from liquor trafficking in the 1920s to IRA gun-running in the 1980s, and, what got everyone's attention, a possible hiding place for gold treasure.

The denouement was a standard Jessica Fletcher trapped-by-the-killer down in the tunnels. Lee did, however, have the help of O'Ryan the cat and Tabitha the ghost. The gold was found, but also a second treasure, a complete set of PLAYBOY magazines in mint condition from the first issue in 1953. Nobody saw that coming.

# Vampires.

MRS MORRIS AND THE VAMPIRE (2021) by Traci Wilton (pseudonym of Patrice Wilton and Traci Hall) was a novel in a cozy series about Charlene Morris of Salem, Massachusetts. She operated a bed-and-breakfast in a haunted house.

Halloween was nigh, a much bigger deal in Salem than other places for obvious reasons. The main conflict began when neighbour Brandy Flint objected to her daughter Serenity's new boyfriend, a much older man Alaric Mayer, who claimed to be a Romanian vampire.

He stayed at Charlene's bed-and-breakfast but one night as the clock ticked over midnight, the lights suddenly dimmed. He vanished, leaving only his cape and a wooden stake with blood on the tip. The next morning his naked body washed ashore with a stab wound through his heart. Nice trick if you can do it.

Not long after, another wannabe vampire, a friend of Alaric, took a dive from a high window. Did he jump or was he pushed? Charlene played the idiot and got herself trapped with the killer.

Alaric had been a gang leader in New Orleans. He wanted to move his operation to Salem, causing very serious, indeed fatal objections from an existing gang in Salem.

## Sourcery.

MRS MORRIS AND THE SORCERESS (2021) began with Charlene Morris watching a play starring Madison Boswell, an actress late of Boston. A prop gun had a real bullet in it, making her late of Salem.

There were a plentitude of suspects, from rival actresses to jealous wives who hadn't liked Madison fooling around with their menfolk. Supposedly she had been a sorceress, but eventually a more prosaic explanation appeared. She had been a hypnotherapist and used her ability for immoral purposes.

The sleuthing proceeded in both this world and the netherworld. There were several false endings. One suspect had tried to make the theatre appear haunted with several homemade SFX.

In the end, a talent agent was exposed as the murderer. He wanted Madison in more ways than one but she had been too busy sleeping around.

#### Weird Detectives.

SUPERNATURAL SHERLOCKS (2017) was an anthology of 15 stories edited by Nick Rennison. The theme was occult detective stories from 1890 to 1930. Some were by familiar names such as Rudyard Kipling, Sir Arthur Conan Doyle, and H.P. Lovecraft, while many of the other authors have since been forgotten.

In his introduction, Rennison started the period with Flaxman Low, an occult detective created by Kate Prichard and her son Hesketh, writing as E. and H. Heron. After World War One, occultism boomed because of the magnitude of

casualties during the war. Millions of people were desperate to communicate with their loved ones killed in action.

To pick but one story from this anthology, "Number Ninety" (1895) by B.M. Croker (pseudonym of Bithia Mary Sheppard) was about a London mansion no one wanted to rent. Supposedly it was haunted but John Hollyoak accepted a challenge from his friends to stay there for one night.

He was in his bedroom in the empty house when a footman knocked on the door and told him that dinner was served. Hollyoak went downstairs and found the house bright and lively with people dressed in the fashion of the 1700s. The host beckoned him to sit and be merry with them.

On a surmise, he loudly recited a Latin prayer. Suddenly all vanished and he found the house dusty and vacant again. Hollyoak later went back a second time but did not survive. His friends found his body the next morning.

THOSE WHO FIGHT MONSTERS (2011) was an anthology of 14 stories edited by Justin Gustainis. The theme was occult investigators who dealt with ghoulies, ghosties, and long leggety beasties that went bump in the night.

Gustainis mentioned in his foreword that detective stories such as these date back to the middle 1800s. They are no new trend. A few stories in this anthology herewith.

"Little Better Than A Beast" by T.A. Pratt was about an unstoppable monster plaguing the city of Felport. The resident sorcerer Everett Malkin couldn't stop the indestructible beast so he threw it 400 years into the future. Let his successors handle the monster.

Marla Mason was one of those successors, the Chief Sorcerer 400 years hence. Malkin had been caught in the time trap with the beast. He was a psychopath not much better than the monster.

The future city had advanced technology alongside magic. Spells could not stop the beast but tranquilizer darts with heavy-duty sedatives worked. Brain implants were then installed. The beast thenceforth hibernated in a dungeon cell, thinking it was roaming free in a landscape before Felport was founded. Malkin was committed into an insane asylum since psychopaths are incurable.

"Dusted" by Laura Anne Gilman was about a private eye hired by anxious parents to locate their wayward teenage daughter. She had been lured by the fey folk down into the underworld of the big city, to live in abandoned tunnels.

Just grabbing her and dragging her out wouldn't work. She had to be lured back up to the city. Not an easy task, with no guarantee that she wouldn't go back again on her own like a drug addict yearning for just one more fix.

"Deal Breaker" by Justin Gustainis was about a private investigator Quincey Morris hired by a client Trevor Stone, a man foolish enough to make a deal with the Devil. Now the payment, his soul, was due at midnight.

As they waited for the clock to strike midnight, Morris slipped Stone a mickey in his drink, putting him to sleep good and deep. The Devil arrived in due time. The contract said the soul was to be claimed at midnight.

Morris held the Devil to the language of the contract. Exactly at midnight, not earlier or after. Nothing was written about Stone being conscious at the time. The soul could not be taken if the victim was solidly unconscious.

## Weird Anthologies.

ALTERNATE PLAINS (2021) was an anthology of 12 stories edited by Darren Ridgley and Adam Petrash. The stated theme was alternative history of the Canadian prairie provinces but the stories were instead fantasy and horror set in the prairies.

As an example, "The Slough" by Sheryl Normandeau was about a demon living in the black muck of a farm slough in east central Alberta. The beast demanded a sacrifice every so often, elsewise the crops would fail.

I skimmed the other stories but have to say I wasn't impressed. They were mostly a mixture of angst and foreboding, the kind that college writing courses teach. This book went to a local Little Free Library.

#### Gimme That Old Time Radio.

BOX 13 was a syndicated radio series in 1947 and 1948. In those days, syndication meant each episode was transcribed to a vinyl LP and sold to radio stations, who could play it as many times as they liked. Available as free

downloads from the Old Time Radio Researchers at www.otrr.org/OTRRLibrary

Dan Holiday was a mystery novelist who had trouble thinking of plots. He ran a classified ad in a newspaper that he was looking for adventure and would help people with their problems. His mailing address was in care of Box 13 at the newspaper.

"Death Is A Doll" aired on 1948-06-13 and was written by Clark Wilbur. The letter writer Doris Gordon wrote about a physically healthy man named Bart Lafay. He was slowly dying because he had been hexed by a voodoo doll.

So off to the bayous of Louisiana went Dan Holiday. Posing as Doris's cousin, Holiday couldn't shake the psychosomatic problem afflicting Bart. The local doctor was adamant that voodoo was nonsense. The cure was to find out who started the curse.

Someone tossed a bad-luck charm into Bart's room to reinforce the curse. Holiday went into the village to talk to the folk. They were friendly until he mentioned Bart's name.

However he did find a couple of people who would help to a degree. Into the dark of the bayou they went searching for a voodoo queen. They found her and snatched the doll she was using against Bart. Problem solved.

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.

"Murder By Prophecy" aired on 1948-09-27. The opening sequence was the hysterics of a man trapped inside a tomb, screaming and crying for help. Then a jump cut to him, Ted Lyon by name, narrating in a calm voice the back story.

He had come to Hillcrest to claim an inheritance, a decrepit mansion called Highgate that was a white elephant. No cash or valuables. Entering the hulk, he found an elderly man Ellery Waters studying in Zinga's library. Waters told Lyon that he was transcribing Zinga's writings. Lyon let him continue. Eventually Waters discovered that great wealth was hidden in the estate.

Lyon's great-grandfather Daniel Zinga made prophecies, one of which was that a lion would inherit the family mansion, capture a jewel from a king, and sit with a fortune at his feet.

The detailed prophecy mentioned that first the lion would silence the waters. The old man ran as soon as he read that out loud but Lyon got him quickly. A month went by but nothing happened.

Lyon was bored and wandered about town. He found himself at the train station where he saw a lush woman disembarking. He offered to carry her bags to the hotel. She said her name was Ruby Meyer.

She was an advance agent publicizing an upcoming boxing match in Hillcrest. The two became a couple. She mentioned in passing the boxer's stage name was The King and was her boyfriend. So much for that prophecy.

After killing The King and burying him in a ditch, Lyon married Ruby. Waiting for the third part of the prophecy, nothing happened except to make Ruby suffer. She came across the prophecies and realized what was happening. He killed her.

One step after another. Lyon's quest led him to Zinga's mausoleum where he was trapped inside with the treasure. He sat there with the fortune at his feet, unable to escape.

QUIET PLEASE was an anthology series of weird fiction and science fiction that aired on radio from 1947 to 1949, written and produced by Wyllis Cooper.

"Come In, Eddie" aired on 1947-12-01. The narrator Jim was visiting a friend Arnold whose house once belonged to Eddie. The implication was that Arnold got the house under questionable circumstances.

Arnold was defensive about how he got the house. He had a guilty conscience about something. The truth came out when the narrator talked of Eddie's murder by the two men, making Arnold even more jittery.

Jim noticed the door into the room was open. He said "Come in, Eddie", after which the door slowly creaked closed. Eddie was Arnold's wealthy cousin, murdered six years ago. Jim wanted \$20,000 from Arnold.

Eddie's ghost seemed to haunt the place, terrifying Arnold while Jim remained complacent. The two men squabbled over the blackmail. The psychological warfare continued and devolved into screaming and running, this time by Jim.

Jim fell dead from the excitement. The police arrived, having been tipped off by a telephone call from Eddie.

"Baker's Dozen" aired on 1948-01-19. The narrator Irving began by describing himself as a quarrelsome drunk who beat his wife, but considered himself as a reasonably good guy.

His main story was about a murder trial during which he sat in the jury box. The deceased was described by a witness as a mean drunk. As the narration proceeded, the listener will develop a presumption about one-third of the way through the episode.

At the halfway point, the presumption became obvious. The prosecutor stopped a moment to count the jury and verify there were twelve of them. The narrator counted 13 and shouted at the top of his lungs but no one paid him any attention.

The trial continued. Eventually the narrator realized he was a ghost. His wife Elsa was on trial for murdering him after he assaulted her for what proved to be the last time. She testified in her own defence that she hit him with a clothes iron to protect herself.

As she left the stand, she looked at the narrator. She was only person in the courtroom who could see him. The narrator followed her out of the courtroom but found himself in a time loop back at the apartment. She was at the ironing board.

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.

"Can't You Do Anything Right?" was written by Ken Gerard. The episode opened with the host Claude reeling off a stream on one-liners that need not be repeated here. Thence to the characters, a married couple Phillip and Edith, squabbling after a bridge game with friends.

He was fed up with her constantly redecorating the house and expecting him to do the labour. Edith fought with everyone. Phillip lost his temper and smacked her hard. They separated for good.

She kept decorating. He trashed her work, then tied her up and sealed her mouth with paneling glue. Leaving her to starve, he took his things and left. Weeks later, Phillip got a telephone call from Edith. He could barely understand her, as if she had her mouth full. She asked "Can't you do anything right?"

THE WITCH'S TALE aired from 1931 until 1938 during the beginnings of broadcast radio. Available as free mp3s from the Old Time Radio Researchers at www.otrr.org/OTRRLibrary

The narrator was a witch named Old Nancy, who did a lot of cackling, supposedly to add colour but very annoying in the aggregate. Perhaps it wasn't so wrong to burn witches after all.

"The Bronze Venus" aired on 1931-07-02 and was written by Alonzo Deen Cole. The script was adapted from "La Vénus d'Ille" (1837) by Prosper Mérimée. The sculpture in question was found in a French farmer's field and dated to the Roman occupation. The cast had a variety of accents ranging from Hollywood French to middle-class London to mid-American.

The statue was full-sized and the men commented how lifelike it looked. The women were jealous. The peasants were terrified. Such was life in the French countryside of 1931.

One of the archaeologists found a ring at the site. He put it on a finger of the statue in a mockery of a marriage ceremony. The Venus statue then came to life and crushed him in its arms. Til death do us part.

At right: I'm a teetotaler myself, but when walking past a liquor store I saw this brand. I took a smartphone photo to illustrate this issue.



#### 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 #397 (US \$15 per year from The Fossils, c/o Tom Parson, 157 South Logan Street, Denver, Colorado 80209) This publication covers the history of zine publishing since the 1870s, more specifically organized groups called amateur press associations.

The issue at hand discusses the history of the Young Women's APA, founded in 1885. Biographical sketches of the prime organizers are included, based on old zine reports and genealogical research.

#### SEEN IN THE LITERATURE

# Astronomy.

Ryder, S.D., et al (2023) A luminous fast radio burst that probes the Universe at redshift 1. SCIENCE 382:doi.org/10.1126/science.adf2678

[The galaxy producing the fast burst has a redshift of 1, about halfway to the edge of the universe, or about 6.6 billion light years.]

Authors' abstract: Fast radio bursts (FRBs) are millisecond-duration pulses of radio emission originating from extragalactic distances. Radio dispersion is imparted on each burst by intervening plasma, mostly located in the intergalactic medium.

In this work, we observe the burst FRB 20220610A and localize it to a morphologically complex host galaxy system at redshift  $1.016 \pm 0.002$ . The burst redshift and dispersion measure are consistent with passage through a substantial column of plasma in the intergalactic medium and extend the relationship between those quantities measured at lower redshift.

The burst shows evidence for passage through additional turbulent magnetized plasma, potentially associated with the host galaxy. We use the burst energy of  $2 \times 10$  erg to revise the empirical maximum energy of an FRB.

Bard, E., et al (2023) A radiocarbon spike at 14,300 cal yr BP in subfossil trees provides the impulse response function of the global carbon cycle during the Late Glacial. PHILOSOPHICAL TRANSACTIONS OF THE ROYAL SOCIETY OF LONDON 381A:doi.org/10.1098/rsta.2022.0206 (available as a free pdf)

[The title of this article neglected to tell potential readers that the paper was about a massive solar flare that today would cripple our telecommunications and crash the world economy.]

Authors' abstract: We present new <sup>14</sup>C results measured on subfossil Scots Pines recovered in the eroded banks of the Drouzet watercourse in the Southern French Alps. About 400 new <sup>14</sup>C ages have been analysed on 15 trees sampled at annual resolution.

The resulting <sup>14</sup>C record exhibits an abrupt spike occurring in a single year at 14,300 to 14,299 calendar year before present and a century long event between 14 and 13.9 cal kiloyears BP.

In order to identify the causes of these events, we compare the Drouzet <sup>14</sup>C record with simulations of <sup>14</sup>C based on the <sup>10</sup>Be record in Greenland ice used as an input of a carbon cycle model.

The correspondence with <sup>10</sup>Be anomalies allows us to propose the 14.3 cal kyr BP event as a solar energetic particle event. By contrast, the 14 cal kyr BP event lasted about a century and is most probably a common Maunder-type solar minimum linked to the modulation of galactic cosmic particles by the heliomagnetic field.

We also discuss and speculate about the synchroneity and the possible causes of the 14 cal kyr BP event with the brief cold phase called Older Dryas, which separates the Bølling and Allerød millennium-long warm phases of the Late Glacial period.

Hall, Shannon (2023) **Huge new satellite outshines nearly every star in the sky.** NATURE 622:223-224 (available as a free pdf)

[Confusingly, the lower the magnitude of a space object, the brighter in the sky.]

Authors' extracts: Telecommunications firm AST SpaceMobile in Midland, Texas, launched BlueWalker 3 on 10 September 2022 as a prototype for a satellite fleet designed to make mobile broadband available almost anywhere.

The satellite's huge array of antennas and its white colour mean that it reflects a considerable amount of sunlight back towards Earth, making it shine even at twilight.

On 10 November 2022, the satellite unfurled its array of antennas, causing it to brighten to magnitude +0.4. If it were a star, it would have been one of the ten brightest in the sky.

But its apparent brightness changes as the satellite rotates, and by late December, it had dimmed to a magnitude of +6. It then brightened again, reaching magnitude +0.4 once more on 3 April 2023.

The International Astronomical Union, a group of professional astronomers, recommends that artificial satellites in low Earth orbit have a maximum brightness of magnitude +7.

[Image is from this paper and shows the trail of BlueWalker 3.]



#### Galaxies.

[Most galaxies, including our own Milky Way, rotate around a massive black hole. As matter falls into the black hole, beams of intense radiation are emitted perpendicular to the disk of the galaxy.]

[The next two papers discuss the beams emitted by the galaxy M-87. The beams not only wobble (precession), but when they hit stars they trigger novas.]

Lessing, A.M., et al (2023) A 9-month Hubble Space Telescope Near-UV Survey of M87. II. A strongly enhanced nova rate near the jet of M87. PREPRINT doi.org/arXiv:2309.16856v1[astro-ph.HE] www.arXiv.org (available as a free pdf)

Authors' abstract: The 135 classical novae that we have discovered in M87 with two Hubble Space Telescope imaging surveys appear to be strongly concentrated along that galaxy's jet. Detailed simulations show that the likelihood that this distribution occurred by chance is of order 0.3%.

The novae near the jet display outburst characteristics (peak luminosities, colors and decline rates) that are indistinguishable from novae far from the jet. We explore whether the remarkable nova distribution could be caused by the jet's irradiation of the hydrogen-rich donors in M87's cataclysmic binaries.

This explanation, and others extant in the literature which rely on increased binary mass transfer rates, fail by orders of magnitude in explaining the enhanced nova rate near the jet.

An alternate explanation is the presence of a genuine surplus of nova binary systems near the jet, perhaps due to jet-induced star formation.

This explanation fails to explain the lack of nova enhancement along M87's counterjet. The enhanced rate of novae along M87's jet is now firmly established, and unexplained.

Cui, Y., et al (2023) Precessing jet nozzle connecting to a spinning black hole in M87. NATURE 621:doi.org/10.1038/s41586-023-06479-6 (available as a free pdf)

Authors' abstract: The nearby radio galaxy M87 offers a unique opportunity to explore the connections between the central supermassive black hole and relativistic jets.

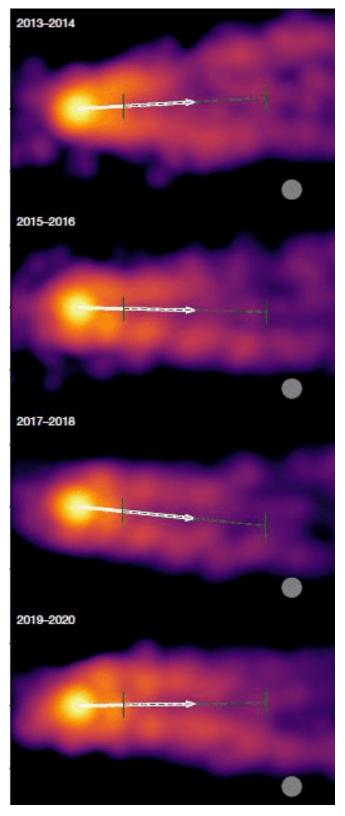
Previous studies of the inner region of M87 revealed a wide opening angle for the jet originating near the black hole. The Event Horizon Telescope resolved the central radio source and found an asymmetric ring structure consistent with expectations from general relativity.

With a baseline of 17 years of observations, there was a shift in the jet's transverse position, possibly arising from an 8- to 10-year quasi-periodicity. However, the origin of this sideways shift remains unclear.

Here we report an analysis of radio observations over 22 years that suggests a period of about 11 years for the variation in the position angle of the jet. We infer that we are seeing a spinning black hole that induces the Lense-Thirring precession of a misaligned accretion disk.

Similar jet precession may commonly occur in other active galactic nuclei but has been challenging to detect owing to the small magnitude and long period of the variation.

[Images are from this paper and show the wobbling beam over the past two decades.]



#### Planets.

Kenworthy, M., et al (2023) A planetary collision afterglow and transit of the resultant debris cloud. NATURE 622:doi.org/10.1038/s41586-023-06573-9 (available as a free pdf)

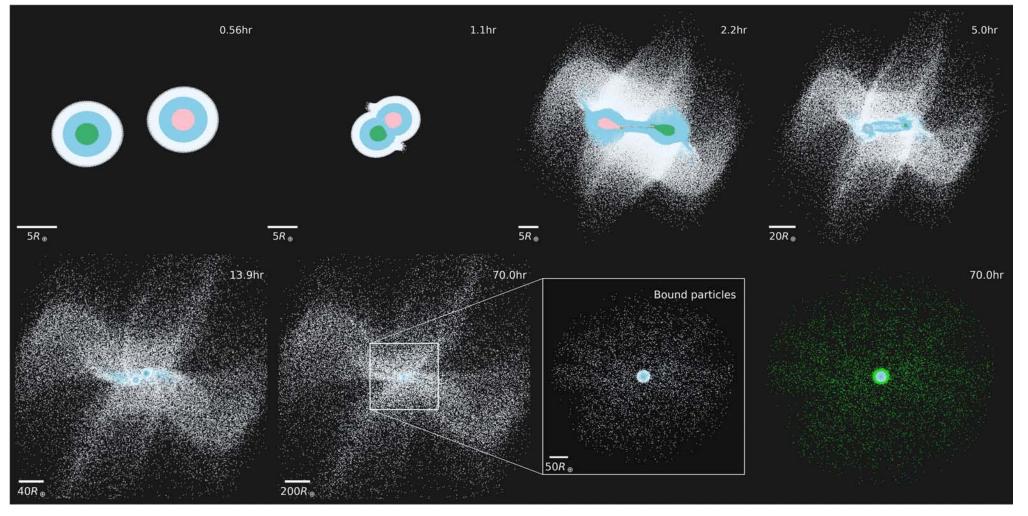
[Images are from this paper and show how the two planets would have collided and then formed a spiral dust cloud.]

Authors' abstract: Planets grow in rotating disks of dust and gas around forming stars, some of which can subsequently collide in giant impacts after the gas component is removed from the disk.

Monitoring programmes with the warm Spitzer mission have recorded substantial and rapid changes in mid-infrared output for several stars, interpreted as variations in the surface area of warm, dusty material ejected by planetary-scale collisions and heated by the central star: for example, NGC 2354–ID8, HD 166191 and V488 Persei.

Here we report combined observations of the young (about 300 million years old), solar-like star ASASSN-21qj: an infrared brightening consistent with a blackbody temperature of 1,000 Kelvin and a luminosity that is 4 percent that of the star lasting for about 1,000 days, partially overlapping in time with a complex and deep, wavelength-dependent optical eclipse that lasted for about 500 days.

The optical eclipse started 2.5 years after the infrared brightening, implying an orbital period of at least that duration. These observations are consistent with a collision between two exoplanets of several to tens of Earth masses at 2 to 16 astronomical units from the central star.



Naponiello, L., et al (2023) **A super-massive Neptune-sized planet.** NATURE 622:doi.org/10.1038/s41586-023-06499-2 (available as a free pdf)

[A planet made mostly of steel.]

[Images show two possible methods by which TOI-1853b could have formed.]

Authors' abstract: Neptune-sized planets exhibit a wide range of compositions and densities, depending on factors related to their formation and evolution

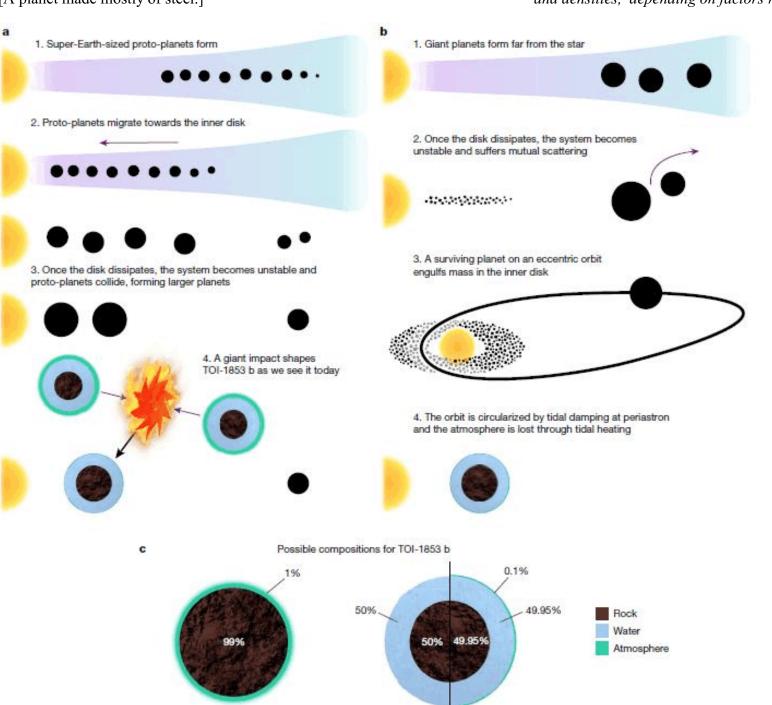
history, such as the distance from their host stars and atmospheric escape processes.

They can vary from relatively low-density planets with thick hydrogen-helium atmospheres to higher-density planets with a substantial amount of water or a rocky interior with a thinner atmosphere, such as HD 95338b, TOI-849b, and TOI-2196b.

The discovery of exoplanets in the hot-Neptune desert, a region close to the host stars with a deficit of Neptune-sized planets, provides insights into the formation and evolution of planetary systems, including the existence of this region itself.

Here we show observations of the transiting planet TOI-1853b, which has a radius of  $3.46 \pm 0.08$  Earth radii and orbits a dwarf star every 1.24 days.

This planet has a mass of  $73.2 \pm 2.7$  Earth masses, almost twice that of any other Neptune-sized planet known so far, and a density of  $9.7 \pm 0.8$  grams per cubic centimetre.



Marchi, S., et al (2023) Long-lived volcanic resurfacing of Venus driven by e a rly collisions. NATURE ASTRONOMY 7:doi.org/10.1038/s41550-023-02037-2

Authors' abstract: The geodynamics of Earth and Venus operate in strikingly distinct ways, in spite of their similar size and bulk density, resulting in Venus's absence of plate tectonics and young surface age (0.2 to 1 billion years).

Venus's geophysical models have sought to explain these observations by invoking either stagnant lid tectonics and protracted volcanic resurfacing, or by a late episode of catastrophic mantle overturn.

These scenarios, however, are sensitive to poorly understood internal initial conditions and rheological properties, and their ability to explain Venus's young surface age remains unclear.

Here we show that long-lived volcanism, driven by early, energetic collisions on Venus, offers an explanation of its young surface age with stagnant lid tectonics. This volcanic activity is fuelled by a superheated core, resulting in vigorous internal melting regardless of initial conditions.

Furthermore, we find that energetic impacts stir Venus's core, suggesting that its low magnetic field is not likely to be caused by a compositionally stratified core, as previously proposed.

Greer, J., et al (2023) **4.46 Ga zircons anchor chronology of lunar magma ocean.** GEOCHEMICAL PERSPECTIVES LETTERS 27:doi.org/10.7185/geochemlet.2334 (available as a free pdf)

Authors' abstract: The crystallisation ages of lunar samples provide critical constraints on the minimum formation age of the Moon and its early evolution. Zircon crystals from Apollo 17 lunar impact melt breccia 72255 preserve ancient domains with a concordant average uranium-lead radiometric date of  $4,460 \pm 31$  megayears ago, the oldest lunar zircon yet reported.

To assess the possible mobility of radiogenic lead in zircon, which may lead to redistribution and clustering of Pb atoms that may cause a U-Pb age bias, we investigated a zircon grain by atom probe tomography (APT).

The atomic spatial resolution analysis of individual mineral grains demonstrates the absence of nanoscale clustering of lead, which supports a 4.46 gigayears ancient formation age for lunar zircon in sample 72255.

This age pushes back the age of the first preserved lunar crust by  $\sim$ 40 megayears and provides a minimum formation age for the Moon within 110 megayears after the formation of the solar system.

Fernando, B., et al (2023) **A tectonic origin for the largest Marsquake observed by InSight.** GEOPHYSICAL RESEARCH LETTERS 50:doi.org/10.1029/2023GL103619 (available as a free pdf)

Authors' abstract: The S1222a Marsquake detected by InSight on 4 May 2022 was the largest of the mission, at magnitude 4.7. Given its resemblance to two other large seismic events (S1000a and S1094b), which were associated with the formation of fresh craters, we undertook a search for a fresh crater associated with S1222a.

Such a crater would be expected to be  $\sim$ 300 metres in diameter and have a blast zone on the order of 180 km across. Orbital images were targeted and searched as part of an international, multi-mission effort.

Comprehensive analysis of the area using low- and medium-resolution images reveals no relevant transient atmospheric phenomena and no fresh blast zone.

High-resolution coverage of the epicentral area from most spacecraft are more limited, but no fresh crater or other evidence of a new impact have been identified in those images either. We thus conclude that the S1222a event was highly likely of tectonic origin.

# Origin Of Life.

Sato, A., et al (2023) **Origin of homochirality in amino acids induced by Lyman-alpha irradiation in the early stage of the Milky Way.** ASTROBIOLOGY 23:doi.org/10.1089/ast.2022.0140 (available as a free pdf)

[Lyman-alpha raddiation is a type of ultraviolet emission from hydrogen atoms.]

[Complex molecules such as amino acids have left-handed and right-handed versions called enantiomers, even though the atoms are connected the same. The dual forms are called chirality. Theoretically they should occur in equal quantities but on Earth all organisms use the left-handed forms. Nobody knows why. There's a Nobel Prize guaranteed if you can prove an explanation.]

Authors' abstract: Amino acids are the basic building blocks of proteins, featuring two optical isomers, l- and d-forms, termed enantiomers. Most of the life-forms on Earth make use of the l-forms, whereas the d-forms are occasionally harmful, even though l- and d-amino acids are produced in equal amounts as racemic state by chemical syntheses in vitro.

From this scenario, it can be inferred that the dominance of l-amino acids (hereafter referred to as 'homochirality') must date back to the early stage of chemical evolution.

The enantiomeric excess (ee) of l-form amino acids found in the Murchison meteorite poses some issues about the cosmic origin of their chirality. Circular dichroism (CD) spectra of amino acids in the far-ultraviolet (FUV) at around 6.8eV (182nm) indicate that the circularly polarized light can induce ee through photochemical reactions.

Here, we resort to ab initio calculations to extract the CD spectra up to the vacuum-ultraviolet (VUV) region (\*11eV), and we propose a novel equation to compute the ee applicable to a wider range of light frequency than what is available to date.

This allows us to show that the strength of the induced ee (jeej) in the 10eV VUV region is comparable to the one in the 6.8eV FUV region. This feature is common for some key amino acids (alanine, 2-aminobutyric acid, and valine).

In space, intense Lyman-alpha (Lya) light of 10.2eV is emitted from star forming regions. This study provides a theoretical basis that Lya emitter from an early starburst in the Milky Way plays a crucial role in initiating the ee of amino acids.

# Keeping An Eye On Things.

Cooney, E.C., et al (2023) **Photosystems in the eye-like organelles of heterotrophic warnowiid dinoflagellates.** CURRENT BIOLOGY 33:doi.org/10.1016/j.cub.2023.08.052 (available as a free pdf)

[Did eyes evolve from photosynthesis? Not too strange, since eyes capture photons for vision instead of sugar synthesis from CO<sub>2</sub> and H<sub>2</sub>O.]

Authors' abstract: Warnowiid dinoflagellates contain a highly complex camera-eye-like structure called the ocelloid that is composed of different organelles resembling parts of metazoan eyes, including a modified plastid that serves as the retinal body.

The overall structure of the ocelloid has been investigated by microscopy. Because warnowiids are not in culture and are rare in nature, we know little about their function.

Here, we generate single cell transcriptomes from 18 warnowiid cells collected directly from the marine environment representing all 4 known genera and 1 previously undescribed genus, as well as 8 cells from a related lineage, the polykrikoids.

Phylogenomic analyses show that photosynthesis was independently lost twice in warnowiids. Interestingly, the non-photosynthetic taxa still express a variety of photosynthesis-related proteins.

Nematodinium and Warnowia (known or suspected to be photosynthetic) unsurprisingly express a full complement of photosynthetic pathway components.

However, non-photosynthetic genera with ocelloids were also found to express light-harvesting complexes, photosystem I, photosynthetic electron transport (PET), cytochrome b6f, and, in Erythropsidinium, plastid ATPase, representing all major complexes except photosystem II and the Calvin cycle.

This suggests that the non-photosynthetic retinal body has retained a reduced but still substantial photosynthetic apparatus that perhaps functions using cyclic electron flow (CEF).

This may support ATP synthesis in a reduced capacity, but it is also possible that the photosystem has been co-opted to function as a light-driven proton pump at the heart of the sensory mechanism within the complex architecture of ocelloids.

Nilsson, D.E., et al (2023) **Cephalopod versus vertebrate eyes.** CURRENT BIOLOGY 33:R1100-R1105 (available as a free pdf)

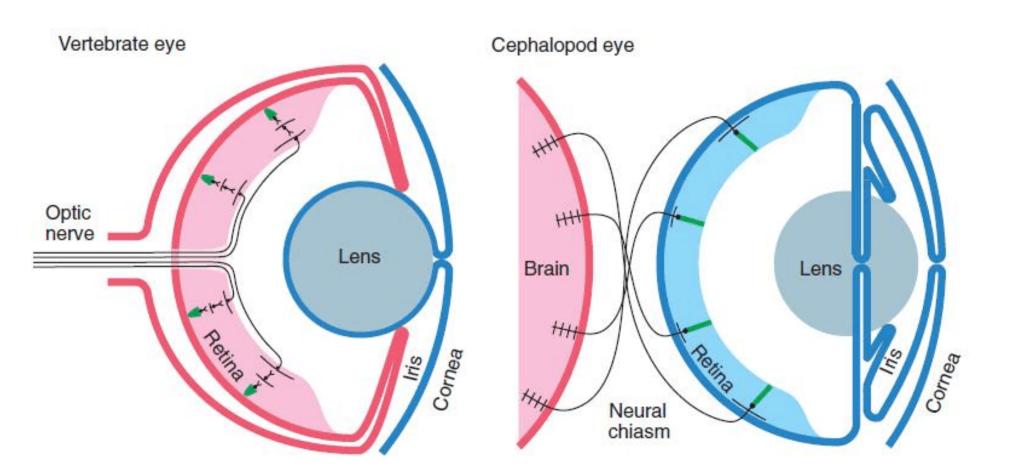
Authors' extracts: Vertebrates and cephalopods are the two major animal groups that view the world through sophisticated camera-type eyes.

Vertebrates and cephalopods also devote major parts of their brains to the processing of visual information. Obviously, there are differences in eye performance among cephalopods and vertebrates, but there are no major subgroups where vision seems to have low priority.

The similarity in eye geometry is striking, especially between fish and coleoid cephalopods, with a hemispherical retina centred around a spherical lens. Do these similarities mean that vertebrate and cephalopod eyes are equally good?

Comparing the eyes of vertebrates and cephalopods reveals many fundamental differences with surprisingly small consequences for vision, but also one difference that means that cephalopods and vertebrates do not share the same visual world.

[Images are from this paper.]



## Paleobiology.

Albertin, C.B., and P.S. Katz (2023) **Evolution of cephalopod nervous systems.** CURRENT BIOLOGY 33:R1087-R1091 (available as a free pdf)

Authors' extracts: Giant brains have independently evolved twice on this planet, in vertebrates and in cephalopods. Thus, the brains and nervous systems of cephalopods provide an important counterpoint to vertebrates in the search for generalities of brain organization and function.

Their mere existence disproves various hypotheses proposed to explain the evolution of the mind and the human brain, such as cognition and large brains evolved only in long-lived animals with complex social systems and parental care, none of which is true of cephalopods.

The brain of Octopus vulgaris is estimated to comprise approximately 500 million neurons, six times the number in the mouse brain.

Botha, J., et al (2023) **Origins of slow growth on the crocodilian stem lineage.** CURRENT BIOLOGY 33:doi.org/10.1016/j.cub.2023.08.057

Authors' abstract: Crocodilians grow slowly and have low metabolic rates similar to other living reptiles, but palaeohistology indicates that they evolved from an ancestor with higher growth rates.

It remains unclear when slow growth appeared in the clade due to the sparse data on key divergences among early Mesozoic members of their stem lineage.

We present new osteohistological data from a broad sample of early crocodylomorphs, evaluated in a phylogenetic context alongside other pseudosuchians. We find that the transition to slow-growing bone types during mid-late ontogeny occurred around the origin of Crocodylomorpha during the Late Triassic.

Earlier-diverging pseudosuchians had high maximum growth rates, as indicated by the presence of woven bone during middle and (sometimes) late ontogeny. Large-bodied pseudosuchians in particular exhibit some of the fastest-growing bone types, giving evidence for prolonged, rapid growth.

By contrast, early branching crocodylomorphs, including a new large-bodied taxon, had slow maximum rates of bone deposition, as evidenced by the presence of predominantly parallel-fibered or lamellar bone tissue during middle-late ontogeny.

Late Triassic crocodylomorphs show skeletal anatomy consistent with "active" terrestrial habits, and their slow growth rates reject hypotheses linking this transition with sedentary, semiaquatic lifestyles or sprawling posture.

Faster-growing pseudosuchian lineages go extinct in the Triassic, whereas slow-growing crocodylomorphs do not. This contrasts with the Jurassic radiation of fast-growing dinosaurs on the bird-stem lineage, suggesting that the End-Triassic mass extinction initiated a divergent distribution of growth strategies that persist in present-day archosaurs.

#### Dinosaurs.

Sachs, S., et al (2023) **The rise of macropredatory pliosaurids near the Early-Middle Jurassic transition.** SCIENTIFIC REPORTS 13:doi.org/10.1038/s41598-023-43015-y (available as a free pdf)

Authors' abstract: The emergence of gigantic pliosaurid plesiosaurs reshaped the trophic structure of Mesozoic marine ecosystems, and established an  $\sim 80$  million-year (Ma) dynasty of macropredatory marine reptiles.

However, the timescale of their 'defining' trait evolution is incompletely understood because the fossil record of gigantic pliosaurids is scarce prior to the late-Middle Jurassic (Callovian), ~ 165.3 Ma.

Here, we pinpoint the appearance of large body size and robust dentitions to early-Middle Jurassic (Bajocian) pliosaurids from northeastern France and Switzerland.

These specimens include a new genus that sheds light on the nascent diversification of macropredatory pliosaurids occurring shortly after the Early-Middle Jurassic transition, around ~ 171 Ma.

Furthermore, our multivariate assessment of dental character states shows that the first gigantic pliosaurids occupied different morphospace from coeval large-bodied rhomaleosaurid plesiosaurs, which were dominant in the Early Jurassic but declined during the mid-Jurassic, possibly facilitating the radiation and subsequent ecomorph acme of pliosaurids.

10 cm

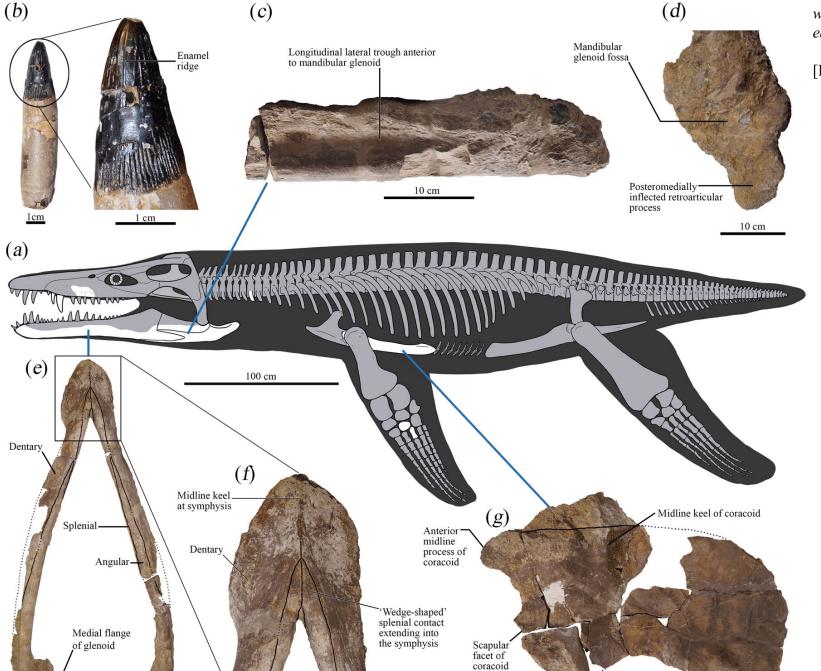
Finally, we posit that while the emergence of macropredatory pliosaurids was apparently coordinated with regional faunal turnover in the epeiric basins of Europe, it paralleled a globally protracted extinction of other higher

10 cm

Glenoid facet of coracoid

trophic-level marine reptiles that was not completed until after the earliest-Late Jurassic, ~ 161.5 Ma.

[Image is from this paper.]



10 cm

## Zoology.

Bieler, R., et al (2023) Replacing mechanical protection with colorful faces—twice: parallel evolution of the non-operculate marine worm-snail genera *Thylacodes* (Guettard, 1770) and *Cayo* n. gen. (Gastropoda: Vermetidae). PEERJ 11:doi.org/10.7717/peerj.15854 (available as a free pdf)

[Opercula are trapdoors at the opening of a snail shell, designed to seal the animal from predators. However, many molluses, such as the ones described here, do not have opercula. They are bright and colourful and excrete a disgusting-taste mucus as a defence.]

[A new species of such molluscs is described, *Cayo margarita*, in honour of musician Jimmy Buffett.]

Authors' abstract: Vermetid worm-snails are sessile and irregularly coiled marine mollusks common in warmer nearshore and coral reef environments that are subject to high predation pressures by fish.

Often cryptic, some have evolved sturdy shells or long columellar muscles allowing quick withdrawal into better protected parts of the shell tube, and most have variously developed opercula that protect and seal the shell aperture trapdoor-like.

Members of Thylacodes (previously: Serpulorbis) lack such opercular protection. Its species often show polychromatic head-foot coloration, and some have aposematic coloration likely directed at fish predators.

Aspects of predator avoidance/deterrence are discussed for these non-operculate vermetids, which appear to involve warning coloration, aggressive behavior when approached by fish, and deployment of mucous feeding nets that have been shown, for one vermetid in a prior study, to contain bioactive metabolites avoided by fish.

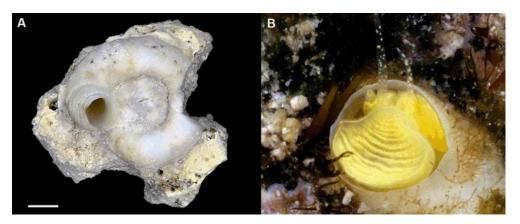
As such, non-operculate vermetids show characteristics similar to nudibranch slugs for which the evolution of warning coloration and chemical defenses has been explored previously.

These non-operculate species seem to rely mostly on the effect such coloration has on potential visual predators during daytime and in shallow-water settings,

combined with the deterrent provided by their copiously produced feeding net mucus, which is avoided by fish.

Etymology: margarita: Alluding to the vividly lemon-yellow coloration that this species shares with the citrus-juice-based cocktail drink (noun in apposition).

[Image of *Cayo margarita* is from this paper. On the right image, there are clear threads of toxic mucus floating up from the yellow body. The left side shows the spiral shell.]



Storz, J.F., et al (2023) **Genomic insights into the mystery of mouse mummies on the summits of Atacama volcanoes.** CURRENT BIOLOGY 33:R1040-R1042 (available as a free pdf)

Authors' extracts: Here we report the discovery of mummified cadavers of leaf-eared mice, Phyllotis vaccarum, from the summits of three different Andean volcanoes at elevations 6,029 to 6,233 metres above sea level in the Puna de Atacama in Chile and Argentina.

Such extreme elevations were previously assumed to be completely uninhabitable by mammals. In combination with a live-captured specimen of the same species from the nearby summit of Volcán Llullaillaco (6,739 m), the summit mummies represent the highest altitude physical records of mammals in the world.

Radiocarbon data indicate that the most ancient of the mummies are, at most, a few centuries old.

The first reports of mice at elevations > 6,000 metres came not from biologists but from archaeologists, as mouse mummies have occasionally been discovered in association with Incan ceremonial structures and burial sites at or near the summits of several high Andean volcanoes.

It has even been hypothesized that the animals were used as part of sacrificial rituals. The mouse mummies considered here were not found in close association with Incan ceremonial structures and radiocarbon dating confirm that they were all < 500 years old, so they could not have been contemporaneous with the Incas.

#### **Environmental Science.**

Padgett, A.B., et al (2023) **Paleogene paleohydrology of Ellesmere and Axel Heiberg Islands (Arctic Canada) from palustrine carbonates.** PALEOCEANOGRAPHY AND PALEOCLIMATOLOGY 38:doi.org/10.1029/2023PA004609 (available as a free pdf)

[The Canadian Arctic islands were green and forested during the Paleogene, which began immediately after the asteroid impact and lasted from 65.5 to 23.03 megayears ago.]

Authors' abstract: Ancient greenhouse periods are useful analogs for predicting effects of anthropogenic climate change on regional and global temperature and precipitation patterns.

A paucity of terrestrial data from polar regions during warm episodes challenges our understanding of polar climate responses to natural/anthropogenic change and therefore our ability to predict future changes in precipitation.

Ellesmere and Axel Heiberg Islands in the Canadian Arctic preserve terrestrial deposits spanning the late Paleocene to middle Eocene (59 to 45 megayears ago).

Stable isotopes suggest some degree of precipitation seasonality or reduction in winter water availability in the Canadian Arctic during the Paleogene. Clumped temperature estimates range from 52 to 121°C and indicate low temperature solid-state reordering of micritic samples and diagenetic

recrystallization in sparry samples. Paleogene paleohydrology in Arctic Canada has been a question of much debate in recent years, with competing ideas about conditions characterized as either "polar monsoon" or "everwet" regimes.

Proxy records from Ellesmere and Axel Heiberg islands have been central to this debate, but complex stratigraphy and burial histories have hampered a resolution. Here we employ a combined carbonate isotope approach to disentangle paleoclimate and diagenetic signals.

Using palustrine carbonates (which host previously evaluated paleobotanical remains) within a new stratigraphic framework, we demonstrate that delta<sup>13</sup>C and delta<sup>18</sup>O values from primary-fabric samples indicate a distinct, but non-monsoonal hydrologic seasonality during the late Paleocene/early Eocene.

Fukano, Y., et al (2023) From green to red: Urban heat stress drives leaf color evolution. SCIENCE ADVANCES 9:doi.org/10.1126/sciadv.abq3542 (available as a free pdf)

Authors' abstract: Prevalence of impervious surface and resulting higher temperatures in urban areas, known as urban heat islands, comprises prominent characteristics in global cities. However, it is not known whether and how urban plants adapt to such heat stress.

This study focused on Oxalis corniculata, which has intraspecific polymorphism in leaf color (green and red) and examined whether the leaf color variation is associated with urban heat stress.

Field observations revealed that green-leaved plants were dominant in green habitats, and red-leaved individuals were dominant in urban habitats, at local (<500 meters), landscape (<50 kilometers), and global scales.

Growth and photosynthesis experiments demonstrated that red-leaved individuals performed better under heat stress, while green-leaved individuals performed better under non-stressful conditions. Genome-wide SNP analysis suggests that the red leaf may have evolved multiple times from the ancestral green leaf. Overall, the results suggest that the red leaves of O. corniculata observed in cities worldwide are evidence of plant adaptive evolution due to urban heat islands.

# **Human Prehistory.**

Oswald, J.A., et al (2023) **Changes in parrot diversity after human arrival to the Caribbean.** PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES USA 120:doi.org/10.1073/pnas.2301128120

Authors' abstract: Humans did not arrive on most of the world's islands until relatively recently, making islands favorable places for disentangling the timing and magnitude of natural and anthropogenic impacts on species diversity and distributions.

Here, we focus on Amazona parrots in the Caribbean, which have close relationships with humans (e.g., as pets as well as sources of meat and colorful feathers).

Our results reveal a striking loss of parrot diversity, much of which took place during human occupation of the islands. The most widespread species, the Cuban Parrot, exhibits interisland divergences throughout the Pleistocene.

Within this radiation, we identified an extinct, genetically distinct lineage that survived on the Turks and Caicos until Indigenous human settlement of the islands.

We also found that the narrowly distributed Hispaniolan Parrot had a natural range that once included The Bahamas; it thus became "endemic" to Hispaniola during the late Holocene.

The Hispaniolan Parrot also likely was introduced by Indigenous people to Grand Turk and Montserrat, two islands where it is now also extirpated.

Russo, G., et al (2023) **First direct evidence of lion hunting and the early use of a lion pelt by Neanderthals.** SCIENTIFIC REPORTS 13:doi.org/10.1038/s41598-023-42764-0 (available as a free pdf)

Authors' abstract: During the Upper Paleolithic, lions become an important theme in Paleolithic art and are more frequent in anthropogenic faunal assemblages. However, the relationship between hominins and lions in earlier periods is poorly known and primarily interpreted as interspecies competition.

Here we present new evidence for Neanderthal-cave lion interactions during the Middle Paleolithic. We report new evidence of hunting lesions on the 48,000 old cave lion skeleton found at Siegsdorf (Germany) that attest to the earliest direct instance of a large predator kill in human history.

A comparative analysis of a partial puncture to a rib suggests that the fatal stab was delivered with a wooden thrusting spear. We also present the discovery of distal lion phalanges at least 190,000 old from Einhornhöhle (Germany), representing the earliest example of the use of cave lion skin by Neanderthals in Central Europe.

## Modern Humans.

Wissler, A., and S.N. DeWitte (2023) **Frailty and survival in the 1918 influenza pandemic.** PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES USA 120:doi.org/10.1073/pnas.2304545120

Authors' abstract: The COVID-19 pandemic showed how social, environmental, and biological circumstances can shape the likelihood of disease and death, even with respect to a disease for which no one has preexisting adaptive immunity.

The 1918 influenza pandemic killed an estimated 50 million people worldwide. So many people fell ill that doctors at the time believed that healthy people were equally likely to die as those who were already sick or frail.

We analyze bioarchaeological data on age at death and skeletal lesions from 369 individuals who died prior to and during the 1918 influenza pandemic in the United States. The results further show that even in the past, people with evidence of prior environmental, social, and nutritional stress were most likely to die.

One of the most well-known yet least understood aspects of the 1918 influenza pandemic is the disproportionately high mortality among young adults. Contemporary accounts further describe the victims as healthy young adults, which is contrary to the understanding of selective mortality, which posits that individuals with the highest frailty within a group are at the greatest risk of death.

We use a bioarchaeological approach, combining individual-level information on health and stress gleaned from the skeletal remains of individuals who died in 1918 to determine whether healthy individuals were dying during the 1918 pandemic or whether underlying frailty contributed to an increased risk of mortality.

Skeletal data on tibial periosteal new bone formation were obtained from 369 individuals from the Hamann-Todd documented osteological collection in Cleveland, Ohio. Skeletal data were analyzed alongside known age at death using Kaplan–Meier survival and Cox proportional hazards analysis.

The results suggest that frail or unhealthy individuals were more likely to die during the pandemic than those who were not frail. During the flu, the estimated hazards for individuals with periosteal lesions that were active at the time of death were over two times higher compared to the control group.

The results contradict prior assumptions about selective mortality during the 1918 influenza pandemic. Even among young adults, not everyone was equally likely to die. Those with evidence of systemic stress suffered greater mortality.

These findings provide time depth to our understanding of how variation in life experiences can impact morbidity and mortality even during a pandemic caused by a novel pathogen.

Kus, S., et al (2023) Effects of thermal treatment of food using barbecue fuels on ambient air and beach sands within recreation facilities. SCIENTIFIC REPORTS 13:doi.org/10.1038/s41598-023-45023-4 (available as a free pdf)

Authors' abstract: Organised bathing areas located within leisure facilities, in addition to the function typical of their purpose, allow in most cases the use of their own barbecue facilities. This type of cooking of food before consumption is very popular during leisure time at the waterfront.

However, cooking food on a barbecue produces fumes emitted from both the fuel being burned and the food being grilled. In addition, the fat from the grilled food falls on the hearth, contributing to the release of further toxic compounds and, in many cases, together with other exhaust fumes, causing considerable smoke and the summer smog effect.

Such cumulative gases emitted by irregularly dispersed barbecues repeatedly irritate the respiratory tract of beachgoers in the area of these devices, and the residue of unburned barbecue fuel contaminates the resting area.

Small pieces of charcoal of various textures tend to sink into the sand when exposed to the elements and can pose a risk to young children playing on the beach by causing choking and minor injuries.

The study revealed an assumed range of exposure to dust and gases emitted from barbecuing that extended up to 40 metres from the hearth. Additionally, it was demonstrated that the thermal processing of food using barbecue fuels could lead to increased contamination of beach sands from the fuel itself and food storage materials.

Therefore, taking into account the studies carried out showing the adverse effects of active barbecues on beach sands and, above all, the atmospheric air and directly on beachgoers, administrators of recreational facilities should strive to concentrate these devices at a distance (up to several tens of metres) from beaches and bathing areas.