# OPUNTIA 513

**Late November 2021**

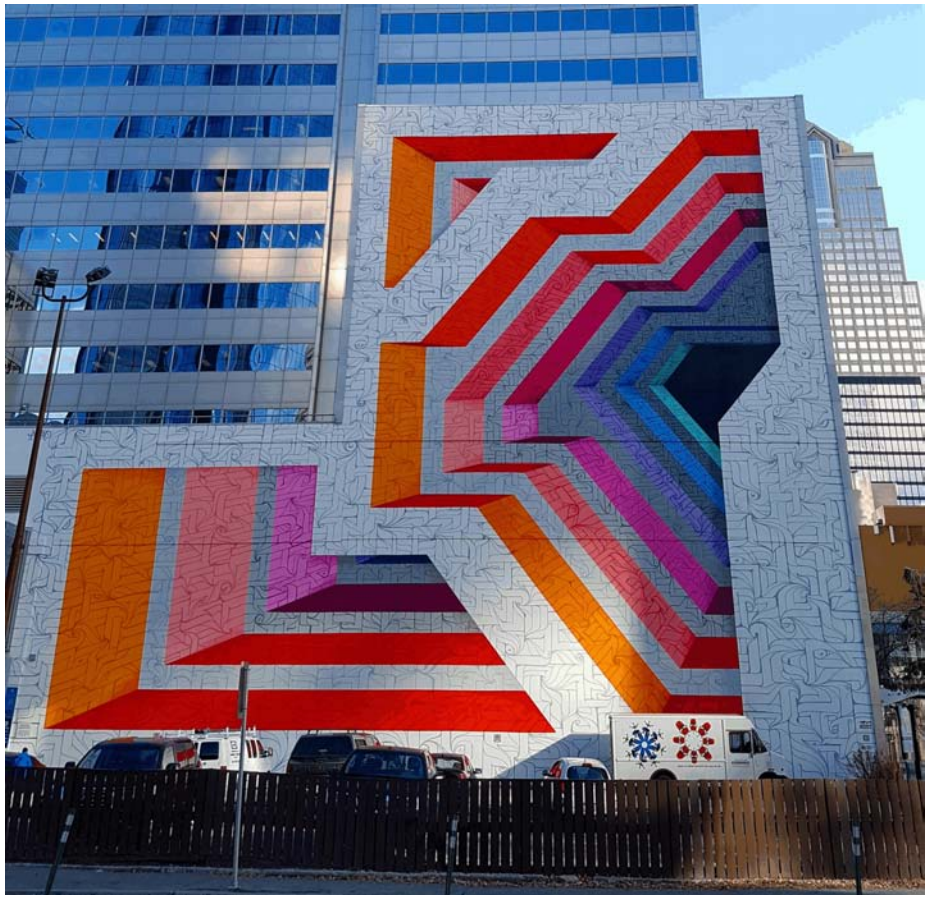
**Opuntia** is published by Dale Speirs, Calgary, Alberta. It is posted on www.efanzines.com and www.fanac.org. My e-mail address is: opuntia57@hotmail.com When sending me an emailed letter of comment, please include your name and town in the message.

**ABOUT THE COVER:** I took this photo of a black-capped chickadee (*Poecile atricapillus*) earlier this year in Fish Creek Provincial Park, which cuts across the southern part of Calgary.

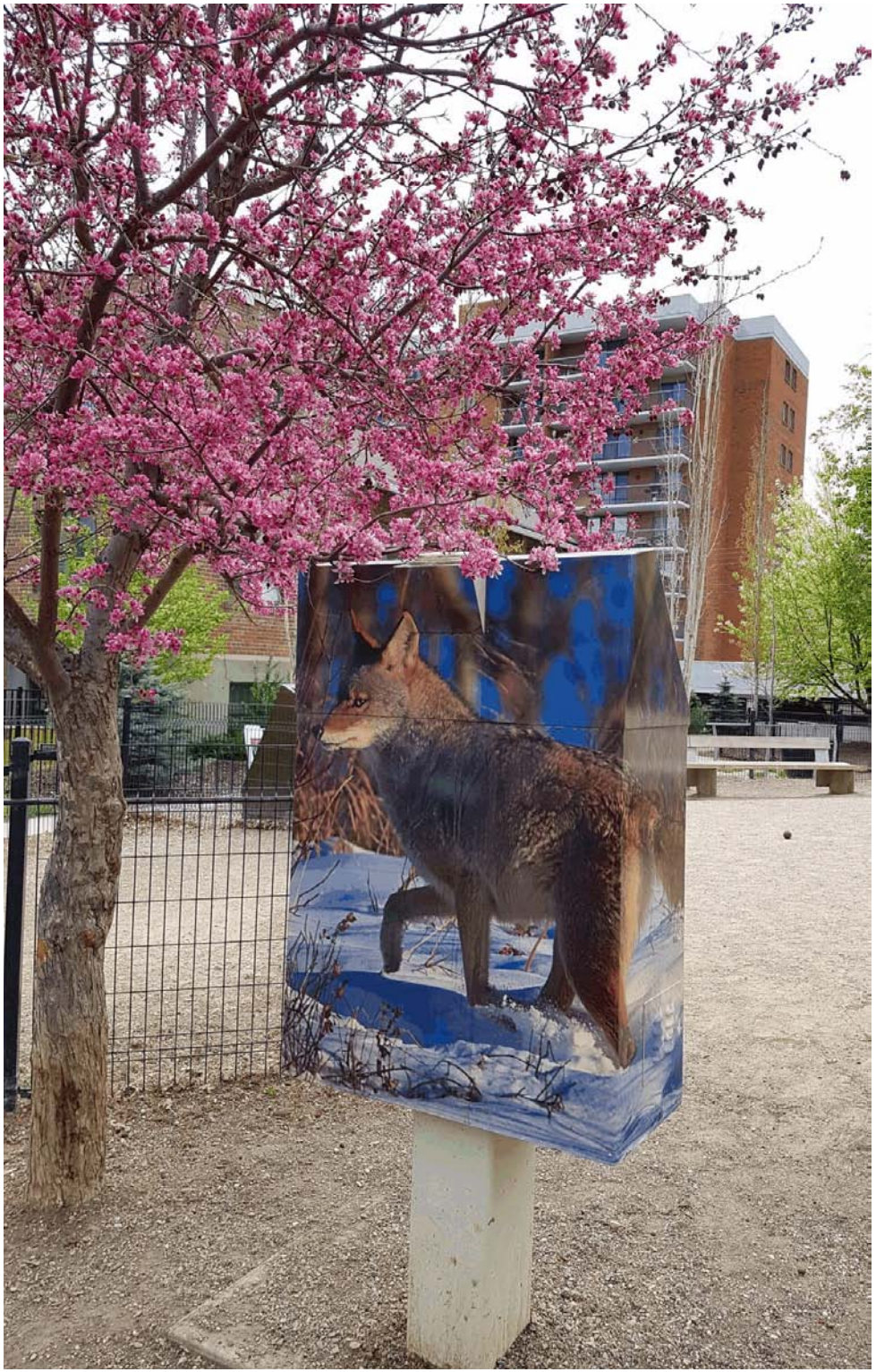
**ART AROUND COWTOWN**
photos by Dale Speirs

These photos were accumulated over the summer in my walkabouts around central Calgary in the Beltline, Mission, and Downtown Core districts.

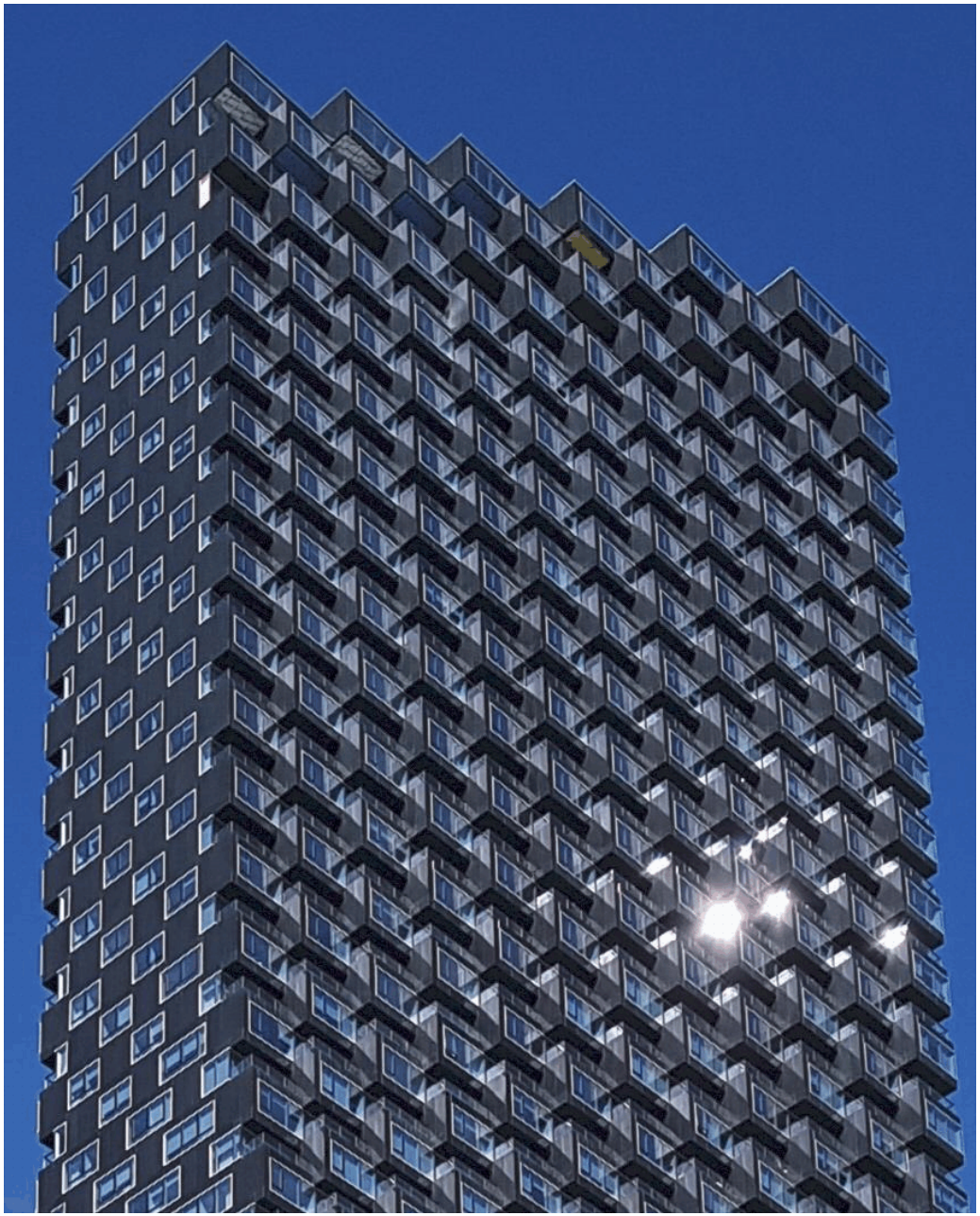
This is a pioneer building in the Beltline from the early 1900s when Calgary was still a hick town. No one can decide if it should be preserved as an historical site or demolished to make way for a condo tower.



This was an irrigation control box in a Beltline park.



Two views of the Telus tower downtown on the same day, in the morning sun and in the afternoon, when forest fire smoke from British Columbia drifted over southern Alberta.



**LICENCED TO DRIVE: PART 6**
photos by Dale Speirs

[Parts 1 to 5 appeared in OPUNTIA #476, 482, 489, 497, and 503. Previous licence plate photos were in OPUNTIAs #63.5A, 410, 421, 445, 452, 459, and 471.]

Seen in Calgary during the summer of 2021.

**By The Numbers.**





**I Think, Therefore I Drive.**


**Detroit Iron.**



**Health.**



Above: Probably votes NDP.

**Playing Games.**



Below: Steelhead trout are found in Alberta rivers.


**CURRENT EVENTS: PART 29**
by Dale Speirs

[Parts 1 to 28 appeared in OPUNTIAs #474, 475, 479, 480, 483, 484, 488 to 503, and 507 to 512.]

As of November 22, there were 1,770,154 cases of COVID-19 recorded in Canada, with 29,526 deaths. 75.4% of Canadians were fully vaccinated. Canada has a population of 38,000,000.

**Seen In The COVID-19 Literature.**

Laughner, J.L., et al (2021) **Societal shifts due to COVID-19 reveal large-scale complexities and feedbacks between atmospheric chemistry and climate change.** PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES USA 118:doi.org/10.1073/pnas.2109481118 (available as a free pdf)

Authors' abstract: *The COVID-19 global pandemic and associated government lockdowns dramatically altered human activity, providing a window into how changes in individual behavior, enacted en masse, impact atmospheric composition.*

*The resulting reductions in anthropogenic activity represent an unprecedented event that yields a glimpse into a future where emissions to the atmosphere are reduced.*

*Furthermore, the abrupt reduction in emissions during the lockdown periods led to clearly observable changes in atmospheric composition, which provide direct insight into feedbacks between the Earth system and human activity.*

*While air pollutants and greenhouse gases share many common anthropogenic sources, there is a sharp difference in the response of their atmospheric concentrations to COVID-19 emissions changes, due in large part to their different lifetimes.*

*Here, we discuss several key takeaways from modeling and observational studies. First, despite dramatic declines in mobility and associated vehicular emissions, the atmospheric growth rates of greenhouse gases were not slowed, in part due to decreased ocean uptake of $CO_2$ and a likely increase in $CH_4$ lifetime from reduced $NO_x$ emissions.*

*Second, the response of $O_3$ to decreased $NO_x$ emissions showed significant spatial and temporal variability, due to differing chemical regimes around the world.*

*Finally, the overall response of atmospheric composition to emissions changes is heavily modulated by factors including carbon-cycle feedbacks to $CH_4$ and $CO_2$, background pollutant levels, the timing and location of emissions changes, and climate feedbacks on air quality, such as wildfires and the ozone climate penalty.*

Young, N., et al (2021) **Is the Anthropause a useful symbol and metaphor for raising environmental awareness and promoting reform?** ENVIRONMENTAL CONSERVATION 48:doi.org/10.1017/S0376892921000254 (available as a free pdf)

Authors' abstract: *Lockdowns associated with the COVID-19 pandemic temporarily restricted human activity and removed people from many places of work and recreation.*

*The resulting 'Anthropause' generated much media and research interest and has become an important storyline in the public history of the pandemic.*

*As an ecological event, the Anthropause is fleeting and unlikely to alter the long-term human impact on the planet. But the Anthropause is also a cultural symbol whose effects may be more enduring.*

*Will the Anthropause inspire people and governments to mobilize for meaningful reform, or does it present a misleading and too-comforting portrayal of resilient nature and wildlife that could ultimately discourage action?*

*While it is too early to gauge the impact of the Anthropause on human behaviour and politics, we use existing research on environmental symbols and metaphors to identify factors that may influence long-term behavioural and political responses to this globally significant period of time.*

Chandler, J.C., et al (2021) **SARS-CoV-2 exposure in wild white-tailed deer (*Odocoileus virginianus*).** PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES USA 118:doi.org/10.1073/pnas.2114828118 (available as a free pdf)

Authors' abstract: *Widespread human SARS-CoV-2 infections combined with human-wildlife interactions create the potential for reverse zoonosis from humans to wildlife.*

*We targeted white-tailed deer (Odocoileus virginianus) for sero-surveillance based on evidence these deer have angiotensin-converting enzyme 2 receptors with high affinity for SARS-CoV-2, are permissive to infection, exhibit sustained viral shedding, can transmit to conspecifics, exhibit social behavior, and can be abundant near urban centers.*

*We evaluated 624 prepandemic and postpandemic serum samples from wild deer from four US states for SARS-CoV-2 exposure. Antibodies were detected in 152 samples (40%) from 2021 using a surrogate virus neutralization test. A subset of samples tested with a SARS-CoV-2 virus neutralization test showed high concordance between tests. These data suggest white-tailed deer in the populations assessed have been exposed to SARS-CoV-2.*

Peng, Y., et al (2021) **Plastic waste release caused by COVID-19 and its fate in the global ocean.** PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES USA 118:doi.org/10.1073/pnas.2111530118 (available as a free pdf)

Authors' abstract: *The COVID-19 pandemic has led to an increased demand for single-use plastics that intensifies pressure on an already out-ofcontrol global plastic waste problem. While it is suspected to be large, the magnitude and fate of this pandemic-associated mismanaged plastic waste are unknown.*

*We show that 8.4 plus or minus 1.4 million tons of pandemic-associated plastic waste have been generated from 193 countries as of August 23, 2021, with 25.9 plus or minus 3.8 thousand tons released into the global ocean representing 1.5 plus or minus 0.2% of the global total riverine plastic discharge.*

*The model projects that the spatial distribution of the discharge changes rapidly in the global ocean within 3 years, with a significant portion of plastic debris landing on the beach and seabed later and a circumpolar plastic accumulation zone will be formed in the Arctic.*

*We find hospital waste represents the bulk of the global discharge (73%), and most of the global discharge is from Asia (72%), which calls for better management of medical waste in developing countries.*

**COVID Fandom.**

I don't pay attention to the World Fantasy Convention, which this year was held in Montreal from November 4 to 7. Notwithstanding the pandemic, they held the event anyway. Attendees had to be fuly vaccinated.

One of the members was diagnosed with COVID-19 after returning home. My suspicion was that the member was infected not during the convention but at an airport, hotel, restaurant, or taxicab somewhere between Montreal and the member's home in the USA.

The convention website (www.wfc2021.org) had the following notice:

*On Thursday (Nov 11) we received a report of a positive COVID result that was likely contracted during the convention. All convention attendees are advised to self-monitor for symptoms for at least 10 days, until November 17th. If you develop any symptoms, you should self-isolate immediately and get a COVID test.*

*Fully-vaccinated members who are asymptomatic do not need to self-isolate; just continue to use public health measures: maintain social distancing, wash hands before and after any social contact, and wear a mask around other people.*

*From the information available, the person became infected between October 31 and November 10, most likely between November 5-8. Whether they were infected before or during the convention dates, they may have been infected during the convention.*

*Of the 39 people tested at the convention before returning home, we have no information that any of them tested positive, so to the best of our knowledge this is an isolated incident. However, anyone at the convention may have come into contact with the infected individual.*

So my question is whether or not the risk of infection was worth pleasure of socializing face to face. Vaccinated or not, the hassle of travel is still far worse than before the pandemic. The world is slowly re-opening but the pandemic is equally slow in receding. Maybe a year from now we'll be back to normal.

That's not to say local socializing is out of the question. I am an active member of the Calgary Philatelic Society. While our monthly meetings are still on Zoom, the monthly stamp auctions have resumed in person. Under Alberta law we have to wear masks, keep social distancing, and show a QR-code proof of vaccination to enter the building. Still better than nothing.

**CONVENTIONAL FICTION: PART 14**
by Dale Speirs

[Parts 1 to 13 appeared in OPUNTIAs #70.1A, 270, 285, 313, 364, 385, 398, 414, 421, 439, 459, 488, and 495.]

The term "social media" is a misnomer. As we have all seen, outlets such as Twitter and Facebook have been overrun by trollers, wokers, and cancellers. Face-to-face gatherings tend to be politer, if only because a troller might get a punch in the face from a rude remark.

**Sci-Fi Conventions.**

"What's Wrong With Harley Quinn?" by Barbara Allan (2021 Jul/Aug, ELLERY QUEEN) was about a stepmother Amanda trying to make friends with her husband's son Jayden by a previous marriage. The boy had been looking forward to attending a comic convention but came down with stomach flu.

Trying to get on his good side, she volunteered to attend and obtain a limited-edition collectible offered only at the show. Any reader who has attended a media convention can guess the trials and tribulations of Amanda.

Her big break came when she realized a wheelchair-bound fan was faking, so as to get to the head of lineups for the collectibles.

Amanda's price for not exposing the fraud and having the woman banned from future conventions was a supply of the rare collectibles for her stepson. Blackmail? What of it?

**Festivals.**

FATAL FESTIVAL DAYS (2018) by Jamie M. Blair was the fifth novel in a dog cozy series. I'll fit it in here since the story revolved around the Winter Festival of Metamora, Indiana. Cameron Cripps-Hayman (CCH) was the resident Miss Marple and organizer of the festival.

Dog sledding, ice sculpting, and downhill skiing were some of the events, not to mention the murder of a greedy landlord on top of the ski hill. That last one wasn't a scheduled event, just an unexpected bonus.

Two groups of protestors livened up the event. One bunch objected to the ski hill, which was a Mound Builders site left by ancient peoples. The Daughters of Historical Metamora complained the dog sled races discriminated against cat owners, and demanded an event for the meow-now crowd.

The usual Marpleing ensued in between the events. A second murder was done with an ice pick near the ice carving competition, which narrowed the suspects down to several hundred people milling around. Much melodrama was uncovered, along with shady deals and blackmail, which kept the killer almost as busy as CCH.

To placate the feline wokers, a hastily-arranged Kittens in Mittens contest was arranged. Since this was a dog cozy, assorted mutts were trotting about, but not at the cat event fortunately. The murders were enough trouble as it was.

THE DIVA SERVES FORBIDDEN FRUIT (2021) by Krista Davis was the fourth novel in a cozy series about Sophie Winston, an event planner specializing in trade shows. The venue was Old Town, Virginia, and the event was the DIY Home Decorating Festival. Each chapter began with a decorating hint for those who want to perk up their house inexpensively.

Before that though, Winston picked up her friend Nina Norwood from the airport. She had just come back from Portugal as part of a group tour. Bad things began happening to tour group members, including a murder staged to look like an accident.

There were alarums aplenty, both in Winston's sleuthing and at the festival. At the latter, one vendor complained because the dealers in the adjacent booth were eating garlic. The good news was that the seminar about using wire baskets for storage went over well.

There was some screaming but that was because a careless vendor selling a miracle superglue left a supply within reach of four small boys, who managed to glue themselves to each other. We never get that sort of trouble at Calgary stamp shows.

The murderer had used the tour group to smuggle in a valuable coin worth millions. It went missing through Customs and the killer was checking all the tour group members the hard way.

**IF YOU AREN'T SQUAMOUS,**
**THEN WHY ARE YOU TRYING TO BE ELDRITCH?: PART 17**
by Dale Speirs

[Parts 1 to 16 appeared in OPUNTIAs #298, 333, 340, 352, 365, 395, 410, 415, 422, 443, 465, 480, 486, 492, 498, and 504. Issues #22 and 63.1A have related articles on H.P. Lovecraft.]

**Pastiches: Novels.**

The Andrew Doran novels are essentially Indiana Jones meets Cthulhu. Lots of two-fisted action, shoggoths lurking about everywhere, and Nazis as cannon fodder. These novels must be read as an action-adventure, not for setting and characterization. A fair read but some problems with proofreading such as 'peaked' instead of 'piqued' and 'phased' instead of 'fazed'.

THE STATEMENT OF ANDREW DORAN (2017) by Matthew Davenport began with shoggoths menacing the aforesaid protagonist, Dr Andrew Doran, heroic archaeologist. He disposed of them by way of warm-up exercises and then was summoned to his alma mater Miskatonic University for the main plot.

The Nazis were running amok in Europe. Their agents stole the NECRONOMICON from Miskatonic University Library and intended using it for their nefarious purposes. Doran was tasked to get the book back.

His plan was to enter Europe through neutral Spain, cross France, and make his way to Berlin. He was certain the book was taken by the Traum Kult, or Dream Cult. Hitler was big on mysticism and parapsychology, and the Kult reported directly to him.

There were, of course, alarums and excursions en route. The Innsmouth creatures, serving the great god Dagon, tried to hijack the ship to Spain. After enough ichor and blood was spilled, the matter was resolved. Then through Spain and into Andorra, a principality that few North Americans have heard of except for philatelists.

Plenty of alarums and gunfire ensued as Doran and his nominal French Résistance allies weaved their way across France. They were chased by Nazi soldiers, tentacled creatures, and re-animated men courtesy of Herbert West. Not all of those were working together or even aware of their competition.

As Doran collected his plot coupons, he detoured through Switzerland before finally crossing the border into Germany. After an encounter in Munich fighting a two-story-high invisible monster with a magic sword, Doran and his group headed to Berlin. There he intended to beard the Traum Kult in its den.

Quite the bloodbath in Berlin. Shoggoth tentacles amputated everywhere and human Nazis turned into unpleasant splatters. The Dean of Miskatonic University was discovered to be a traitor working for the Kult, and had his tenure terminated with prejudice.

Finally the capture of the NECRONOMICON and its destruction by a well aimed magic sword. A return to Miskatonic University, and settling down into a cushy academic job. At least until the next summons.

Which was ANDREW DORAN AT THE MOUNTAINS OF MADNESS (2018). For those unfamiliar with the Cthulhu Mythos, the mountains were in Antarctica. This was the last remaining place that lost world stories could be located in during Lovecraft's time of the 1930s.

Andrew Doran was the new Dean of the university, assisted by his sidekick Leo, one of the French Résistance fighters. The previous dean had sold to the Nazis various documents of Dr William Dyer, detailing his trip to the Mountains of Madness. The race was on to Antarctica. The prize was alien technology from the Old Ones and their ilk, suitable for winning a war.

The novel got off to a flying start with a gunfight on board a train between Doran and a horde of Nazis, some of whom were undead. No prizes for guessing who won the contest.

The good news was the documents were retrieved and taken back to Miskatonic University. The bad news was that they were in code. Dyer had tenure, so his office was still there, which might contain the decrypt codes. Doran was stymied because the door was sealed with magical locks.

His sidekick Leo pointed out that the office window was not sealed. Wizards and aliens forget about things like that. Dyer's daughter Nancy did not. She had come in that way and was caught rummaging through the office. She was added to the cast of characters for the quest.

Doran had a second quest going simultaneously in the Dream Lands. This part of the novel did not come off as well. Anything could and did happen in the Dream Lands, which made matters pointless there. As the saying goes, it is like playing tennis without a net or white lines.

By the halfway mark of the book, Doran and company were still collecting plot coupons. There was a bloodbath at Miskatonic University, where the Nazis learned the hard way that Doran's secretary was a wendigo. William Dyer had been recovered alive but imbecilic, to be nurtured by Nancy.

From there to the Blasted Heath, on the other side of reality, where Cthulhuian minions lurked, waiting for Der Tag. Yet another battle, then to Innsmouth to regroup and finally heading out to Antarctica. The voyage from Massachusetts to Antarctica was via the Panama Canal.

While crossing the Pacific Ocean there were some more alarums from various beasties that went bump in the night. The closer they got to Antarctica, the saner William Dyer became. More seriously, upon arrival at McMurdo Sound, the Nazis were waiting for them.

Everyone eventually converged in the ancient city hidden within the Mountains of Madness. Lots of blood and thunder, too much in fact. Throughout the novel Doran had been severely beaten on frequent occasions, yet managed to bounce back. His injuries and wounds should have left him a vegetable in a hospital ward.

The bloodbath in the city eliminated most of the cast of characters, with an alien acting as a deus ex machina to wrap up any loose threads. From there, Doran collected a plot coupon that would take him to South Africa in the next volume of this series.

**Tangents.**

Many of H.P. Lovecraft's friends incorporated his mythos into their stories, one of the earliest shared world groups in modern writing. After HPL's death, August Derleth formalized what became known as the Cthulhu Mythos.

An example is "The Dark Demon" by Robert Bloch (1936 November, WEIRD TALES, available as a free pdf from www.archive.org).

The narrator's friend Edgar Gordon was dabbling in mystic matters, mentioning names such as Yog-Sothoth and Nyarlathotep, and reading the NECRONOMICON. You know the stuff, things we were not meant to know.

Gordon began writing up his Cthulhuian adventures as fiction, but there was a limited market for his stories. He began taking the mythos as fact, and decided he was the chosen one to bring the tidings of the Dark One. Eventually he mutated into such a creature and came to a bad end.

"Far Below" by Robert Barbour Johnson (1939 June, WEIRD TALES) was a tangential part of the Cthulhu Mythos. Set in the deeps of the New York City subway system, the narrative was about eldritch creatures roaming one section of the subway. They had attacked trains and derailed them, munching on passengers.

H.P. Lovecraft was name-checked in this story, which said that garbled reports of the creatures inspired him to create those of what later became the Mythos. He lived in New York City while married to Sonia Greene, so could have heard the reports.

The NYPD set up a secret branch to deal with the underworld aliens and keep them suppressed. Funding was from a slush fund. Any politician who objected was given a personal tour and after seeing the animals quickly agreed to continue the costs. No one blabbed because they knew they would not be believed.

Train attacks were passed off as accidents. The only good thing was that the creatures were unable to spread along the subway system, so only a small patch had to be guarded.

I'm glad Calgary doesn't have subways. Our trains run above ground except for a few short underpasses.

**LITERA SCRIPTA MORTEM: PART 6**
by Dale Speirs

[Parts 1 to 5 appeared in OPUNTIAs #424, 428, 440, 469, and 505.]

**Bookselling.**

MURDER OF A BOOKSTORE BABE (2011) by Denise Swanson was the thirteenth novel in a cozy series about Skye Denison of Scumble River, Illinois. She was a school psychologist, an experienced Miss Marple, and engaged to Police Chief Wally Boyd.

Tales And Treats was a newly-opened bookstore and café. The proprietor Risé Vaughn got off to a bad start with the villagers. She insulted adjacent business owners and in turn was picketed by self-righteous lunatics who thought romance novels and science fiction were pornography. Rural Illinois has them.

Denison found the body in the bookstore, naturally. A woman was crushed under a toppled heavy bookcase. The victim wasn't Vaughn, to the surprise of many, but her assistant Kayla Hines. The death was murder, not an accident.

The question was who the intended victim was supposed to be. Marpleing uncovered all manner of motives and melodramas. Vaughn wasn't the target after all. Hines got in with the wrong type of boyfriend.

"A Brief History Of Local Warfare" by Libby Cudmore (2021 May/June, ELLERY QUEEN) began with bookseller Barry Lagen hiring private detective Martin Wade to investigate the theft of a rare book. Not a valuable 1st-edition but a 1962 porno paperback widely believed to be a roman a clef about the Maddox family.

They were a wealthy local clan who carried on a vendetta against the author. Decades later, they were still seeking out and destroying all copies of the book. The investigation was a complicated mess. Wade discovered that Lagen never had the book but was just using him to track down a copy, any copy. Lagen's family had been a victim of the Maddox clan and he wanted revenge.

Cozies are usually a decade behind the times, an example of which is that brick-and-mortar bookstores thrive in their world. Not only that, the majority of bookstores in cozies are in rural villages.

THE GHOST AND THE BOGUS BOOKSELLER (2016) by Cleo Coyle (pseudonym of Alice Alfonsi and Marc Cerasini) was the sixth novel in a cozy series about Penelope Thornton-McClure of Quindicott, Rhode Island. She owned Buy The Book, an excellent name for a bookstore. The catch was that the building was haunted by the spirit of Jack Shepard, a private investigator murdered there in 1947.

Emma Hudson was a customer who became hysterical when she saw a new bestseller SHADES OF LEATHER by Jessica Swindel. The author's photo was herself. Hudson later took a dive off her balcony but it wasn't suicide. She was in the middle of a divorce and was just about to sign the final papers. She was a wealthy woman. Found in her apartment was a large collection of first editions.

Thornton went sleuthing. At night, she kept meeting Shepard in her dreams, acting out noir stories of the 1940s. By day, she learned the bestseller had been written by several people as a joke. The book was a roman a clef based on a woman's diary. Hollywood studios were making offers and suddenly millions of dollars were at stake.

A twist was inserted in the plot when police learned the dead woman wasn't Hudson. The victim was a librarian she hired to catalogue her collection. Because the divorce papers hadn't been signed, her husband identified the body as her so he could inherit her fortune. That later got him run in for obstruction.

Thornton tracked Hudson to her hiding place. She had seen the murderer and fled unnoticed by him. He in turn didn't know what she looked like and killed the librarian. The mayhem increased as one of the co-authors tried to clean house and get the money from the book for himself. Justice was served after a wide variety of assaults, perjuries, and obstructions of justice.

HANDBOOK FOR HOMICIDE (2020) by Lorna Barrett was the fourteenth novel in a cozy series about Tricia Miles of Stoneham, New Hampshire. She operated the Haven't Got A Clue bookshop specializing in mysteries, sharing a storefront with her sister Angelica, who owned a cookbook store and the Booked For Lunch café. Tricia's cat was named Miss Marple.

Tricia had only just returned from a vacation when her shop assistant Pixie Poe found the body of a homeless person Susan Morris behind the store. Said the police chief to Tricia: "*How long did it take after your return home before you found your latest stiff*?" She protested and pointed out the corpse was reported by Pixie.

That didn't help because Pixie had a criminal record, so the Deppity Dawgs immediately made her a suspect. Morris was unknown in the village, which made it difficult for Tricia to do any sleuthing.

She was hampered by boyfriend troubles, and had to catch up on the village gossip she missed while on vacation. The bookstore still had a few customers, although it was the shoulder season. The summer tourists were gone but the leaf peeping season hadn't yet started.

There were some alarums. A person unknown kept trying to break into the store. Tricia provided some of the idiocy in the idiot plot, such as not being able to call police when a man attacked her because her cellphone had dead batteries. That's getting old in cozies, fake drama. Miss Marples are the only ones who don't plug their cellphones into the charger at night like the rest of humanity.

Another idiot plot point occurred in the denouement. Someone had the bright idea to check the security cameras, which showed the murderer dumping the body behind the shop. Of course had they done that in the beginning of the book, there wouldn't have been a novel. The killer's motives, by the way, were personal revenge against Morris.

Since Angelica had a café next door to the bookshop, that was a good excuse to throw in a recipes appendix. Lemon Crackles, Applesauce Cake, Guacamole Dip, and Cheesy Corn Dip made for a strange combination though.

A PAGE MARKED FOR MURDER (2020) by Lauren Elliott was a novel in a cozie series about Addie Greyborne, of Greyborne Harbor, Massachusetts. She operated the bookstore Beyond The Page and was the resident Jessica Fletcher. The January weather was somewhat mitigated by the Fire and Ice Festival (fireworks and ice carving). Not as mitigating was the theft of a rare book and someone dumping a body behind the shop.

Greyborne was a systematic woman. She summed up her investigations with lists that not only satisfied her compulsive behaviour but also helped the reader keep track of the myriad motives and suspects.

In the denouement, the murderer had acted in a rage due to a complicated tangle of personal and family entanglements, so the lists were indeed handy. The rare book theft was to provide seed money for him to start a new life elsewhere.

**There Was A Bookstore, A Scottish Bookstore.**

Paige Shelton wrote the Scottish Bookshop Mystery series, about a Kansas woman Delaney Nichols, who wandered far away and settled in Edinburgh. She worked in The Cracked Spine bookstore, owned by Edwin MacAlister.

Little did he know he had hired a Miss Marple. She had one advantage though, for in a big city like Edinburgh the death toll surrounding her wouldn't be as noticeable. Fortunately the Scots dialect was kept to a minimum, och aye.

THE CRACKED SPINE (2016) began the series. Delaney Nichols had been laid off from a Kansas museum. Her M.A. in literature didn't qualify for her anything other than being able to correctly parse "Would you like fries with that?" She came across a job posting for a bookstore in Edinburgh, telephoned overseas for the interview, and was soon on her way.

She wasn't in Kansas anymore. Toto wasn't there but Edinburgh does have the legend of Greyfriars Bobby. The first few chapters were aboot (pardon my Scots) how she learned her way around the Auld City, ye ken.

The proprietor Edwin MacAlister had a sister Jenny. She was soon past tense in every way. She was a drug addict. Edwin had foolishly entrusted her to look after a First Folio, which went missing after she was murdered.

The bookstore's assistant was named Hamlet but that was a coincidence. Nonetheless the police considered him a suspect. The fact that Nichols was floundering about the city didn't stop her from jumping into the amateur sleuth business.

Since she was busy asking questions about her new life anyway, a few extra questions didn't bother her.

Marples and Fletchers are the same the world over. So it was that Nichols got herself trapped with the drug dealer who had been supplying Jenny. There is never any suspense in such scenes because we know the heroine will return for the next book.

OF BOOKS AND BAGPIPES (2017) was the sequel. Delaney Nichols was settled enough into her new life that her boss sent her to Castle Doune to obtain a book. The item was a rare Scottish comic OOR WULLIE. Her contact was a William Wallace re-enactor who never got a speaking part or survived past Chapter 1.

The sight of the body flustered her. She recovered her composure long enough to retrieve the comic book before calling the police. First things first. Back at the shop, Edwin MacAlister told her the back story. The dead man was Billie Armstrong, son of Gordon. The father had faked his death but returned upon learning his son had been murdered.

Gordon's past dominated the melodramas. Nichols did some Marpleing in the usual manner, such as withholding evidence and obstructing police in their enquiries.

She was still adjusting to Scottish life. "*I'd learned that it's safest to stay away from anything in the UK that includes the word 'pudding'.*" She hadn't yet been introduced to haggis.

The denouement came down to blood oaths and vengeance for a long ago rape that produced Billie. The OOR WULLIE comics came into the matter as evidence of the rape.

LOST BOOKS AND OLD BONES (2018) began with three medical students bringing in a collection of antique medical books. After buying them, one of the students was later found dead in the back alley behind the bookstore.

Of course she was. All cozy murderers know that if they dump their victims near Miss Marple's shop, house, or same of close friends or relatives, then the police will automatically suspect her. They will then gather evidence to fit the suspect, instead of letting the evidence direct them to the true murderer.

Be that as it may, Delaney Nichols was verra fashed ye ken and began sleuthing aboot, pardon me, about. Various back stories were brought out at both the medical school and the bookshop. Historical events were dredged up, such as the remains of Burke and Hare.

The denouement involved dueling scalpel blades. The explanation was a complicated mess of love affairs and more recent murders, plus a touch of blackmail. Most everyone had something to hide.

THE LOCH NESS PAPERS (2019) was the next installment in the series. Delaney Nichols was engaged, and while searching for a pastor to perform the wedding, came across Norval Fraser. He was a Loch Ness monster fan. When his grandnephew Gavin MacLeod was murdered, the chase was on.

The police investigated and learned MacLeod had been running a Ponzi scheme. Nichols did her own investigating, interrupted only by preparations for the wedding and infodumps about Loch Ness.

The murderer turned out to be a distant relative of Fraser and even more fanatical about the monster. MacLeod didn't care about it but made the mistake of getting in the way. Too bad Nessie didn't make an appearance.

THE STOLEN LETTER (2020) had the bookstore under threat of closure by Edinburgh council for code violations. Edwin MacAlister found himself fighting bureaucrats who made any DMV office in Canada or the USA look like amateurs. Matters were not helped by his failure to keep proper records.

The murder victim was the councillor leading the closure. Delaney Nichols began investigating but was singularly ineffective against the totality of the story. In the aftermath, the MacGuffin was revealed to be a priceless letter written by Mary, Queen of Scots.

The councillor and his cohort thought the letter was hidden in the bookshop. They thought that once the store was out, they could slip inside and find the document. The conspirators had a falling out and one of them, thoroughly disgruntled, used a car bomb to take out the councillor.

The ending was a completely unbelievable deus ex machina. H.M. The Queen made a personal visit to Edinburgh town council to sway the vote in favour of the bookstore. She was a satisfied longtime customer.

Setting that impossibility aside, the author, being American, referred to her as the Queen of England, a title that would never be used in Scotland (or Canada, for that matter). Her actual title is Elizabeth II, by the grace of God, of the United Kingdom and Northern Ireland, and of her other realms and territories, Head of the Commonwealth, Defender of the Faith.

Pause for digression. Under Canadian law, she is Elizabeth II, by the grace of God, of the United Kingdom, Canada, and her other realms and territories, Head of the Commonwealth, Defender of the Faith. Notice the subtle difference. In Scotland, there are objections to her being Elizabeth II, since Elizabeth I never reigned over Scotland, an independent country at the time of the first Elizabeth.

Canucks refer to her as Queen of Canada and do not make any fuss about whether she should be II or I. Her titles are separate and had to be confirmed by each Dominion's parliament when she succeeded to the throne in 1952. When Charles comes to the throne, his title as King of Canada will also have to be approved by the Canadian House of Commons.

DEADLY EDITIONS (2021) began with Delaney Nichols being invited to a scavenger hunt by Shelagh O'Conner, a wealthy woman about town. The prize was a first edition of THE STRANGE CASE OF DR JEKYLL AND MR HYDE, written by a well-known Scot away back when.

Ramifications soon developed, as several homes were robbed, an acquaintance of O'Conner was murdered, and O'Conner herself disappeared. Nichols' sleuthing revealed that O'Conner had quite a past, quite a present, but possibly no future.

The Chekhov's gun of the story was an antique Underwood typewriter, prominently described in Chapter 7, then not to be mentioned until the final act. Nichols blundered about investigating, committing what she herself admitted were stupid errors.

A rarity for cozies was the acknowledgment of new technology, specifically disposable cellphones. O'Conner's past was still the present, and her sins caught up with her. The murderer was primarily a blackmailer but not averse to diversifying into other crimes. Worse yet, the Jekyll and Hyde book turned out to be a mundane edition of no great value.

**Specialized Bookstores. I Mean <u>Really</u> Specialized.**

For a really specialized bookstore run by a genuine optimist, considered colouring books. COLOR ME MURDER (2018) by Krista Davis was the first novel in a cozy series about Florrie Fox of Georgetown, District of Columbia.

She managed the Color Me Read bookstore, which carried only adult coloring books. A niche market to say the least, especially in a city where many of its inhabitants had trouble staying inside the lines.

One advantage she had was living rent-free in an apartment, courtesy of the bookstore owner Prof. John Maxwell. The reason was that he wanted to forestall his parasitic sister and her no-account son Delbert from claiming it. Fox moved in. Shortly afterwards, Delbert moved to the next plane of existence after someone stabbed him to death. Maxwell was the prime suspect.

Delbert was a thief and a scammer, with a plethora of victims haring after him. Fox went Marpleing, with and sometimes without Det. Sgt Guy Zielony. She had nothing else to do for a few days since the bookstore was closed as a crime scene.

Some vicious alarums followed. Someone kept breaking in to the house and bookstore, setting booby traps. Fox got herself trapped with the killer in the usual way of cozies but of course survived. The murderer had been cheated by Delbert and accidently killed him in a fight.

The book wrapped up with a recipes appendix, a surprise since this wasn't a food cozy. If you must know, Blackberry Breakfast Muffins, Raspberry Quick Bread (with vanilla glaze), and Strawberry Cream Torte.

The sequel was THE COLORING CROOK (2018). Florrie Fox was dating Sgt Eric Jonquille, designing a colouring book of gardens, managing the bookstore, and operating a colouring club which met weekly at the store. Stop and think about that last one. Grown adults meeting to colour books together.

Dolly Cavanaugh was a member of the club who found at a garage sale an original copy of THE FLORIST, published 1760 and the earliest known colouring book. If the bookstore were in Cabot Cove, that happenstance would be unbelievable, but in Georgetown it wasn't necessarily too improbable.

In any event, Cavanaugh didn't survive past Chapter 4. The book vanished into thin air. Assorted suspects were introduced. Fox found some clues, including an actual skeleton in a closet.

In the denouement, three perpetrators wound up in jail, the book being one of many stolen items. The loot was accidently put in a yard sale, the estate of the receiver of stolen goods, whose executor was in a hurry to sell the house. Some more recipes at the end. Try the Salted Chocolate Brownies or Blueberry Cake (with pecan strudel).

## THE MAN FROM MONTENEGRO: PART 23

by Dale Speirs

[Parts 1 to 22 appeared in OPUNTIAs #252, 253, 275, 278, 279, 289, 304, 307, 319, 332, 335, 337, 344, 355, 364, 365, 382, 415, 445, 473, 479, and 503.]

The private detective Nero Wolfe was created by Rex Stout. There was a long-running successful series of novels and short stories from 1934 until Stout's death in 1975. The original stories are referred to as the corpus, while stories by other authors are pastiches.

Nero Wolfe was a morbidly obese middle-aged man who had been a dashing young buck in his birthplace of Montenegro. The Balkan Wars, which were the prelude to World War One, had sent him adrift across Europe in the service of the Serbian army. After the war he made a fortune in unexplained dealings and emigrated to New York City in 1930.

Becoming a private investigator, he engaged Archie Goodwin as his legman. Wolfe seldom left his brownstone in Manhattan, which had a rooftop greenhouse filled with orchids. His experiences in the Balkan wars turned him into an agoraphobe. He disliked leaving the house and especially being in an automobile.

Wolfe had a gourmet cook named Fritz Brenner, who along with Goodwin lived in the house. His office was on the ground floor, where many a J'accuse! meeting was held. His nemesis was NYPD Homicide Inspector Cramer, the equivalent of Inspector Lestrade.

**Pastiches.**

Since Stout died relatively recently, there were few pastiches until after the Millennium because his copyrights were still in effect.

TROUBLE AT THE BROWNSTONE (2021) was the 16th novel by Robert Goldsborough in a series of pastiches about Nero Wolfe. This book, set in the early 1950s, put the emphasis on Wolfe's gardener Theodore Horstmann, who helped him look after the thousands of orchids in the rooftop greenhouse.

In the original stories by Rex Stout, Horstmann seldom got a speaking part, and usually only just a passing mention. This pastiche brought him front and centre, beginning with the opening paragraphs. He returned to the brownstone, staggering after being badly beaten. He collapsed and went into a coma.

Wolfe and Archie Goodwin knew nothing of Horstmann's private life, which put them at a severe disadvantage in their investigation. Other than he liked to play bridge in a longshoreman's tavern, they had little to work with. He lived in an apartment building called the Elwood, whose occupants were very close-mouthed indeed.

Since the orchids still needed looking after, Wolfe hired a gardener Carl Willis as a replacement, hopefully temporary. Inspector Cramer dropped by for a short but unpleasant visit. He reminded Wolfe that NYPD Homicide didn't just investigate murders but also attempted murders. He got no satisfaction.

Wolfe brought in his regular subcontractors, Saul, Orrie, and Fred, who had their own detective agencies and did jobs for him on occasion. With Goodwin, they spread out over the Hudson River waterfront, plodding through the drudgery that is standard in detecting, whether police or private.

The novel was plagued by one piece of poor proofreading. In order for Goodwin to make enquiries about Horstmann without arousing too much suspicion, he passed himself off as Art Horstmann.

On some pages he told people he was the nephew of Theodore, while on other pages he said he was a cousin. This wasn't a single slip but alternated several times. Worse yet, he told neighbours this information, who were in an easy position to talk to each other and compare notes.

The investigation began to take form. Goodwin noticed an unusual number of DPs coming and going through the Elwood apartments. A DP was a displaced person, the postwar phrase for homeless refugees desperately seeking a new country to live in, or alternatively, war criminals trying to start a new life under a new name.

Assorted alarums centred around the Elmont. In fiction, private investigators are rendered unconscious at least once per case, so Goodwin upheld the tradition. It became clear to all concerned, Wolfe, Goodwin, NYPD, and the newspaper reporters, that a major DP smuggling operation was operating in that area.

The violence along the waterfront escalated with gunfire and murders. Smugglers go out of their way to be inconspicuous, so the forces of good began wondering what else was going on. Eventually Wolfe had his J'accuse! meeting, not at his brownstone but in a police station interrogation room.

There were several culprits, knowingly bringing in Nazis who wanted to start a new life in America. Who they were was telegraphed a few chapters ahead of the ending, but the meeting gave Wolfe a chance to fill in the details.

Other than a patch of careless proofreading, the novel read well. It is not necessary to know either the corpus or Goldsborough's previous pastiches, although that would enrich the story.

**Old-Time Radio.**

Nero Wolfe aired as several different radio series from 1943 to 1951. Rex Stout received royalty cheques but farmed out the episodes to various script writers. The first two series only have one episode of each preserved, but there is a good run of the third and final series available as free mp3s from www.otrr.org/OTRRLibrary.

That series, THE NEW ADVENTURES OF NERO WOLFE, was considered the best because Sydney Greenstreet played Wolfe. He was typecast but was true to his character. His distinctive speaking voice certainly helped.

"The Case Of The Deadly Sellout" aired on 1951-01-05, with no writer credited although everyone else was. The client had lost a prize fighter, and wanted Nero Wolfe to locate him alive.

The story began with a femme fatale named Jeri Faye** putting the bite on boxing trainer Brock Raynee. She told him she had proof he fixed a fight in which a gangster had lost a $25,000 bet. Her blackmail request was $3,000.

Raynee hired Wolfe to find his fighter Pepe Gotto, the one who had taken the dive. Archie Goodwin and Raynee proceeded to Gotto's penthouse apartment. A significant clue was a lady's hat on the floor of a closet. An even more significant clue was Gotto's body out on the terrace, two bullet holes in him.

While the police dealt with the deceased, Goodwin tracked the hat to Celia Lawson. Her husband was the one who had placed the $25,000 bet. Next Goodwin met Faye at Gotto's apartment. She was going to identify the murderer, for a price. A sniper killed her with a shot through the penthouse window.

Wolfe called a meeting of Lawson and Raynee. Lawson coughed up a phony alibi for Celia but was quickly caught out. Back to Gotto's apartment, Wolfe included. The group arrived en masse. Wolfe began a J'accuse! meeting and trapped Lawson into admitting he was the murderer.

Lawson had tried to plant evidence to frame Celia, who had been canoodling with Gotto. In the presence of everyone she shot her husband dead, thereby wrapping up the case without the fuss and bother of a lengthy court trial.

"The Case Of The Hasty Will" aired on 1951-03-02, and was written by John Edison. The opening telephone call, answered by Archie Goodwin as always, was from John Blake, who had urgent unspecified business.

Nero Wolfe, overhearing only one side of the conversation, was in a slothful mood and told Goodwin no sale. As he so often did, Goodwin ignored him and told Blake to come on over with a $1,000 cheque. After hanging up, Goodwin overrode Wolfe's objections by reminding him they needed the money.

Blake wanted Wolfe and Goodwin to witness a new will, plus hold on to a sealed envelope to be delivered by them in case of death. Wolfe pointed out that the matter would be better dealt with by lawyers but Blake said he wanted representation by a disinterested party. He was president of the Plymouth Building and Loan Bank, and didn't want his people involved.

** She spelled out her name later in the episode.

The will specified his estate was to go to his daughter Anita, including a painting of her mother. Blake mentioned his black-sheep brother Hillary had just returned from 25 years in Australia. On that note he departed. Goodwin remarked that it seemed a simple job but Wolfe replied they would more than earn the fee. Since 22 minutes remained in the episode, there could be no doubt.

Blake disappeared the next day and the plot began rolling. Goodwin visited the Blake mansion and talked to Anita, her fiancé Wilbur Martin, and Uncle Hillary.

A surprise was tossed in when Goodwin learned that Hillary and John were twin brothers. In exchange, Goodwin surprised them with news of John's apparent suicide by jumping into the East River. He handed over the will and the letter.

Wolfe was suspicious about the painting. He had Martin brought in for a conversation. Martin thought it was murder. He also raised the point that Wolfe's visitor might have been Hillary posing as John and forging his signature, although he couldn't say why. Martin said he found old letters from Hillary from 1928.

Inspector Cramer had the forgery squad examine the letters. While that was happening, the newspapers burst out with headlines that the Plymouth bank had gone smash because of embezzlement by John. That seemed to provide the motive for the suicide.

Wild ideas and arguments erupted. Martin accused Hillary of killing John, hiding the missing money, and staging the suicide. Wolfe called one of his traditional J'accuse meetings.

He had Cramer bring in the painting. The backing was torn off, revealed negotiable bonds in the amount of the missing money. The 1928 letters from Hillary in Australia had different handwriting. He had died Down Under ten years ago.

John had impersonated his brother to escape the embezzlement charges, and Anita was his accessory. Since no one else saw John and Hillary together, she had to perjure herself for that part to allay suspicions. Cramer hauled father and daughter away to the hoosegow.

**SEEN IN THE LITERATURE**

**Planets.**

Che, X., et al (2021) **Age and composition of young basalts on the Moon, measured from samples returned by Chang'e-5.** SCIENCE 374:887-890 (available as a free pdf)

Authors' abstract: *Orbital data indicate that the youngest volcanic units on the Moon are basalt lavas in Oceanus Procellarum, a region with high levels of the heat-producing elements potassium, thorium, and uranium. The Chang'e-5 mission collected samples of these young lunar basalts and returned them to Earth for laboratory analysis.*

*We measure an age of 1,963 ± 57 million years for these lavas and determine their chemical and mineralogical compositions. This age constrains the lunar impact chronology of the inner Solar System and the thermal evolution of the Moon.*

*There is no evidence for high concentrations of heat-producing elements in the deep mantle of the Moon that generated these lavas, so alternate explanations are required for the longevity of lunar magmatism.*

*Alternative explanations are required for the longevity of lunar magmatism, such as tidal heating or a distinct source mineralogy supporting a lower melting temperature of the mantle.*

*This implies that the increased Th content of the Em4 regolith recorded in remote-sensing data could be due to contamination by secondary ejecta from the Th-rich region of Oceanus Procellarum, which occurs beneath and around the young basalt units.*

Parisi, M., et al (2021) **The depth of Jupiter's Great Red Spot constrained by Juno gravity overflights.** SCIENCE 374:964-968 (available as a free pdf)

Authors' abstract: *Jupiter's Great Red Spot (GRS) is the largest atmospheric vortex in the Solar System and has been observed for at least two centuries. It has been unclear how deep the vortex extends beneath its visible cloud tops.*

*We examined the gravity signature of the GRS using data from 12 encounters of the Juno spacecraft with the planet, including two direct overflights of the vortex. Localized density anomalies due to the presence of the GRS caused a shift in the spacecraft line-of-sight velocity.*

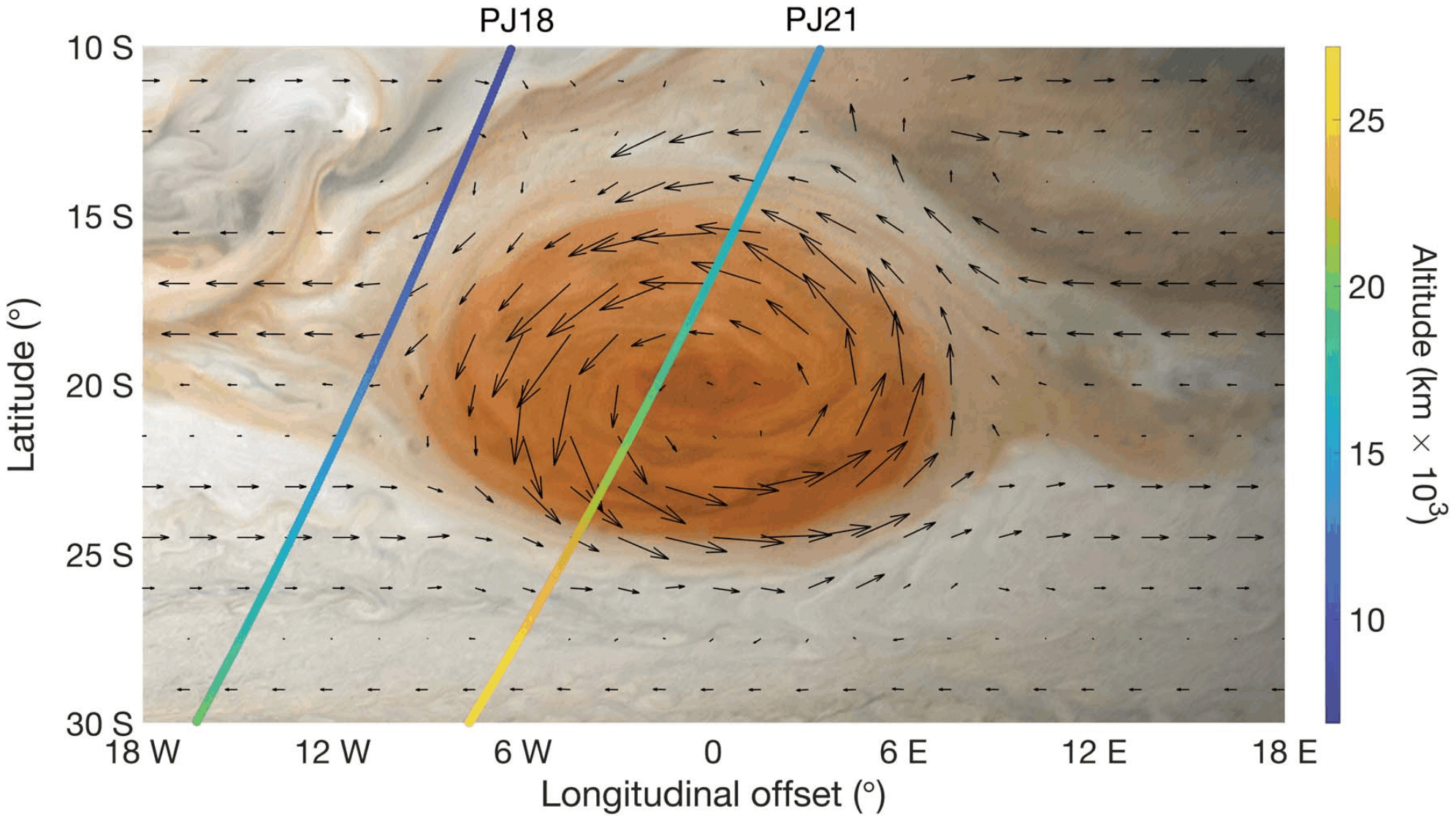
*Using two different approaches to infer the GRS depth, which yielded consistent results, we conclude that the GRS is contained within the upper 500 kilometers of Jupiter's atmosphere.*

*Both its size (currently more than 16,000 km east-west) and centuries-old longevity are unlike other vortices in the Solar System and must be driven by the underlying dynamics of the storm.*

*It is unknown whether the vortex is deep-rooted in the surrounding zonal flows (east-west bands), or whether a shallow system can maintain such a long-living storm.*

*We therefore conclude that the depth of the GRS is between 200 and 500 km.*

[Image is from this paper.]



**The Birth Of And Early Life On Earth.**

Chowdhury, P., et al (2021) **Magmatic thickening of crust in non-plate tectonic settings initiated the subaerial rise of Earth's first continents 3.3 to 3.2 billion years ago.** PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES USA 118:doi.org/10.1073/pnas.2105746118

[Isostatic emersion began when less-dense rocks floated to the surface of the early molten Earth and crystallized solid into proto-continents. Cratons are the central cores of continents. For example, the Precambrian Shield of Canada, the bedrock surrounding Hudson Bay and extending northwest into the Arctic and northern Saskatchewan and Manitoba, is the craton of North America.]

Authors' abstracts: *Understanding when and how subaerial continental crust first formed is crucial, as it likely played a critical role in establishing Earth's habitability. Although debated, the broad consensus is that the subaerial rise of continents began ~2.5 billion years ago and was driven by plate tectonics.*

*Here, we integrate the igneous and sedimentary history of Archean cratons to demonstrate that stable continental landmasses started to emerge above sea level 3.3 to 3.2 billion years ago (i.e., over 700 million years earlier than most models predict).*

*We also demonstrate that these initial episodes of continental emersion were driven by voluminous granitoid magmatism in non-plate tectonic settings that formed ~50-km-thick, silica-rich crust, which rose above the oceans due to isostasy.*

*When and how Earth's earliest continents, the cratons, first emerged above the oceans (i.e., emersion) remain uncertain. Here, we analyze a craton-wide record of Paleo-to-Mesoarchean granitoid magmatism and terrestrial to shallow-marine sedimentation preserved in the Singhbhum Craton (India) and combine the results with isostatic modeling to examine the timing and mechanism of one of the earliest episodes of large-scale continental emersion on Earth.*

*The results show that the entire Singhbhum Craton became subaerial ~3.3 to 3.2 billion years ago (Ga) due to progressive crustal maturation and thickening driven by voluminous granitoid magmatism within a plateau-like setting.*

*A similar sedimentary-magmatic evolution also accompanied the early (>3 Ga) emersion of other cratons (e.g., Kaapvaal Craton).*

*Therefore, we propose that the emersion of Earth's earliest continents began during the late Paleoarchean to early Mesoarchean and was driven by the isostatic rise of their magmatically thickened (~50 km thick), buoyant, silica-rich crust.*

*The inferred plateau-like tectonic settings suggest that subduction collision-driven compressional orogenesis was not essential in driving continental emersion, at least before the Neoarchean.*

*We further surmise that this early emersion of cratons could be responsible for the transient and localized episodes of atmospheric-oceanic oxygenation ($O_2$-whiffs) and glaciation on Archean Earth.*

Willman, S., and B.J. Slater (2021) **Late Ediacaran organic microfossils from Finland.** GEOLOGICAL MAGAZINE 158:doi.org/10.1017/S0016756821000753 (available as a free pdf)

[The Ediacaran was 600 to 542 megayears ago and was the dawn of multicellular life.]

Authors' abstract: *Late Ediacaran sedimentary rocks from subsurface deposits in central Finland contain well preserved carbonaceous microfossils, including an abundance of filamentous prokaryotes (probable cyanobacteria), a variety of acritarchs, and significantly, fragments of metazoan cuticle derived from bilaterians.*

*Here we present a detailed accounting of organic microfossils from late Ediacaran sediments of Finland, from the island of Hailuoto (northwest Finnish coast), and the Saarijärvi meteorite impact structure (~170 km northeast of Hailuoto, mainland Finland). Fossils were recovered from fine-grained thermally immature mudstones and siltstones and are preserved in exquisite detail.*

*The majority of recovered forms are sourced from filamentous prokaryotic and protistan-grade organisms forming interwoven microbial mats. Flattened Nostoc-ball-like masses of bundled Siphonophycus filaments are abundant,*

*alongside Rugosoopsis and Palaeolyngbya of probable cyanobacterial origin. Acritarchs include Chuaria, Leiosphaeridia, Symplassosphaeridium and Synsphaeridium.*

*Significantly, rare spine-shaped sclerites of bilaterian origin were recovered, providing new evidence for a nascent bilaterian fauna in the terminal Ediacaran. These findings offer a direct body-fossil insight into Ediacaran mat-forming microbial communities, and demonstrate that alongside trace fossils, detection of a bilaterian fauna prior to the Cambrian might also be sought among the emerging record of small carbonaceous fossils.*

Zhang, Z., et al (2021) **Fossil evidence unveils an early Cambrian origin for Bryozoa.** NATURE 599:doi.org/10.1038/s41586-021-04033-w (available as a free pdf)

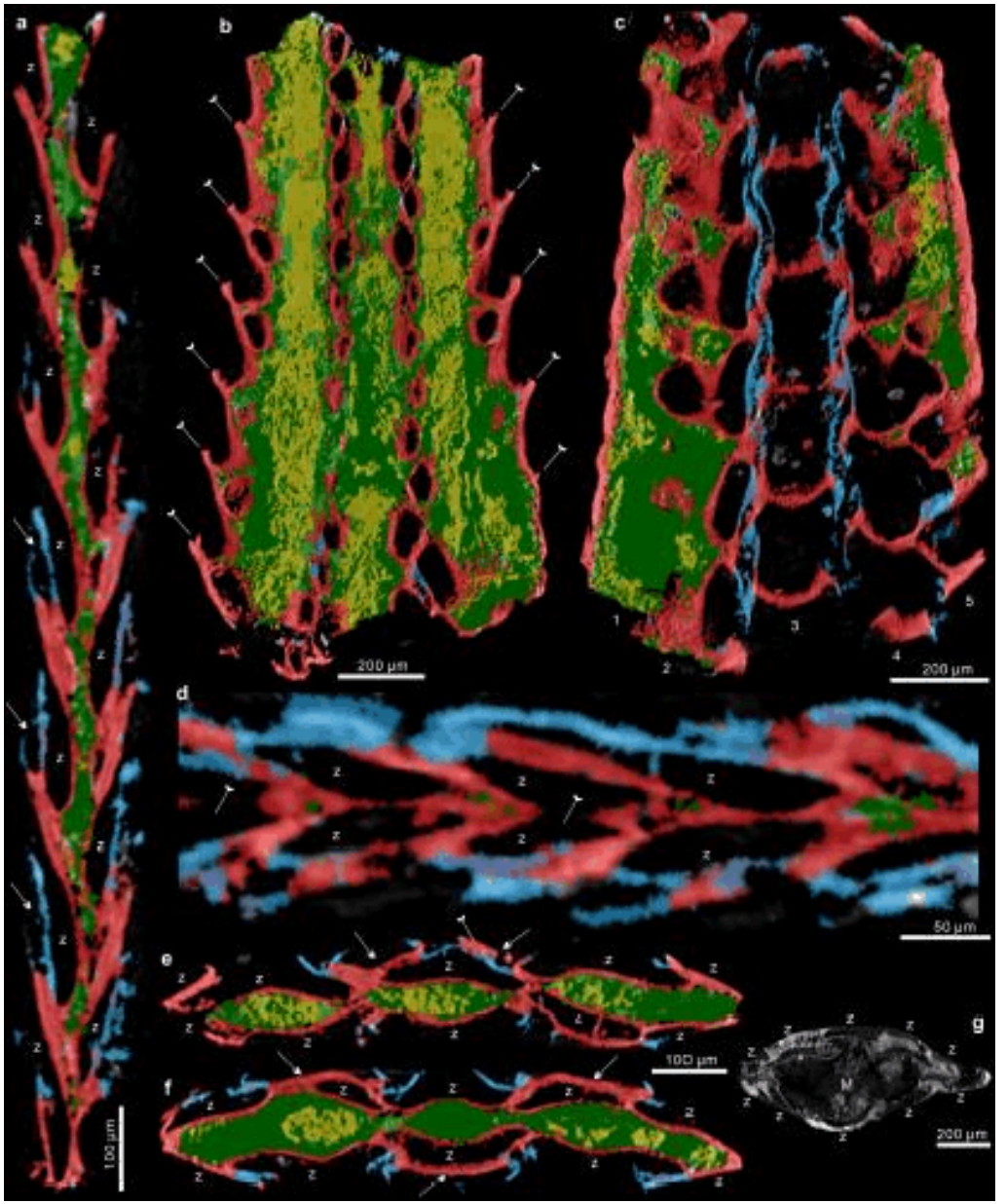
[The Cambrian was 542.0 to 488.3 megayears ago. The period is defined by a tremendous burst of speciation in the fossil record as evolution kicked into exponential diversification.]

Authors' abstract: *Bryozoans (also known as ectoprocts or moss animals) are aquatic, dominantly sessile, filter-feeding lophophorates that construct an organic or calcareous modular colonial (clonal) exoskeleton.*

*The presence of six major orders of bryozoans with advanced polymorphisms in lower Ordovician rocks strongly suggests a Cambrian origin for the largest and most diverse lophophorate phylum. However, a lack of convincing bryozoan fossils from the Cambrian period has hampered resolution of the true origins and character assembly of the earliest members of the group.*

*Here we interpret the millimetric, erect, bilaminate, secondarily phosphatized fossil Protomelission gatehousei from the early Cambrian of Australia and South China as a potential stem-group bryozoan.*

*The monomorphic zooid capsules, modular construction, organic composition and simple linear budding growth geometry represent a mixture of organic Gymnolaemata and biomineralized Stenolaemata character traits, with phylogenetic analyses identifying P. gatehousei as a stem-group bryozoan.*




*This aligns the origin of phylum Bryozoa with all other skeletonized phyla in Cambrian age, pushing back its first occurrence by approximately 35 million years. It also reconciles the fossil record with molecular clock estimations of an early Cambrian origination and subsequent Ordovician radiation of Bryozoa following the acquisition of a carbonate skeleton.*

*The Cambrian fossil record chronicles in exceptional detail the emergence of major bilaterian clades and continues to provide chronological constraints on the evolutionary diversification of disparate metazoans from a common ancestor.*

*Nearly all animal phyla, including soft-bodied Deuterostoma, Entoprocta, Phoronida, and Priapulida, made their first appearance during the Cambrian evolutionary radiation.*

*A key exception is the 'missing' colonial lophotrochozoan phylum Bryozoa, in which six of the eight recognized orders belonging to the classes Stenolaemata and Gymnolaemata appear abruptly with considerable diversity during the early Ordovician period.*

*Furthermore, there is a major time gap (approximately 44 million years) between the first fossil record of unequivocal bryozoans in the earliest Ordovician (Tremadocian) and the deeper origination in the early Cambrian (Terreneuvian) estimated using modern molecular clock analyses.*

*Bryozoa is the most speciose of the lophophorate phyla firmly nested within Lophotrochozoa, characterized by iterated units (zooids) demonstrating hierarchical levels of modularity, and (apart from one genus) is the only exclusively colonial group of metazoans.*

*The key innovation of modularity initiated a novel pattern of colonial growth that led directly to a burst of morphological diversification and subsequent ecosystem proliferation, especially during the Great Ordovician Biodiversification Event.*

[Images are false-colour cross-sections of these primitive bryozoans, which grew somewhat like corals.]

Yang, X., et al (2021) **A 'hermit' shell-dwelling lifestyle in a Cambrian priapulan worm.** CURRENT BIOLOGY 31:doi.org/10.1016/j.cub.2021.10.003

Authors' abstract: *The Cambrian 'explosion', about 530 million years ago, marks a rapid diversification of the major animal lineages. A concomitant increase in the complexity of ecosystems is believed to have accelerated this evolutionary radiation, but direct evidence of the ecological modes of Cambrian taxa is nevertheless scarce, even in exceptional Burgess Shale-type deposits.*

*Here, we present new fossil material from the Cambrian (Stage 4) Guanshan biota in southern China that reveals the consistent occurrence of the priapulan worm ?Eximipriapulus within the conical shells of hyoliths. This represents the first direct evidence of a 'hermiting' life strategy, the adoption of a different organism's exoskeleton, in the priapulans and within the Palaeozoic era.*

*It highlights the intense degree of convergent evolution during the Cambrian radiation. Hermiting behaviour has previously been linked with the escalation of predation pressure during the Mesozoic marine revolution. Such intensity of predation may also have characterised early Cambrian oceans.*

You, J., et al (2021) **Triassic hydrothermal chimneys from the Ordos Basin of Northern China.** SCIENTIFIC REPORTS 11:doi.org/10.1038/s41598-021-02053-0 (available as a free pdf)

[Unicellular life is believed to have originated in hydrothermal vents about 4 gigayears ago. The Triassic was 251.0 to 199.6 megayears ago. Hydrothermal vents still exist today and have unique archaic microbes growing in them.]

Authors' abstract: *Because few well-preserved hydrothermal chimneys have been found in terrestrial sedimentary rocks, research on paleo-thermal vents in geological history is relatively sparse.*

*In this study, we present our original discovery of "hydrothermal chimneys" from the Chang 7 source rocks of the Triassic Yanchang Formation in the Ordos Basin, China, and provide the best evidence for deciphering hydrothermal activity preserved in the geological record (i.e., sedimentary rocks).*

*Three possible chimney samples (i.e., samples 1551.6, 1551.6–2 and 1574.4) were collected for this study. They were interbedded with mudstones and oil shales, indicative of a deep-lake sedimentary environment. A*

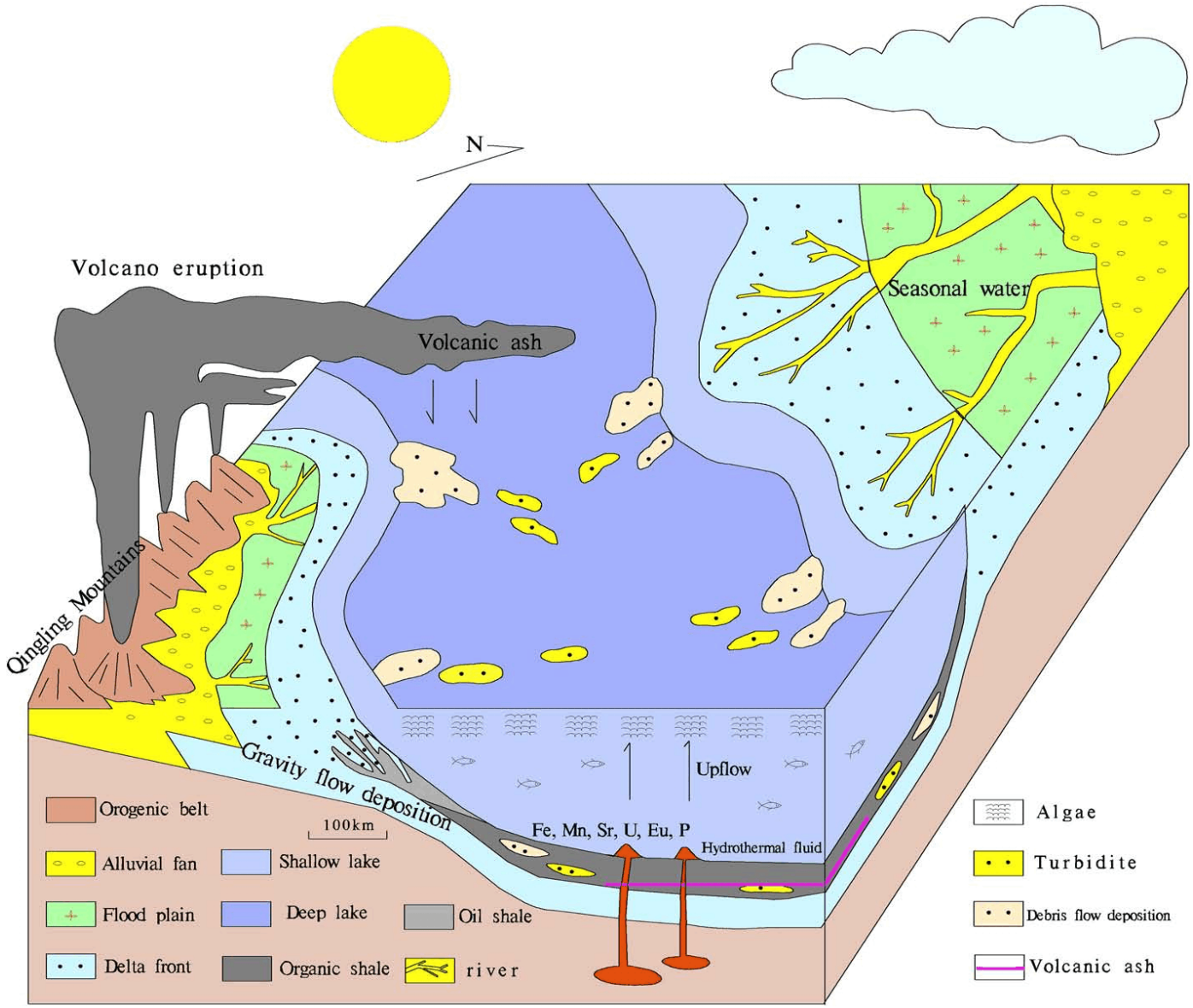
*ll three samples consist mainly of anhydrite, pyrite, and dolomite with the formation of mineral zoning across the walls of these structures, suggesting a sulfate-dominated stage and a carbonate-sulfide replacement stage.*

*Moreover, their in situ geochemistry is characterized by high Eu, U, Th, Sr, Mn and U/Th ratios, which are typical indicators of hydrothermal vents. In addition, their S isotopes range from 7.89% to 10.88%, near the values of magma sulfur, implying a possible magmatic trigger for these hydrothermal vents.*

*All this evidence shows that the Triassic sedimentary rocks of the Ordos Basin probably contain hydrothermal chimneys. Comparing ancient hydrothermal chimneys to modern hydrothermal chimneys, we should note the important implications of ancient chimneys.*

*Their formation mechanism may have been related to oil production, and they are possible indicators for future oil investigations. Further, they have great significance for studying the hydrothermal properties of primary dolomite.*

[Image is from this paper and shows a reconstruction, with the ancient hydrothermal vents in red.]



**Palaeobiology.**

Zhang, H., et al (2021) **Felsic volcanism as a factor driving the end-Permian mass extinction.** SCIENCE ADVANCES 7:doi.org/10.1126/sciadv.abh1390 (available as a free pdf)

Authors' abstract: *The Siberian Traps large igneous province (STLIP) is commonly invoked as the primary driver of global environmental changes that triggered the end-Permian mass extinction (EPME). Here, we explore the contributions of coeval felsic volcanism to end-Permian environmental changes.*

*We report evidence of extreme Cu enrichment in the EPME interval in South China. The enrichment is associated with an increase in the light Cu isotope, melt inclusions rich in copper and sulfides, and Hg concentration spikes. The Cu and Hg elemental and isotopic signatures can be linked to S-rich vapor produced by felsic volcanism.*

*We use these previously unknown geochemical data to estimate volcanic SO2 injections and argue that this volcanism would have produced several degrees of rapid cooling before or coincident with the more protracted global warming. Large-scale eruptions near the South China block synchronous with the EPME strengthen the case that the STLIP may not have been the sole trigger.*

*The end-Permian mass extinction was the most severe extinction event in the past 500 million years, with estimated losses of >81% of marine and >89% of terrestrial species.*

*Robust evidence, supported by high-precision U-Pb dating, suggests that the EPME was triggered by the >4 × 106 km3 volcanic eruption of the Siberian Traps large igneous province.*

*It has been proposed that the STLIP eruptions released a massive amount of greenhouse and poisonous gases (e.g., CO2 and SO2), leading to rapid warming, perturbing global carbon, and sulfur cycles, potentially causing acid rain deposition, and ultimately expanded anoxic/euxinic zones in the oceans.*

*In this scenario, a combination of these factors led to the loss of land plants and the widespread extinction of tetrapods.*

**Dinosaurs.**

de Souza, G.A., et al (2021) **The first edentulous ceratosaur from South America.** SCIENTIFIC REPORTS 11:doi.org/10.1038/s41598-021-01312-4 (available as a free pdf)

[Edentulism means no teeth, that is, an animal uses a beak to catch or crush its food. Birds are the most common example. They are, not so incidently, classified as dinosaurs in the group called avian theropods. The Ceratosauria are an adjacent branch of dinosaurs, classified as non-avian theropods.]

Authors' abstract: *The recognition of ontogenetic edentulism in the Jurassic noasaurid Limusaurus inextricabilis shed new light on the dietary diversity within Ceratosauria, a stem lineage of non-avian theropod dinosaurs known for peculiar craniomandibular adaptations.*

*Until now, edentulism in Ceratosauria was exclusive to adult individuals of Limusaurus. Here, an exceptionally complete skeleton of a new toothless ceratosaur, Berthasaura leopoldinae gen. et sp. nov., is described from the Cretaceous aeolian sandstones of the Bauru Basin, Southern Brazil.*

*The specimen resembles adult individuals of Limusaurus by the absence of teeth but based on the unfused condition of several elements (e.g., skull, vertebral column) it clearly represents an ontogenetically immature individual, indicating that it might never have had teeth.*

*The phylogenetic analysis performed here has nested Berthasaura leopoldinae as an early-divergent Noasauridae, not closely related to Limusaurus. It represents the most complete non-avian theropod from the Brazilian Cretaceous and preserves the most complete noasaurid axial series known so far.*

*Moreover, the new taxon exhibits many novel osteological features, uncommon in non-avian theropods, and unprecedented even among South American ceratosaurs. These include not only toothless jaws but also a premaxilla with cutting occlusal edge, and a slightly downturned rostral tip.*

*This indicate that B. leopoldinae unlikely had the same diet as other ceratosaurs, most being regarded as carnivorous. As the ontogenetically more mature specimens of Limusaurus, Berthasaura might have been herbivorous or at least omnivorous, corroborating with an early evolutionary divergence of*

*noasaurids from the ceratosaurian bauplan by disparate feeding modes.*

[Reconstruction of *Berthasaura leopoldinae* is from this paper.]

Wang, M., et al (2021) **An Early Cretaceous enantiornithine bird with a pintail.** CURRENT BIOLOGY 31:doi.org/10.1016/j.cub.2021.08.044

Authors' abstract: *Enantiornithes are the most successful group of Mesozoic birds, arguably representing the first global avian radiation, and commonly resolved as the sister to the Ornithuromorpha, the clade within which all living birds are nested.*

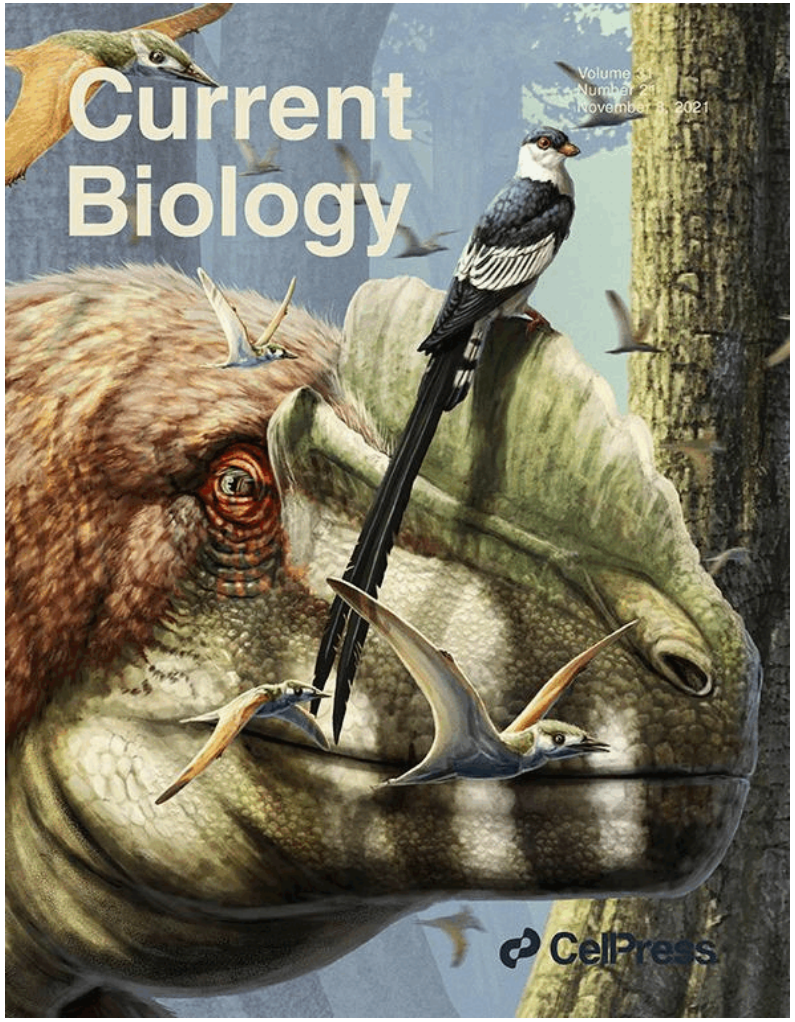
*Here, we report a new Early Cretaceous enantiornithine, Yuanchuavis kompsosoura gen. et. sp. nov., with a rectricial fan combined with an elongate central pair of fully pennaceous rachis-dominated plumes, constituting a new tail plumage previously unknown among non-avialan dinosaurs and Mesozoic birds but which strongly resembles the pintail in many neornithines.*

*The extravagant but aerodynamically costly long central plumes, as an honest signal of quality, likely evolved in enantiornithines through the handicap process of sexual selection.*

*The contrasting tail morphotypes observed between enantiornithines and early ornithuromorphs reflect the complex interplay between sexual and natural selections and indicate that each lineage experienced unique pressures reflecting ecological differences.*

*As in neornithines, early avialans repeatedly evolved extravagant structures highlighting the importance of sexual selection in shaping the plumage of feathered dinosaurs, even early in their evolutionary history.*

[Image shows *Yuanchuavis kompsosoura* sitting on a bigger dinosaur.]



**Zoology.**

Wignall, A.E., and F.G. Soley (2021) **Assassin bugs can reduce the aggression of their spider prey before an attack.** BIOLOGICAL JOURNAL OF THE LINNEAN SOCIETY 134:doi.org/10.1093/biolinnean/blab128

Authors' abstract: *Predators that hunt dangerous prey require specialized predatory tactics to avoid counter-attack. Usually, these predatory tactics reduce the probability of detection.*

*The assassin bugs Stenolemus bituberus and S. giraffa rely on stealth or mimicry to prey on dangerous web-building spiders. Paradoxically, however, these assassin bugs tap the spiders with their antennae prior to attacking, leaving the bugs vulnerable to detection and counter-attack.*

*Here, we tested the function of prey tapping. We used a controlled, repeated-measures experiment to assess the responses of spiders (Pholcus phalangioides) to simulated prey and compared their responses after being tapped on the leg (mimicking tapping by Stenolemus) or sham-tapped.*

*We show that tapping can reduce the likelihood that spiders will behave aggressively, in turn lowering the risks of injury for assassin bug predators. Tapping may be an adaptation to reduce intraspecific aggression in prey that is being exploited by their predators.*

Kolora, S.R.R., et al (2021) **Origins and evolution of extreme life span in Pacific Ocean rockfishes.** SCIENCE 374:doi.org/10.1126/science.abg5332

Authors' abstract: *Fish have wide variations in life span even within closely related species. One such example are the rockfish species found along North Pacific coasts, which have life spans ranging from 11 to more than 200 years.*

*We sequenced and performed a genomic analysis of 88 rockfish species, including long-read sequencing of the genomes of six species. From this analysis, the authors unmasked the genetic drivers of longevity evolution, including immunity and DNA repair-related pathways.*

*Copy number expansion in the butyrophilin gene family was shown to be positively associated with life span, and population historical dynamics and life histories correlated differently between long- and short-lived species. These results support the idea that inflammation may modulate the aging process in these fish.*

*Pacific Ocean rockfishes (genus Sebastes) exhibit extreme variation in life span, with some species being among the most long-lived extant vertebrates.*

*We de novo assembled the genomes of 88 rockfish species and from these identified repeated signatures of positive selection in DNA repair pathways in long-lived taxa and 137 longevity-associated genes with direct effects on life span through insulin signaling and with pleiotropic effects through size and environmental adaptations.*

*A genome-wide screen of structural variation reveals copy number expansions in the immune modulatory butyrophilin gene family in long-lived species. The evolution of different rockfish life histories is coupled to genetic diversity and reshapes the mutational spectrum driving segregating CpG?TpG variants in long-lived species.*

Helmroth, R.D., et al (2021) **The lungfish cocoon is a living tissue with antimicrobial functions.** SCIENCE ADVANCES 7:doi.org/10.1126/sciadv.abj0829 (available as a free pdf)

Authors' abstract: *Terrestrialization is an extreme physiological adaptation by which African lungfish survive dry seasons. For months and up to several years, lungfish live inside a dry mucus cocoon that protects them from desiccation. Light and electron microscopy reveal that the lungfish cocoon is a living tissue that traps bacteria.*

*Transcriptomic analyses identify a global state of inflammation in the terrestrialized lungfish skin characterized by granulocyte recruitment. Recruited granulocytes transmigrate into the cocoon where they release extracellular traps.*

*In vivo DNase I surface spraying during terrestrialization results in dysbiosis, septicemia, skin wounds, and hemorrhages. Thus, lungfish have evolved unique immunological adaptations to protect their bodies from infection for extended periods of time while living on land. Trapping bacteria outside their bodies may benefit estivating vertebrates that undergo metabolic torpor.*

Montgomerie, R., et al (2021) **The shapes of birds' eggs: Evolutionary constraints and adaptations**. AMERICAN NATURALIST 198:E215-E231

Authors' abstract: *We studied the shapes of eggs from 955 extant bird species across the avian phylogeny, including 39 of 40 orders and 78% of 249 families.*

*We show that the elongation component of egg shape (length relative to width) is largely the result of constraints imposed by the female's anatomy during egg formation, whereas asymmetry (pointedness) is mainly an adaptation to conditions during the incubation period.*

*Thus, egg elongation is associated with the size of the egg in relation to both the size of the female's oviduct and her general body conformation and mode of locomotion correlated with pelvis shape. Egg asymmetry is related mainly to clutch size and the structure of the incubation site, factors that influence thermal efficiency during incubation and the risk of breakage.*

*Importantly, general patterns across the avian phylogeny do not always reflect the trends within lower taxonomic levels. We argue that the analysis of avian egg shape is most profitably conducted within taxa where all species share similar life histories and ecologies, as there is no single factor that influences egg shape in the same way in all bird species.*

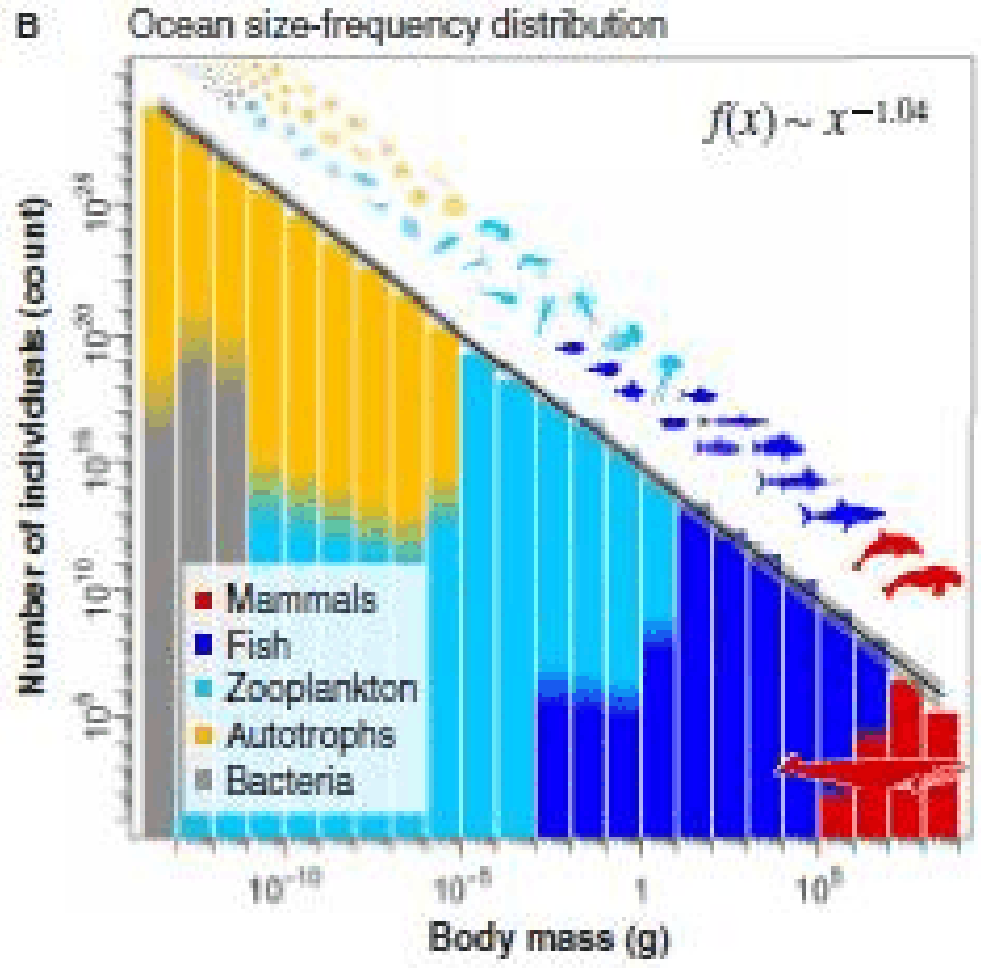
**Ecology.**

Hatton, I.A., et al (2021) **The global ocean size spectrum from bacteria to whales.** SCIENCE ADVANCES 7:doi.org/10.1126/sciadv.abh3732 (available as a free pdf)

Authors' abstract: *It has long been hypothesized that aquatic biomass is evenly distributed among logarithmic body mass size classes. Although this community structure has been observed regionally, mostly among plankton groups, its generality has never been formally tested across all marine life over the global ocean, nor have the impacts of humans on it been globally assessed.*

*Here, we bring together data at the global scale to test the hypothesis from bacteria to whales. We find that biomass within most order of magnitude size classes is indeed remarkably constant, near 1 gigatonne wet weight ($10^{15}$ grammes), but bacteria and large marine mammals are markedly above and below this value, respectively. Furthermore, human impacts appear to have significantly truncated the upper one-third of the spectrum. This dramatic alteration to what is possibly life's largest-scale regularity underscores the global extent of human activities.*

[Image is from this paper. Autotrophs are algae.]



Mavrovouna, V., et al (2021) **Orienting to the sun improves camouflage for bilaterally symmetrical prey.** BIOLOGICAL JOURNAL OF THE LINNEAN SOCIETY 134:803-808 (available as a free pdf)

Authors' abstract: *Here, we investigate the camouflage consequences of animal orientation behaviour. Shadows can be a conspicuous cue to the presence of prey. For bilaterally symmetrical animals, light field modelling indicates that camouflage will be improved when an animal orients its longitudinal axis directly towards or away from the sun, because the appearance of shadows is minimized.*

*We test this prediction with a field predation experiment, in which wild birds hunt for artificial camouflaged prey oriented with the longitudinal axis either parallel or perpendicular to the sun. We find that prey oriented parallel to the sun are 3.93 times more likely to survive than prey oriented perpendicular to the sun.*

*This result demonstrates the strong orientation dependence of camouflage. Given the dramatic difference in survival of prey with different orientations, we suggest that camouflage should be investigated as an important determinant of the positional behaviour of animals.*

**Humans: Modern.**

Wittenberg, C., et al (2021) **The (minimal) persuasive advantage of political video over text.** PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES USA 118:doi.org/10.1073/pnas.2114388118 (available as a free pdf)

Authors' abstract: *Concerns about video-based political persuasion are prevalent in both popular and academic circles, predicated on the assumption that video is more compelling than text. To date, however, this assumption remains largely untested in the political domain.*

*Here, we provide such a test. We begin by drawing a theoretical distinction between two dimensions for which video might be more efficacious than text:*
*1) one's belief that a depicted event actually occurred and*
*2) the extent to which one's attitudes and behavior are changed.*

*We test this model across two high-powered survey experiments varying exposure to politically persuasive messaging (total n = 7,609 Americans; 26,584 observations). Respondents were shown a selection of persuasive messages drawn from a diverse sample of 72 clips.*

*For each message, they were randomly assigned to one of three conditions: a short video, a detailed transcript of the video, or a control condition. Overall, we find that individuals are more likely to believe an event occurred when it is presented in video versus textual form, but the impact on attitudes and behavioral intentions is much smaller.*

*Importantly, for both dimensions, these effects are highly stable across messages and respondent subgroups. Moreover, when it comes to attitudes and engagement, the difference between the video and text conditions is comparable to, if not smaller than, the difference between the text and control conditions.*

*Taken together, these results call into question widely held assumptions about the unique persuasive power of political video over text.*

Sato, Y., et al (2021) **Novel bile acid biosynthetic pathways are enriched in the microbiome of centenarians.** NATURE 599:458-464

Authors' abstract: *Centenarians have a decreased susceptibility to ageing-associated illnesses, chronic inflammation, and infectious diseases. Here we show that centenarians have a distinct gut microbiome that is enriched in microorganisms that are capable of generating unique secondary bile acids, including various isoforms of lithocholic acid (LCA): iso-, 3-oxo-, allo-, 3-oxoallo- and isoallolithocholic acid.*

*Among these bile acids, the biosynthetic pathway for isoalloLCA had not been described previously. By screening 68 bacterial isolates from the faecal microbiota of a centenarian, we identified Odoribacteraceae strains as effective producers of isoalloLCA both in vitro and in vivo.*

*Furthermore, we found that the enzymes 5a-reductase (5AR) and 3β-hydroxysteroid dehydrogenase (3β-HSDH) were responsible for the production of isoalloLCA. IsoalloLCA exerted potent antimicrobial effects against Gram-positive (but not Gram-negative) multi-drug-resistant pathogens, including Clostridioides difficile and Enterococcus faecium.*

*These findings suggest that the metabolism of specific bile acids may be involved in reducing the risk of infection with pathobionts, thereby potentially contributing to the maintenance of intestinal homeostasis.*

**Technology.**

Venkatesaramani, R., et al (2021) **Re-identification of individuals in genomic datasets using public face images.** SCIENCE ADVANCES 7:doi.org/10.1126/sciadv.abg3296 (available as a free pdf)

Authors' abstract: *Recent studies suggest that genomic data can be matched to images of human faces, raising the concern that genomic data can be re-identified with relative ease. However, such investigations assume access to well-curated images, which are rarely available in practice and challenging to derive from photos not generated in a controlled laboratory setting.*

*In this study, we reconsider re-identification risk and find that, for most individuals, the actual risk posed by linkage attacks to typical face images is substantially smaller than claimed in prior investigations.*

*Moreover, we show that only a small amount of well-calibrated noise, imperceptible to humans, can be added to images to markedly reduce such risk. The results of this investigation create an opportunity to create image filters that enable individuals to have better control over re-identification risk based on linkage.*

Speirs: Somehow I'm not reassured by this paper.

Anelli, M., et al (2021) **Individual vulnerability to industrial robot adoption increases support for the radical right.** PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES USA 118:doi.org/10.1073/pnas.2111611118

Authors' abstract: *The success of radical-right parties across western Europe has generated much concern. These parties propose making borders less permeable, oppose ethnic diversity, and often express impatience with the institutions of representative democracy.*

*Part of their recent success has been shown to be driven by structural economic changes, such as globalization, which triggers distributional consequences that, in turn, translate into voting behavior.*

*We ask what are the political consequences of a different structural change: robotization of manufacturing. We propose a measure of individual exposure to automation and show that individuals more vulnerable to negative consequences of automation tend to display more support for the radical right. Automation exposure raises support for the radical left too, but to a significantly lower extent.*

*The increasing success of populist and radical-right parties is one of the most remarkable developments in the politics of advanced democracies. We investigate the impact of industrial robot adoption on individual voting behavior in 13 western European countries between 1999 and 2015.*

*We argue for the importance of the distributional consequences triggered by automation, which generates winners and losers also within a given geographic area. Analysis that exploits only cross-regional variation in the incidence of robot adoption might miss important facets of this process.*

*In fact, patterns in individual indicators of economic distress and political dissatisfaction are masked in regional-level analysis, but can be clearly detected by exploiting individual-level variation. We argue that traditional measures of individual exposure to automation based on the current occupation of respondents are potentially contaminated by the consequences of automation itself, due to direct and indirect occupational displacement.*

*We introduce a measure of individual exposure to automation that combines three elements:*
*1) estimates of occupational probabilities based on employment patterns prevailing in the preautomation historical labor market,*
*2) occupation-specific automatability scores, and*
*3) the pace of robot adoption in a given country and year.*

*We find that individuals more exposed to automation tend to display higher support for the radical right. This result is robust to controlling for several other drivers of radical-right support identified by earlier literature: nativism, status threat, cultural traditionalism, and globalization. We also find evidence of significant interplay between automation and these other drivers.*