OPUNTIA 524

Middle May 2022

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.

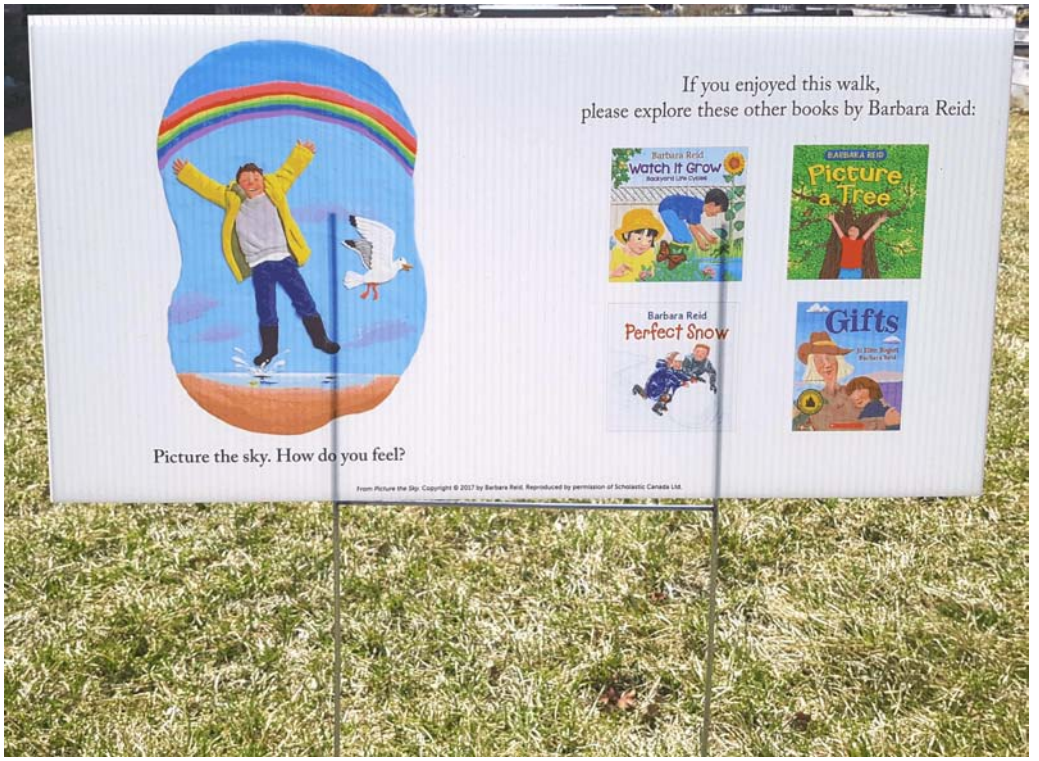
BLUE SKIES COMING MY WAY

2022-04-28

photos by Dale Speirs

I normally do most of my library reading or research in the New Central Library downtown, but on occasion swing by some of the outer branches that may have a book I want to look at. (Not everything is on the Internet.) Thus I traversed our glorious freeways to southwest Calgary to the Southwood branch.

As I walked toward the library from my car, I noticed a string of signs in the park on the north side of the building, as seen on the cover of this issue. I detoured around to the other side of the signs and saw they were pages from a children's book. I won't show them all, so you'll have to buy the book if you must know how the story transpired, but here are a few photos.

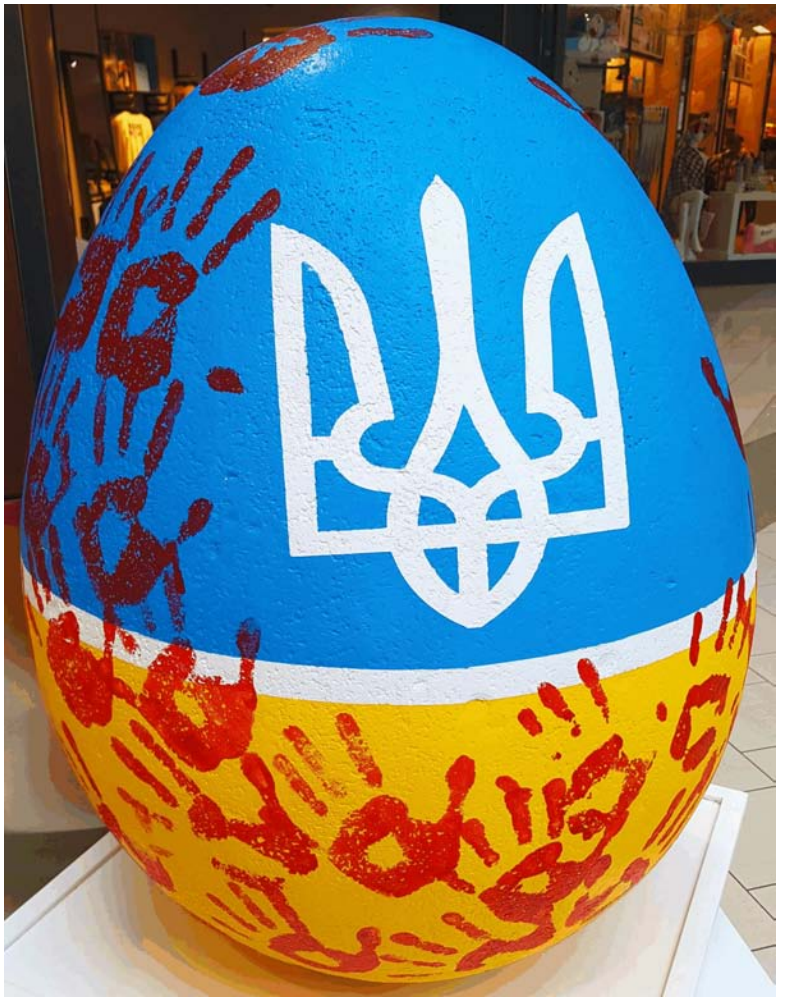


photos by Dale Speirs

As it happened, a few days later I made a trip even further south to the Fish Creek branch of the library, which is adjacent to the Southcentre Mall. I went into the food court for a bite to eat, then walked around the mall and found a display of giant pysanky in the central court.

The regular Easter was April 15 to 18, but Orthodox Christians observed the holiday April 24, which explained why this display was still there. No doubt it will be held longer because of the invasion of Ukraine by Russia. Pysanky are common enough here because the prairies were colonized en masse by Ukrainians in the 1890s and early 1900s.

This display was by Dana Teh. The central egg (below) was about 2 metres high and the others about 1 metre high.



This view is the other side of the egg shown above.

TRANSIT FANNING IN CALGARY: PART 30
by Dale Speirs

[Parts 1 to 29 appeared in OPUNTIAs #256, 258, 260, 264, 269, 275, 283, 298, 302, 327, 333, 341, 348, 357, 359, 365, 369, 371, 392, 394, 396, 407, 412, 426, 435, 445, 462, 484, and 508.]

The Last Of Cowtown.

The American cable network HBO has been filming a post-apocalypse television series THE LAST OF US in Calgary for the past six months and expect to wrap up in June. The series will air next year and had a budget of $300 million, so the SFX had better be good. The scenes are mostly in downtown Calgary.

Apparently the plot involved a killer fungus, hence the brown goop on this and other prop vehicles. The bus is not the make used by Calgary Transit, so it must have been imported from south of the border. Notice the www.kcata.org address along the top of the bus. I checked the Internet and this was the Kansas City Area Transportation Authority.

The supposition therefore is that the plot will take place in Kansas City. I assume that camera staff in Calgary will point the cameras due east, since if they point them west the Rocky Mountains will be in view.

I know enough about Kansas and Missouri that neither state has mountains. However every city's downtown core looks much like any other city, so presumably Calgary will pass as Kansas City.

The bus was parked on 6 Avenue SW and 5 Street adjacent to the Old Courthouse. That building has been empty for years. The north yard was screened off for filming, with battered military vehicles parked on the grass. If you watch the series, the Old Courthouse is a large sandstone building. As to where the bus will show up, that will be anybody's bet.

Trains.

I was waiting at the LRT station at City Hall when this train came by. I've never seen it before so it must be new. The signage on the train was self-explanatory.

MAIL ART OF BETTY SPEIRS: PART 7
by Dale Speirs

[Parts 1 to 6 appeared in OPUNTIAs #511, 514, 517, 519, 521, and 523.]

Spring has sprung, the grass has riz, I wonder where my lawnmower is? Earlier this year the house across the street from me was sold. The new owners moved here from Vancouver. They expressed surprise that we had snow in April, so I told them we also have snow in early May.

It doesn't stick this time of year and quickly melts away. I explained to them that Calgary is a mountain city; and the western and northern suburbs are in the Rocky Mountain foothills. It's not the latitude, it's the altitude.

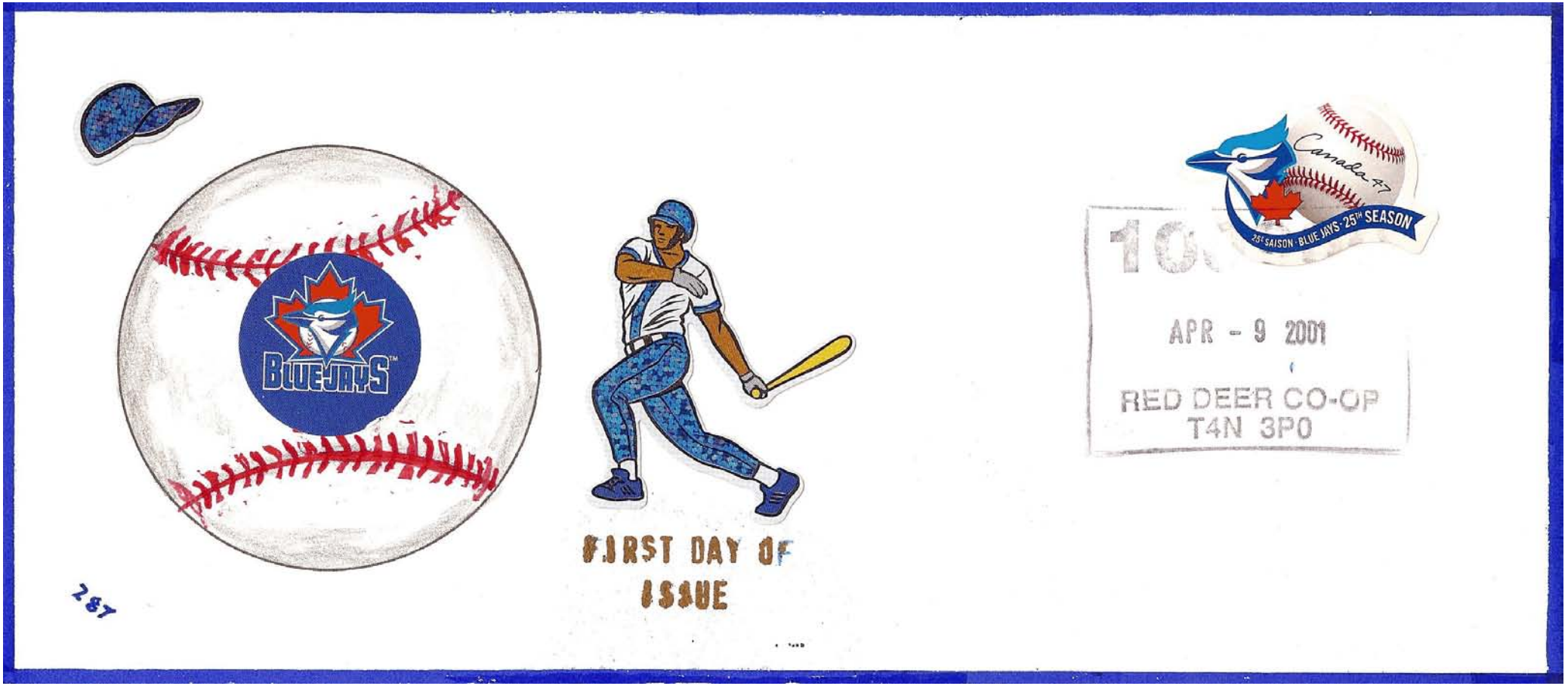
Calgary's official altitude is 1 km above sea level but that level is measured at City Hall, which is on the floor of the Bow River valley. Most of Calgary, including my neighbourhood, is on the plateau, about 100 metres higher, and the foothill suburbs are several hundred metres more.

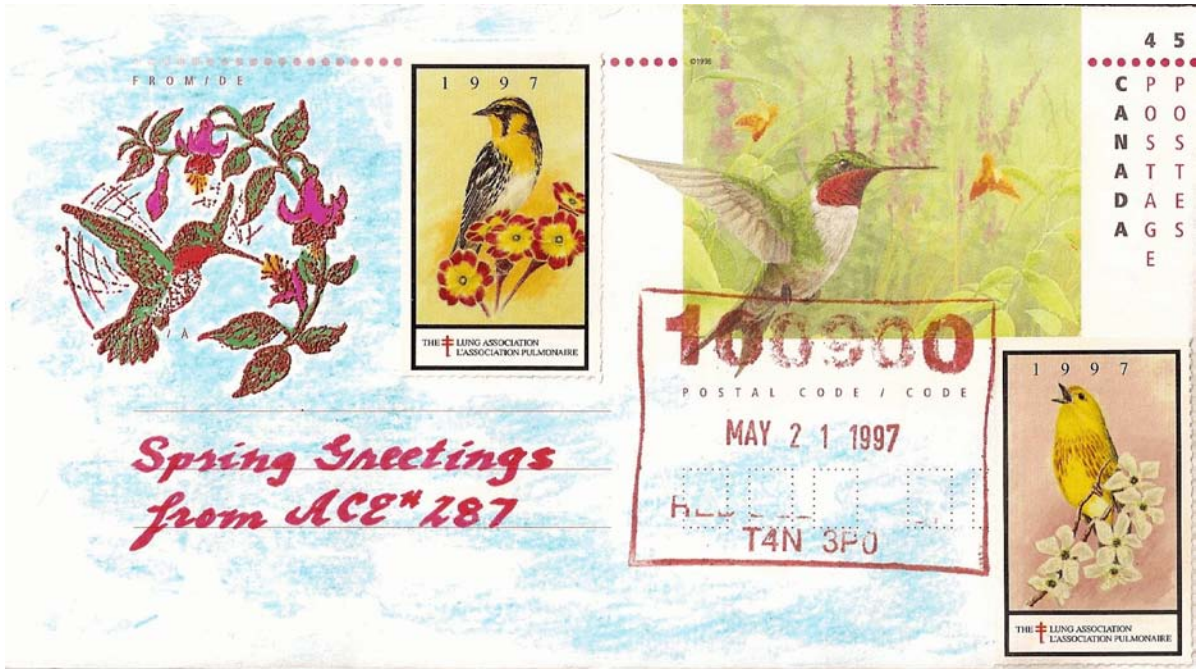
Calgary is a vast sprawling city, about 50 km east-west and 40 km north-south. The weather in the city is directly correlated with the altitude. When I was a working man with the Parks Dept., I was usually stationed in the far reaches of the city.

I would leave my house in the morning, where, for example, there were only light flurries of snow. Driving north, as soon as I crossed the Bow River, the snow would intensify and driving up to the plateau on the far side, the snowfall would be steady. In the northern suburbs, there would be 4WD snowfall.

I'm off the subject. I spent the second half of my childhood in the Red Deer district, about 150 km due north of Calgary. My parents lived there until their deaths. The area is farther away from the mountains, since the Rockies trend southeast-northwest, and we always had more snow than southern Alberta.

My mother Betty made these covers in celebration of spring.





Above: Baseball season begins in spring. My father and brother were hockey fans, but other than that no one followed sports. Betty was a stamp collector though, so when a baseball stamp was issued in the spring of 2001, she made a first-day cover.

Betty belonged to the Art Cover Exchange, still in business at www.artcoverexchange.org Her membership number was #287, hence the inscription.

THE MAN FROM MONTENEGRO: PART 25
by Dale Speirs

[Parts 1 to 24 appeared in OPUNTIAs #252, 253, 275, 278, 279, 289, 304, 307, 319, 332, 335, 337, 344, 355, 364, 365, 382, 415, 445, 473, 479, 503, 513, and 519.]

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.

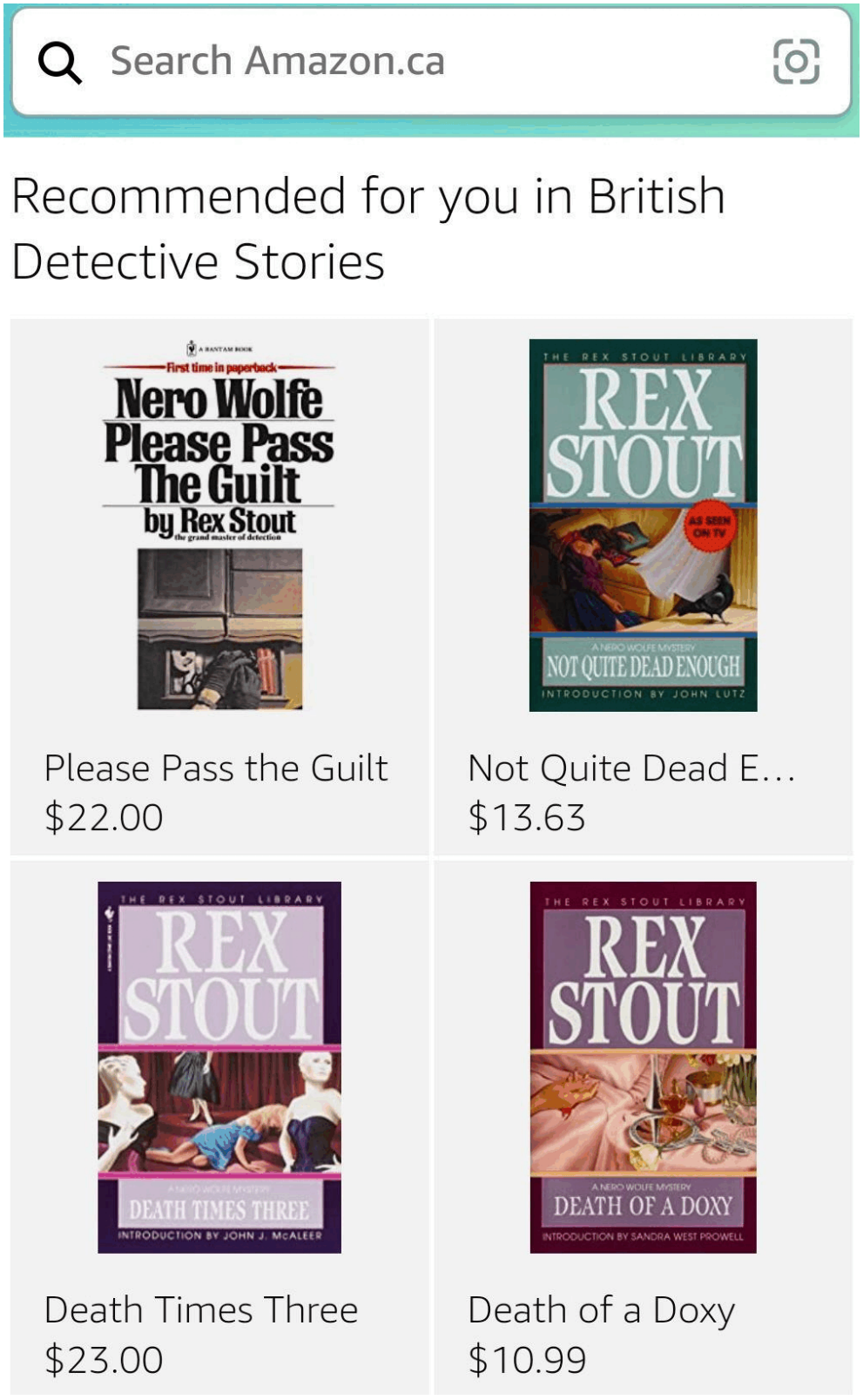
Nero Wolfe was a morbidly obese middle-aged man who had been a dashing young buck in his birthplace of Montenegro. The Balkan Wars, which were the prelude to World War One, had sent him adrift across Europe in the service of the Serbian army. After the war he made a fortune in unexplained dealings and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

But Before That, This.

I often wonder about who writes the algorithms for recommendations on Amazon. The example at right is a screenshot from May 2 which speaks for itself. Do they have brownstones in England? You will, of course, spot the error immediately.



Pastiches: Old-Time Radio.

Nero Wolfe was adapted for radio in three different series between 1943 and 1951. Rex Stout got royalty cheques but farmed out the scripts to other writers.

Two of the series are only known from a single preserved episode each, but the third series survived as a complete run. It featured Sydney Greenstreet, who was considered to be the best at portraying Wolfe. He had a distinctive voice, which made a difference on radio.

"The Case Of The Beautiful Archer" was written by Peter Barry and aired on 1950-11-24. The archer was Diana Lawrence, a tempestuous young woman at odds with Dr Reynard Townley. Her fiancé Willard Garth was an inmate in his sanitarium near Nyack, New York.

Garth was a wealthy young man about town, constantly shadowed by Diana, whom everyone suspected of being a golddigger. He was a weak-willed heir, and finally fled for safety into the Townley Sanitarium. She was the daughter of sculptor Michael Lawrence who lived nearby.

In the opening scene, she was holding a gun on Townley, demanding Garth be released. He tricked her and grabbed the gun, then sent her on her way with a caution: "*Murder is a vexatious business. You'll be grateful to me some day.*" He put the gun into a locked cabinet in his office.

Later that day, Garth telephoned Diana. He had permission to take her for a drive in the country, chaperoned by the sanitarium's handyman/chauffeur Haines (no first name ever given). The drive did not go well.

Diana only convinced Garth that she was indeed a fortune hunter. He tried to strangle her in the back seat. Two shots rang out, and the orchestra went into a frenzy, blaring out a crescendo.

Jump cut to Wolfe's brownstone the next day, where Townley was conferring with the great detective. The update was that Garth's body had been found in the abandoned car with no sign of Haines or Diana. Michael said he hadn't seen her, and Haines had no known address.

Wolfe sent Archie Goodwin up to the Lawrence residence, where he found Michael chiseling away on a statue of a nude Ariadne and Apollo. Ariadne was modeled on Diana but Apollo wasn't finished, lacking the face.

There were some contretemps. While tracking down Diana and Haines, Goodwin was variously slugged by Michael and tossed into the river by Haines. Excursions were made about the countryside.

The gun Townley confiscated went missing, and proved to be the murder weapon. Garth was killed by shots fired from outside the car, so neither Diana nor Haines could have killed him. Townley was next to depart this world, taking an arrow in the back.

Wolfe was forced to leave the sanctuary of the brownstone and venture into the wilderness of Nyack. There was a grand fete in the Lawrence studio, where all the principal suspects assembled. They traded accusations and gunshots with each other.

The face of Apollo had been finished in the likeness of Michael. A disquieting piece of information came out when Michael told Wolfe that Diana was not his biological daughter.

He had legally adopted her from South Africa when she was 14. Michael was in love with Diana and wanted her for himself. I'm surprised this got past the network censor.

Wolfe tricked Michael into admitting the killing of Garth with Diana's gun and Townley with her bow and arrow. Micahel was about to kill Wolfe when Goodwin got off a good shot and saved the state the cost of a trial.

Pause for a discussion about Peter Barry. His renditions of Archie Goodwin were not well written, making the man into a boor and a loudmouth who interrupted when he should have kept quiet. The portrayals did not match the corpus, where Goodwin was a ladies man but had good manners.

Barry wasn't the only writer who did this. Several others gave Goodwin pickup lines that wouldn't work on a last-call woman. In the corpus, Goodwin's girlfriend was Lily Rowan, but she never made an appearance in the radio series.

"The Case Of The Friendly Rabbit" was written by Alfred Bester (yes, the science fiction writer) and aired on 1950-12-01. A crime commission was putting the heat on a local gangster named Veek.

By way of self-defence, he put his nightclub into hibernation and sent most of his men out of state on vacation. This meant that subpoenas couldn't be served on them, even if the commission could find them.

The state governor was bothered by a leak from somewhere inside the commission. As a result, Veek always seemed to be one step ahead of the law. The governor asked his man Williams to find the source of the leak.

Williams suspected James Collier, the secretary of the commission, but wiretaps and mail checks did not reveal how the information was escaping. He did note one peculiarity, namely the man owned a rabbit farm.

Every so often Veek mysteriously shipped a truckload of carrots to a rabbit farm upstate. No one knew about that, other than Marshall, the henchman who drove the truck. Collier was nervous. His fiancée Claire broke off their engagement. She was concerned about his sudden wealth. He confessed he was in trouble but his problem would soon be over. They were, but not the way he thought.

Williams called out Nero Wolfe to come upstate and investigate for the governor. While Wolfe tested the hotel bed, he sent Archie Goodwin to infiltrate the farm. The place was peaceful until Goodwin got there. Very quickly, alarum followed excursion and vice versa.

Shots were fired. The dead man, and there was one, was a complete stranger with no identification on him. Meanwhile, back at the hotel Wolfe wasn't getting his beauty sleep. Veek visited him with a request that he retreat from the field.

A cultured gangster who spoke English without a Noo Yawk accent, Veek was not so crude as to offer a cash bribe. Instead, Veek offered to sacrifice Collier, on the condition that Veek's name not be mentioned in the commission's report. He handed Wolfe some papers proving Collier's guilt, and left with expressions of regards.

At the farm, Goodwin and the police were looking for Collier as the prime suspect. Wolfe, from his bed, identified the dead man as Marshall. From there, everyone went back to the farm, Wolfe included. The tour included the rabbit hutches.

The animals cowered at the far end, except for a single dead rabbit up front. Someone had bashed in its head. Wolfe said the reason was the rabbit was too friendly. Having come out that far, Wolfe settled into the farmhouse for a J'accuse! meeting. A funny moment was when Wolfe sat down and the sounds of creaking were heard as the chair adjusted to his tremendous weight.

Wolfe accused Claire of sheltering Collier, the murderer. He suggested Archie and the police look around for a plot of freshly disturbed ground. While they were thus occupied, Veek arrived, waving a handgun. Wolfe went into an exposition of who did what to whom. Archie stepped in and disarmed Veek.

The police had found Collier's grave. Marshall killed him and Veek killed Marshall. The leaked information had been transmitted verbally by Collier to Marshall during each shipment of carrots. Claire wasn't too broken up by her fiancé's death, and accepted Goodwin's suggestion of a romantic moonlight stroll.

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 #391 (US$10 annual subscription from The Fossils Inc, c/o Tom Parson, 157 South Logan Street, Denver, Colorado 94087) This clubzine covers the history of zines from the late 1800s to date. This issue discusses zinester Walter Mellinger (1866-1954), who was noted for his cheerful optimistic disposition. He wouldn't last long on Twitter or Instagram.

FOOD COZIES: PART 22
by Dale Speirs

[Parts 1 to 21 appeared in OPUNTIAs #432 to 434, 436, 438, 441, 442, 444, 447, 450, 454, 456 to 458, 460 to 462, 465, 475, 507, and 512.]

Food cozies are about Miss Marples (or Jessica Fletchers) who operate some sort of food store, bakery, or cafe. They have a recipes appendix. A word of warning though. Never read a food cozy on an empty stomach, elsewise you will be ordering one of everything from Skip The Dishes.

Cake, Batter, And Roll.

THE CAKES OF WRATH (2013) by Jacklyn Brady (pseudonym of Sherry Lewis) was the fourth novel in a series about Rita Lucero, proprietor of Zydeco Cakes in New Orleans, Louisiana. The fuss began when she joined a small business group.

Among the members were Moose and Destiny Hazen, who had messy lives. Too messy, as the body of Destiny was found later with a bottle of pain killer pills stolen from Rita. The bottle was empty and the NOPD decided Rita poisoned Destiny and left the evidence behind. She therefore had to go Marpleing to clear her name.

Thenceforth she hardly entered the bakery except for a priority order for a wedding cake. Much melodrama and hidden past histories were brought forth. The final confrontation was a knife fight with a letteropener.

The murderer was a drug addict who didn't like Destiny putting on airs. Just that, and enough reason in the murderer's distorted mind to kill.

The NOPD arrived in the nick of time and so to the recipes appendix. Starting off was Sugar Plum Spice Cake, followed by Smoked Pork Ribs. A hearty meal down south. For sweet tooths, Blueberry Muffins and Pecan Balls.

Carrying on in the series was THE CAKES OF MONTE CRISTO (2016). Rita Lucero was catering the Belle Lune Ball, including five cakes. The event was staged at the Monte Cristo Hotel, mostly, one supposes, to justify the title of the book.

Rita was distracted by finding a ruby necklace under a staircase in her bakery. Once the word got out, people began dying and Rita was threatened with menaces. Somebody felt the necklace was theirs and wanted it in the worst way. So did someone else, and the two predators confused the investigation.

For a change it was Miss Marple who had break-ins and snoopers following her. There was, however, the usual violent confrontation in the denouement. Following on were the recipes.

They began with Roasted Parmesan Potatoes, then Pork Chops with Pear Chutney. The Creamy Curried Cauliflower Soup was something I'll avoid. The Corn Pudding spoke for itself.

Baking Down Under.

DEVIL'S FOOD (2006) by Kerry Greenwood was a novel in a food cozy series set in Melbourne, Australia, certainly a different venue for Miss Marples. Corinna Chapman operated the Earthly Delights Bakery.

Her elderly hippy parents Starshine (her mother) and Sunlight (her father) were a vexatious burden to her. The bakery staff and the tenants in the apartment she owned were no better. As the topping, there was a doomsday cult which believed in starvation diets.

Basically all the characters were lunatics, real or wanna-be. Someone was poisoning weight-loss herbal tea with datura. There were strange doings down the street at Cafe Vlad Tepes. Most of the trouble was eventually sorted out, more or less. Not your mother's cozy.

The recipes appendix included Lemon And Lentil Soup, Oriental Fruits, and Devil's Food Cake. As the author wrote, *Kala orexi!*, plus a legal disclaimer not to use datura in herbal tea.

Carrying on in this series was COOKING THE BOOKS (2011). Corinna Chapman was catering baked goods for a movie production making a soap opera "Kiss The Bride". Two of her tenants had bit parts in the show.

There was trouble on the set. Practical jokes or sabotage, depending how you considered them, disrupted production. The script writers were upset because their precious words were constantly rewritten. Did no one tell them when they

got into the business? Corinna carried on baking and Marpleing. On the movie set there was more drama behind the camera than in front of it.

There was an evil corporation in the mix. The plot staggered to a finish and slammed head-first into the Recipes appendix. On to Gyngerbrede, Saint Brigid's Bread, and Pea And Ham Soup G'day mate!

Doughnut Commit Crimes.

[I use the correct spelling of 'doughnut' but where the text of American novels use 'donut' then I leave it stand.]

DECK THE DONUTS (2021) by Ginger Bolton (pseudonym of Janet Bolin) was the sixth novel in a series about Emily Westhill. She was the proprietor of the Deputy Donut shop in Fallingbrook, Wisconsin.

The village's winter festival Ice and Light was underway. Emily commissioned an ice sculpture Frosty the Donut. A tour bus en route to the festival slid into a ditch during a snowstorm, hitting a large tree. The driver Travis Tarriston was seriously injured but the passengers were mostly unscathed.

Tarriston was taken to hospital but the next morning his body was discovered by Emily at Frosty the Donut. When she found the deceased, she screamed loudly and nearly fainted. Not believable. This was the sixth novel in the series, so by now she had seen as many bodies as a homicide detective in any big city. Her real reaction should have been a heavy sigh and muttering "Not again".

Be that as it may, Tarriston wasn't mourned. The passengers said he was drunk and driving too fast for conditions. Many of the villagers had problems with him in past years.

Between the doughnut shop, Marpleing, and the festival, Emily was a busy woman. Dredging up past histories eventually resulted in the grande finale confrontation with the murderer. His father had been killed by Tarriston decades before in a hit-and-run accident. Revenge is a doughnut best served cold.

The recipes featured two types of doughnuts, Gingerbread and Chocolate Orange. Don't forget your diet.

I bought these doughnuts to use as an illustration for this review. That's my story and I'm sticking to it Both are from Jelly, a doughnut shop franchise which managed to survive the pandemic. On the left is Lemon Blueberry and on the right is Cookies And Cream.

Popcorn.

POP GOES THE MURDER (2017) by Kristi Abbott was a novel in a series about Rebecca Anderson, proprietor of the Pops gourmet popcorn shop in Grand Lake, Ohio. Her ex-husband Antoine Belanger had a cooking show on cable television.

He asked her to take part, no hard feelings, for an episode highlighting her breakfast bars and popcorn fudge. She was reluctant because his new assistant producer Melanie was a younger version of herself, and pushy too.

The plot got off to a quick start. The television crew arrived in town but Melanie never got a speaking part. Rebecca visited her hotel room and found her dead in the bathtub.

An electric hair dryer was in the water, an obvious attempt to make the death look accidental. No one believed Melanie would blow dry her hair while soaking in the bathtub. Such appliances are three-prong plug devices with ground-fault interrupters that shut off if immersed.

Sheriff Dan Cooper was Rebecca's brother-in-law. The investigation, both his and hers, was exhausting. When the task overwhelmed her, she sat down in her

shop for a chunk of Coco Pop Fudge. "*Sugar would probably help*", she thought. So say us all.

Antoine didn't mourn much and the television crew continued filming around the village. Lucy became the new assistant producer, while Rebecca went into Miss Marple mode. The back stories and melodramas were dredged up.

Melanie had been deep in debt, had embezzled from Antoine, and her cat died. Lucy was hostile to Rebecca and obviously had a crush on Antoine. He was arrested by Cooper, not from hostility but because Deppity Dawgs pick a suspect and then gather evidence to fit him.

Being a slow news day, the media descended on the village, parking in front of the popcorn store. Business was off since customers don't like to fight their way through a scrum of reporters.

A variety of suspects were eliminated as Rebecca did her Marpleing in between trying to run the shop. She got the wrong suspect, as she learned when Lucy arrived and pointed a gun at her. The clever girl staged a grease fire in the kitchen and tried to make Rebecca's death look accidental.

Didn't work, and so to the recipes appendix. Bacon Pecan Popcorn and Mexican Chocolate Popcorn were the two recipes. If you're wondering what Mexican chocolate is, just add chili powder to ordinary chocolate.

ASSAULT AND BUTTERY (2021) was the next installment in the series. This must be the most unusual yet refreshingly true opening for a cozy. Rebecca Anderson was in jail for obstruction of police, who had previously cautioned her, then incarcerated her when she wouldn't take the hint. The village folk had already taken note that the murder rate soared as soon as she moved to the village.

The story alternated between the jail cell, the back story of how Rebecca came to be there, her grandmother's diary, a long-dead villager who had been a Nazi war criminal, a woman he murdered decades ago, and other assorted baggage. A local man died after eating poisoned popcorn from Rebecca's shop.

There was a municipal election underway. Rebecca's sleuthing uncovered so much dirt about all the candidates that the election had to be called off after they all resigned. No one was left in the race.

She managed to revive her popcorn shop after renovations to repair the damage from the grease fire. As always, the Bacon Pecan popcorn was the village favourite.

The denouement was a complicated mess. The culprit confessed to trying to cover up her grandfather's war crimes and to trying to get rid of that most annoying Miss Marple. The dead man wasn't the intended target of the poisoned popcorn.

There were two recipes in the appendix. S'mores Popcorn Bars will ruin any diet. Shiitake Crisps Popcorn will definitely be an acquired taste.

Food Critics.

As Jean Sibelius remarked, there are no statues erected for critics. Which brings us to A SCONE OF CONTENTION (2021) by Lucy Burdette (pseudonym of Roberta Isleib), the eleventh novel in a series about Hayley Snow of Key West, Florida. She was the food critic for a local newspaper and the resident Jessica Fletcher.

Given the death rate in the islands whenever Hayley was nigh, this novel moved to Scotland lest the cayes be completely depopulated. She was on her honeymoon with police detective Nathan Bransford. Unfortunately his family invited themselves along to see Scotland.

Hayley's ability to attract murder victims did not fail her over there. An annoying author's wife was hospitalized with severe food poisoning at a banquet. She barely survived. Both the police and Hayley investigated, but the medical examiner trumped them by finding digitalis.

Continuing the tour, Hayley was munching on scones and witnessing another death, as a man fell to his death. Plenty of sleuthing for her to do, from snooping in flowerbeds (foxgloves are a good source of digitalis) to the grand tour of Scotland considered as one big crime scene.

I perked up when the action shifted to the Isle of Mull. Hayley and her entourage only visited the east side of the island at Tobermory and not Calgary Bay on the west side. I was hoping for a shout-out of the place that our fair city in Alberta was named after but no such luck.

There was an attempted murder at Tobermory to liven up the visit in between looking at the koos (Highland cows). That sped up the denouement. The murderer had meant to poison someone else but the waitress mixed up the dishes and served the digitalis special to the culprit.

Hayley wrapped up by enjoying a delicious meal of, no, not scones, but grilled caprese sandwiches. The recipes appendix was a showcase for Scottish cuisine, if such a phrase can be used. Cock-a-Leekie Soup, Cheese Scones, Scottish Creamed Vegetable Soup (the leeks made it Scottish), Cranachan (with oats and Scotch whiskey), and Sticky Toffee Pudding.

The Banana Date Scones didn't seem Scottish but there were Cinnamon Scones. The Coronation Chicken was curried, with apricot jam and diced mango. No haggis anywhere, thankfully.

I Scream.

A KILLER SUNDAE (2022) by Abby Collette (pseudonym of Shondra C. Longino) was the third novel in a series about Bronwyn Crewse, who operated an ice cream parlour in Chagrin Falls, Ohio.

She had just purchased a food truck and was trying it out at the Harvest Time Festival. She spent most of the novel telling people that it wasn't an ice cream truck, it was a food truck that sold ice cream, thank you very much.

The distinction was that an ice cream truck drives up and down residential neighbourhood playing calliope music. A food truck is parked at the curb and is more dignified. Sort of like the difference between Trekkies and Trekkers.

But on to the murder victim, Kaitlyn Toles, a former festival queen and now a television news reporter with dreams of someday making it big on the network. She was unpopular for many reasons, such as never letting facts get in the way of a good news scoop, no matter how much ruin was caused to villagers' reputations or businesses. Public consensus was, as a character said, "*she got what she deserved*".

The deceased's boyfriend Cameron Toffey accused Crewse of killing Toles, who had a nut allergy. However Toles had enemies among her own production crew, plus Toffey was a skirt chaser.

Toles did not have ice cream with nuts in it but her assistant Avery Kendricks had the chocolate peanut butter flavour. Kendricks was as ambitious as Toles and might have tried to create a job vacancy.

Fortunately, at least for Crewse, the medical examiner said Tole's coffee had been spiked with ethylene glycol antifreeze. The sweet taste of the poison could easily have been camouflaged by the heavy cream and sugar she habitually used. After extended sleuthing, Crewse identified the murderer but accused the wrong man.

The real killer got the jump on her, only to be jumped by the police. He had intended to poison the ice cream because he had a grudge against both women, but Toles had already bought her own ice cream. He improvised by slipping the antifreeze into her coffee.

The recipes appendix included ice cream flavours for Pralines And Cream, Blood Orange Sherbet, and Mocha Fudge.

Catering.

A FATAL FETTUCCINE (2021) by Julia Buckley was the fourth novel in a cozy series about Lilah Drake of Pine Haven, Illinois. She operated a catering business called Undercover Dish.

Drake specialized in discretely supplying customers with gourmet meals which they could claim to guests were prepared by themselves. You know what ghostwriting is, and Drake was in the ghostcooking business. She also was a sidekick on a food cable show called COOKING WITH ANGELO. Her third job was for an event planner, looking after the food.

Insofar as the action was concerned, the main thread was about an historian trying to track down a serial killer who might now be living in Pine Haven.

Another plot line was her television boss Angelo having a problem with his love life, or more specifically, a love child. The local university was suffering from a plague of vandalism that did not appear to be random.

Off Drake went aMarpleing. Every few pages the action was interrupted by her or someone else preparing food, specified in detail. No recipes appendix but that wasn't necessary. Don't read this book on an empty stomach or else you'll go berserk.

The final confrontation with the killer, a woman gone psycho, ended in gunshots, but nobody died. The loose threads were tied up at a table in the local ice cream parlour.

CURRENT EVENTS: PART 40
by Dale Speirs

[Parts 1 to 39 appeared in OPUNTIAs #474, 475, 479, 480, 483, 484, 488 to 503, and 507 to 523.]

As of May 5, Canada had 39,675 COVID-19 deaths out of a population of 38,000,000. The provincial governments stopped counting non-hospitalization cases several months ago. 81.4% of the adult population were vaccinated.

The Virus.

Hong, J., et al (2022) **Dromedary camel nanobodies broadly neutralize SARS-CoV-2 variants.** PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES USA 119:doi.org/10.1073/pnas.2201433119 (available as a free pdf)

Authors' abstract: *The severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) spike is a trimer of S1/S2 heterodimers with three receptor-binding domains (RBDs) at the S1 subunit for human angiotensin-converting enzyme 2 (hACE2). Due to their small size, nanobodies can recognize protein cavities that are not accessible to conventional antibodies.*

To isolate high-affinity nanobodies, large libraries with great diversity are highly desirable. Dromedary camels (Camelus dromedarius) are natural reservoirs of coronaviruses like Middle East respiratory syndrome CoV (MERS-CoV) that are transmitted to humans.

Here, we built large dromedary camel VHH phage libraries to isolate nanobodies that broadly neutralize SARS-CoV-2 variants. We isolated two VHH nanobodies, NCICoV-7A3 (7A3) and NCI-CoV-8A2 (8A2), which have a high affinity for the RBD via targeting nonoverlapping epitopes and show broad neutralization activity against SARS-CoV-2 and its emerging variants of concern.

Cryoelectron microscopy complex structures revealed that 8A2 binds the RBD in its up mode with a long CDR3 loop directly involved in the ACE2 binding residues and that 7A3 targets a deeply buried region that uniquely extends from the S1 subunit to the apex of the S2 subunit regardless of the conformational state of the RBD.

At a dose of about 5 mg/kg, 7A3 efficiently protected transgenic mice expressing hACE2 from the lethal challenge of variants B.1.351 or B.1.617.2, suggesting its therapeutic use against COVID-19 variants. The dromedary camel VHH phage libraries could be helpful as a unique platform ready for quickly isolating potent nanobodies against future emerging viruses.

The Disease.

Douaud, G., et al (2022) **SARS-CoV-2 is associated with changes in brain structure in UK Biobank.** NATURE 604:doi.org/10.1038/s41586-022-04569-5 (available as a free pdf)

Authors' abstract: *There is strong evidence of brain-related abnormalities in COVID-19. However, it remains unknown whether the impact of SARS-CoV-2 infection can be detected in milder cases, and whether this can reveal possible mechanisms contributing to brain pathology.*

Here we investigated brain changes in 785 participants of UK Biobank (aged 51 to 81 years) who were imaged twice using magnetic resonance imaging, including 401 cases who tested positive for infection with SARS-CoV-2 between their two scans, with 141 days on average separating their diagnosis and the second scan, as well as 384 controls.

The availability of pre-infection imaging data reduces the likelihood of pre-existing risk factors being misinterpreted as disease effects. We identified significant longitudinal effects when comparing the two groups, including
(1) a greater reduction in grey matter thickness and tissue contrast in the orbitofrontal cortex and parahippocampal gyrus;
(2) greater changes in markers of tissue damage in regions that are functionally connected to the primary olfactory cortex; and
(3) a greater reduction in global brain size in the SARS-CoV-2 cases.

The participants who were infected with SARS-CoV-2 also showed on average a greater cognitive decline between the two time points. Importantly, these imaging and cognitive longitudinal effects were still observed after excluding the 15 patients who had been hospitalised.

These mainly limbic brain imaging results may be the in vivo hallmarks of a degenerative spread of the disease through olfactory pathways, of neuroinflammatory events, or of the loss of sensory input due to anosmia. Whether this deleterious effect can be partially reversed, or whether these effects will persist in the long term, remains to be investigated with additional follow-up.

In particular, one consistent clinical feature, which can appear before the onset of respiratory symptoms, is the disturbance in olfaction and gustation in patients with COVID-19.

In a recent study, 100% of the patients in the subacute stage of the disease were displaying signs of gustatory impairment (hypogeusia), and 86%, signs of either hyposmia or anosmia.

Such loss of sensory olfactory inputs to the brain could lead to a loss of grey matter in olfactory-related brain regions. Olfactory cells, whether neuronal or supporting, concentrated in the olfactory epithelium are also particularly vulnerable to coronavirus invasion, and this seems to be also the case specifically with SARS-CoV-2.

Within the olfactory system, direct neuronal connections from and to the olfactory bulb encompass regions of the piriform cortex (the primary olfactory cortex), parahippocampal gyrus, entorhinal cortex and orbitofrontal areas.

Most brain imaging studies of COVID-19 to date have focussed on acute cases and radiological reports of single cases or case series based on computed tomography, positron emission tomography or magnetic resonance imaging scans, revealing a broad array of gross cerebral abnormalities, including white matter hyperintensities, hypoperfusion and signs of ischaemic events spread throughout the brain, but found more consistently in the cerebrum.

Gehlhausen, J.R., et al (2022) **Lack of association between pandemic chilblains and SARS-CoV-2 infection.** PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES USA 119:doi.org/10.1073/pnas.2122090119 (available as a free pdf)

Authors' abstract: *An increased incidence of chilblains has been observed during the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) pandemic and attributed to viral infection. Direct evidence of this relationship has been limited, however, as most cases do not have molecular evidence of prior SARS-CoV-2 infection with PCR or antibodies.*

We enrolled a cohort of 23 patients who were diagnosed and managed as having SARS-CoV-2, associated skin eruptions (including 21 pandemic chilblains [PC]) during the first wave of the pandemic in Connecticut.

Among patients diagnosed and managed as "covid toes" during the pandemic, we find a percentage of prior SARS-CoV-2 infection (9.5%) that approximates background seroprevalence (8.5%) at the time.

Immunohistochemistry studies suggest that SARS-CoV-2 staining in PC biopsies may not be from SARS-CoV-2. Our results do not support SARS-CoV-2 as the causative agent of pandemic chilblains; however, our study does not exclude the possibility of SARS-CoV-2 seronegative abortive infections.

Chilblain diagnoses have increased during the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) pandemic and have been attributed to viral infection and a subsequent robust antiviral immune response. As a result, providers have managed these cases differently than idiopathic chilblains, which are associated with cold exposure.

The relationship between pandemic chilblains and SARS-CoV-2 infection, however, remains unclear as most patients do not test positive for SARS-CoV-2–specific PCR or antibodies.

To better understand this disconnect, we enrolled cases of pandemic chilblains in a study and performed detailed immune profiling of antibody and T cell responses.

Additionally, we compared immunohistochemical staining of pandemic chilblains with prepandemic tissues. Our results do not support SARS-CoV-2 as the cause of the increased chilblain incidence.

Vaccinations.

Pierri, F., et al (2022) **Online misinformation is linked to early COVID-19 vaccination hesitancy and refusal.** SCIENTIFIC REPORTS 12:doi.org/10.1038/s41598-022-10070-w (available as a free pdf)

Authors' abstract: *Widespread uptake of vaccines is necessary to achieve herd immunity. However, uptake rates have varied across U.S. states during the first six months of the COVID-19 vaccination program.*

Misbeliefs may play an important role in vaccine hesitancy, and there is a need to understand relationships between misinformation, beliefs, behaviors, and health outcomes.

Here we investigate the extent to which COVID-19 vaccination rates and vaccine hesitancy are associated with levels of online misinformation about vaccines. We also look for evidence of directionality from online misinformation to vaccine hesitancy.

We find a negative relationship between misinformation and vaccination uptake rates. Online misinformation is also correlated with vaccine hesitancy rates taken from survey data.

Associations between vaccine outcomes and misinformation remain significant when accounting for political as well as demographic and socioeconomic factors.

While vaccine hesitancy is strongly associated with Republican vote share, we observe that the effect of online misinformation on hesitancy is strongest across Democratic rather than Republican counties.

Granger causality analysis shows evidence for a directional relationship from online misinformation to vaccine hesitancy. Our results support a need for interventions that address misbeliefs, allowing individuals to make better informed health decisions.

Steinert, J.L., et al (2022) **COVID-19 vaccine hesitancy in eight European countries: Prevalence, determinants, and heterogeneity.** SCIENCE ADVANCES 8:doi.org/10.1126/sciadv.abm9825 (available as a free pdf)

Authors' abstract: *We examine heterogeneity in COVID-19 vaccine hesitancy across eight European countries. We reveal striking differences across countries, ranging from 6.4% of adults in Spain to 61.8% in Bulgaria reporting being hesitant.*

We experimentally assess the effectiveness of different messages designed to reduce COVID-19 vaccine hesitancy. Receiving messages emphasizing either the medical benefits or the hedonistic benefits of vaccination significantly increases COVID-19 vaccination willingness in Germany, whereas highlighting

privileges contingent on holding a vaccination certificate increases vaccination willingness in both Germany and the United Kingdom.

No message has significant positive effects in any other country. Machine learning-based heterogeneity analyses reveal that treatment effects are smaller or even negative in settings marked by high conspiracy beliefs and low health literacy.

In contrast, trust in government increases treatment effects in some groups. The heterogeneity in vaccine hesitancy and responses to different messages suggests that health authorities should avoid one-size-fits-all vaccination campaigns.

Economic And Environmental Impacts.

Bunt, C.M., and B. Jacobson (2022) **The impact of the COVID-19 pandemic on a recreational rainbow trout (*Oncorhynchus mykiss*) fishery.** ENVIRONMENTAL BIOLOGY OF FISHES 105:doi.org/10.1007/s10641-022-01250-8 (available as a free pdf)

Authors' abstract: *Using real recreational fisheries data from an ongoing radio telemetry study (2018 to present), we explored changes in the relative exploitation rates of rainbow trout (Oncorhynchus mykiss) in the Saugeen River, Ontario, a tributary to Lake Huron, before compared to during the pandemic.*

During the initial phase of complete public lock-downs imposed during spring 2020, angler exploitation rates decreased to half that reported prior to the pandemic. Fishway operations were temporarily suspended and hatchery efforts were interrupted.

Once restrictions began to ease in fall 2020, there was an eight-fold increase in overall exploitation rate and a four and a half-fold increase in harvest rate compared to seasons prior to the pandemic.

While the full impact of the ongoing pandemic on the Lake Huron fishery is not likely to be fully realized for several years, the potential effects on future return run sizes may need to be considered by fisheries managers monitoring trends in population escapement.

LETTERS TO THE EDITOR

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

FROM: Heath Row 2022-05-03
Culver City, California

It's been a while since I've last read or written to you, and I recall OPUNTIA and your approach to topics of mutual interest fondly. I think I first encountered your writing via FAPA [Fantasy Amateur Press Association] more than a decade ago, but we might have also traded fanzines through the mail.

[Unfortunately Canada Post killed the paper OPUNTIA in 2014 March with exponential increases in postage rates. Just to mail a postcard was $2.56.]

I hope that you and yours are doing well, and I was pleased to see many of the themes and topics that first drew me to OPUNTIA continue in full force, and then some, in the recent issue (#522, and there's already a #523!) that I downloaded from eFanzines.

In fact, you recently came up in another letter of comment. In FADEAWAY #67, Robert Jennings mused about the fate and future of the humble postcard. Writing in response to that issue, I said:

... I think the reason for the decline of postcards is clear: Texting, email, and social media. Usage of postcards has probably declined in step with general correspondence and letter writing as people have adopted new ways of communicating and sharing their experiences.

I'd wager that below a certain age, perhaps indeterminate, people are more likely to post to Instagram or TikTok a highlight from their experiences than to send a postcard.

Of course, such general sharing is more passive and less personal than sending someone specific a postcard intended just for them. So it goes. Personally, I prefer letters like this, even writing letters of comment as though I might mail them even if I email them as an attachment. I write differently in letter form than I do in an email. ...

I'm suspicious that you've explored the history of the postcard and related correspondence in back issues of OPUNTIA. If you could point out some past numbers to explore, if indeed you have done so, I'd appreciate it.

[Efanzines and Fanac have a cumulative index to all issues of OPUNTIA, which can be downloaded as a free pdf. Just check the index. All back issues of OPUNTIA are free at both www.efanzines.com and www.fanac.org]

I'm glad you were able to involve the progeny of Dr. Edward George Mason in the recent Calgary Philatelic Society meeting. How neat for them to be able to see his avocational work continue!

I was even more interested in the intersection between philately and fandom, adjacent topics as represented in your pieces "Philatelic Fiction" as transition to "Bwah Ha! Ha!" and its focus on mad scientists, "Train of Events" considering appearances of trains in pop and pulp culture, and "Twisted Fiction."

I didn't remember you being as fond of old movies and old-time radio as these pieces suggest, and I welcome the ongoing series offering viewing, reading, and listening recommendations.

But I am curious. How do you find such stories to read? Movies and old-time radio are relatively available online, but how do you locate the full text of the pulp stories you include in such pieces?

I've been exploring digitized copies of various sf and related little magazines but have been focusing on specific magazines. Your approach seems more pointed, and I think I could learn from your method, if any.

[By now there are thousands of pulp magazine issues available as free pdfs from www.archive.org/details/pulpmagazinearchive?&sort=-downloads&page=2. You can search for individual titles or try generic terms such as science fiction magazines.]

Your review of Carol Pinchefsky's TURN YOUR FANDOM INTO CASH was interesting, and I added the title to my want list online but did not immediately purchase the book to read. Might be a good choice for the library. Pinchefsky seems to be a relatively recent arrival to fandom, having written previous articles on quality assurance testing.

Given recent conversations in other forums, I was particularly drawn to your commentary on her thoughts about con running. In the end, the book struck me as focusing on online writing, social media, and perhaps Etsy-style crafting, which could perhaps be applied to any interest. And sure to capitalize on more recent approaches to fandom such as cosplay.

[If you are trying to market your writing or crafts to modern fandom, this book has valuable advice based on her practical experience. I'm glad I don't have to scramble for a living anymore. I pity those who got whacked during the pandemic when the traditional minimum-wage jobs that writers use to get by disappeared.]

Finally, your "Current Events" and "Seen in the Literature" roundups also offer ample fodder for further exploration and learning, lending additional insight into what makes your synapses fire. All in all, appreciated.

But the pick of the issue, I must say, was your review of Carlene O'Neil's RIPE FOR MURDER. I ordered it and ONE FOOT IN THE GRAPE for my mother as a Mother's Day present, mailed to her home in the Midwest. She loves mystery novels, and my father loves trains.

He's a train spotter and model railroad enthusiast of the HO variety, active in a local modeling group and once very active (and award winning!) in related organizations and publications, so I think they'll both get a kick out of the books.

"*The mysteries will be a good break from the serious material of the Senior Center book group!*" my mother wrote. "*It's been such fun to find a package outside our door! ... Reading the first book you sent.*" We'll see what she thinks!

[Cozy mysteries are an addiction, as long time readers of OPUNTIA will have guessed from my many reviews of these novels. I grew up in rural west-central Alberta and know village life quite well. The idea of Miss Marples and Jessica Fletchers solving crimes in such a setting is hilarious to me. The RCMP look after rural areas, and any Miss Marple would soon be in a jail cell.]

FROM: Lloyd Penney 2022-05-03
Etobicoke, Ontario

The gradual return back to a level of normal has meant lots of travel to local jobs, plus more editorial work than I've had in some time, so fanzines have been pushed to the side, and they have truly piled up.

OPUNTIA #521: Yvonne loves the bears on the cover [the Leo Mol sculpture], and I certainly like the dinos playing sports. And there they are on cans of Diet Dr. Pepper. I'd wonder how an artist finds how disposable his artwork is on the side of a pop can.

[I'm sure people collect such cans. There's a website, no doubt. I can't collect everything, and indeed am getting rid of stuff, so photos are the next best thing.]

[Re: car licence plate] FOSSIL is one thing. If the plate said OLD FOSSIL, I'd believe you were old. There are plenty of archaeologists here, so I'd be surprised if there wasn't an Ontario plate with FOSSIL on it.

[Too many letters for OLD FOSSIL, as Alberta has a limit of seven characters. My plate OPUNTIA just squeaks in. I once had an apazine called SANSEVIERIA, but that wouldn't even come close for a plate.]

Very interesting to read of Zhùr, the wolf cub, mummified in its collapsed den. I would have expected a small skeleton, not a mummy. Would it have been an airtight seal in permafrost that allowed the cub's corpse to be mummified?

[Re: mail art of Betty Speirs] Your mother was a marvelous artist. I would hope that any postal workers who handled those letters were able to appreciate the artwork. These days, with so much impersonal work, and so much mechanization would anyone appreciate the art other than those who receive it?

[Only the lettercarrier. Mail processing plants are so heavily automated that few posties there actually physically handle the mail.]

If I was to listen to our politicians, you'd swear the pandemic was over, but people are still dying of COVID's current versions. The dead in the US number over a million, and worldwide, it is close to 10 million. Yet, we are masked, and we have to deal with idiots who tell us, "You don't have to wear those, you know." Yes, we do, and MYOB.

[Canada, however, has only 40,000 dead out of a population of 38,000,000. The number dying of COVID-19 is probably about the same as automobile accident fatalities. I haven't been able to find what percentage of the dead these days are unvaccinated or had pre-existing conditions such as asthma or emphysema, but I suspect they make the majority.]

[Natural selection will take care of the anti-vaxxers. A couple of years from now, COVID-19 will be like influenza, where some people die every year and most people get an annual immunization.]

[Re: Calgary Public Library paper shredder confessional machine] The Gloom Monster sounds like a good idea. In this city, the Gloom Monster would need to be ten feet tall. There is some real depression in this city, and the city council is working hard to try to beat the gloom back. There are the usual suspects (including my own city councillor) who vote against all of these ideas.

[Calgarians have generally been optimistic even before the pandemic and seem to be rebounding. We actually have morning traffic jams again as the downtown skyscrapers refill.]

My previous letter: We were contacted by our local anime convention, Anime North. The people connected with selling tables to their cavernous vendors' hall have had to resign, and they have had a difficult time finding anyone to take it on. They knew we were retired, but had experience with this, so they contacted us, and we agreed.

Yvonne is the project leader on this. She is quite used to detailed multi-page spreadsheets, and I didn't know where to start. As a result, she is ploughing through this project by assigning tables to vendors, and my role is to take a map of the vendors' hall (about 500 tables), mark up which are available, and which ones are rolled over to 2023, and which ones are already sold, and do a little quality control over the status of any given table.

It is a crazy job, but it is getting done to the satisfaction of the AN committee. In a few days, we will be attacking the first waitlist, and sell the remaining 160 tables. We hope to get this job done by the end of the month. Most people have bene very happy with Yvonne's personal attentions to this job, and those who aren't are referred to the senior AN committee.

We do have a table at AN, but in the Crafter's Corner, which could be construed as the secondary dealers' room. Our efforts are getting us a few perks, which should help with our own sales, and we will wind up as vendors' hall senior staff. I suspect that I will be running our Crafters' Corner table while Yvonne puts out fires in the vendors' hall next door.

OPUNTIA #522: A great letter on the front. Is the cancellation dated 1927? [Yes.]

I still have all my stamp collections, three binders' worth. I used to be a regular customer of the Harris Stamp Co., ordering binders and inserts for the binders. I am sure there is a philately association in Toronto, but there are too many other interests keeping me away from my own collection. Perhaps one day.

[There are about a dozen stamp clubs in Metro Toronto, plus the headquarters of the Royal Philatelic Society of Canada.]

Re: monetizing your fandom. Trying to make a few bucks from your fellow fans has been around since the beginnings of fandom, especially the sticky quarters you'd pay for your friends' upcoming fanzines. Re our comments on Anime North, we make steampunk jewelry and Hawaiian-style shirts, but even though AN is our best show of the year every year, we will never pull in what some would call the big bucks, and that's fine.

As soon as a businessman realized he could make money off these fans, the merchandise flowed out, and so did the pro-run conventions, which now rival the fan-run cons, and are set to take over the field, due to the fact many cons are shutting down because of an aging committee, a depleted treasury, and the lack of younger volunteers willing to help out.

Fans were also the ones who kept track of the history of science fiction, and many sites like that are still around, like Fanac.org. Yet, for more modern interests, there is fandom.com. I remember reading complaints about this in a couple of fanzines, but they knew not what fandom.com would go on to do.

Go there now, and there are literally hundreds of thousands of pages for tens of thousands of shows, movies, genres and interests, every episode and storyline, any interest that might have its fandom. It is quite comprehensive and impressive, to be honest, but it is another area where fans are being pushed out, and being made to be content with being mere consumers.

[And ridden with pop-up and in-line ads.]

Anime North has engaged fannish lawyers, plus lawyers conversant with copyright law, to determine who can sell what in which part of the convention. The contract for the vendors' hall contains a long list of what canot be sold in the vendors' hall, with links to where some banned merchandise can be sold, elsewhere at the con.

A few years ago, Yvonne asked the convention about fabric that had copyrighted images on it, like Star Trek, Star Wars and Doctor Who. At first she was told she couldn't sell shirts with those copyrighted images on it, but having some education as a law clerk, she argued that the copyright is honoured by having the copyright line on the shirt, clearly visible.

The product she made honoured the copyright, and she could sell the shirt; the originating copyright holder, like Paramount, Disney or the BBC, got their money through the sale of the fabric. However, if she had obtained the fabric and was selling pieces off the bolt, she would be violating copyright.

She won her case with the convention and their lawyers, and the shirts will go on sale at the convention in July. Fandom has become an industry with its own rules and regulations, and fannish lawyers can find themselves quite busy redefining copyright violations and legal crimes.

[Re: the death of Calgary convention ConVersion when Trekkies took over] What happened to ConVersion has happened elsewhere. One of the major conventions in Detroit failed because media fans were able to take it over, and were shocked when the regular attendees arrived, were angered by the wholesale changes in their convention, and left, never to return.

In Niagara Falls, New York, fans there kept their own conventions going for as long as they could. One local fan volunteered every year to work the con, and he was turned down every year, for he had told many people that if he could ever get his hands on the con, the first thing he'd do is get rid of the literary content and install all-Trek programming.

The con eventually died, and the above fan never had enough money to start his own con. He wanted the existing con because he couldn't figure out how to start his own. That happens often, too.

OPUNTIA #523: More Little Libraries are springing up here and there in Toronto, and we've had the chance to pick out a few good books here and there. There have also been reports on these libraries being torched, or set up to burn with a little gasoline and a match. No more than we expect these days.

[I've never heard of any Calgary LFLs suffering like that.]

Yet, as you say, some Little Libraries are now also Little Pantries, and this helps so many so much. It does cost a lot to eat out these days, and our best reaction to it is to not go out, or do so rarely. A well-stocked pantry and freezer has been our best defense.

We're on the brink of a provincial election here in Ontario. One of the opposition parties has advertised one plank of their platform is to reduce to price of any transit in the province far down to $1, should they be elected. A wonderful idea on the surface, but the money saved by consumers/lost to the government would be about $1 billion, and how is that lost money made up?

The electorate is leery of short slogans; Buck-A-Beer was corny and short-lived, yet it got Doug Ford elected four years ago. The idea of Buck-A-Ride is having the same reaction. The current predictions for the June 2 election (my birthday, by the way) is Ford's Conservatives getting another majority.

[In Alberta, the Conservatives are too busy with fratricide as party leader Jason Kenney tries to evict the radicals and vice versa. The NDP have only to sit back and laugh.]

SEEN IN THE LITERATURE

Astronomy.

Burdge, K.B., et al (2022) **A 62-minute orbital period black widow binary in a wide hierarchical triple.** NATURE 605:41-45

Authors' abstract: *Over a dozen millisecond pulsars are ablating low-mass companions in close binary systems. In the original 'black widow', the eight-hour orbital period eclipsing pulsar PSR J1959+2048 (PSR B1957+20), high-energy emission originating from the pulsar is irradiating and may eventually destroy a low-mass companion.*

These systems are not only physical laboratories that reveal the interesting results of exposing a close companion star to the relativistic energy output of a pulsar, but are also believed to harbour some of the most massive neutron stars, allowing for robust tests of the neutron star equation of state.

Here we report observations of ZTF J1406+1222, a wide hierarchical triple hosting a 62-minute orbital period black widow candidate, the optical flux of which varies by a factor of more than ten. ZTF J1406+1222 pushes the boundaries of evolutionary models, falling below the 80-minute minimum orbital period of hydrogen-rich systems.

The wide tertiary companion is a rare low metallicity cool subdwarf star, and the system has a Galactic halo orbit consistent with passing near the Galactic Centre, making it a probe of formation channels, neutron star kick physics, and binary evolution.

Planets.

Liu, B., et al (2022) **Early Solar System instability triggered by dispersal of the gaseous disk.** NATURE 604:643-646

Authors' abstract: *The Solar System's orbital structure is thought to have been sculpted by an episode of dynamical instability among the giant planets. However, the instability trigger and timing have not been clearly established. Hydrodynamical modelling has shown that while the Sun's gaseous protoplanetary disk was present the giant planets migrated into a compact orbital configuration in a chain of resonances.*

Here we use dynamical simulations to show that the giant planets' instability was probably triggered by the dispersal of the gaseous disk. As the disk evaporated from the inside out, its inner edge swept successively across and dynamically perturbed each planet's orbit in turn.

The associated orbital shift caused a dynamical compression of the exterior part of the system, ultimately triggering instability. The final orbits of our simulated systems match those of the Solar System for a viable range of astrophysical parameters.

The giant planet instability therefore took place as the gaseous disk dissipated, constrained by astronomical observations to be a few to ten million years after the birth of the Solar System.

Terrestrial planet formation would not complete until after such an early giant planet instability. The growing terrestrial planets may even have been sculpted by its perturbations, explaining the small mass of Mars relative to Earth.

Working Group Small Bodies Nomenclature, International Astronomical Union (2022-04-11) **New names of minor planets.** WGSBN BULLETIN 2(5):7 (available as a free pdf)

[This is the regular list of names assigned to newly-discovered asteroids and comets. The item here is so brief that I will quote it in its entirety.]

(10112) Skookumjim = 1992 OP_1
Discovery: 1992-07-31/H. E. Holt/Palomar/675

Keish (c. 1855–1916), known as Skookum Jim Mason, was a Tagish adventurer and prospector in Canada's Yukon Territory who shared the discovery claim that initiated the Klondike Gold Rush. A trust fund he established helped provide medical care for aboriginals in the Yukon, and his house in Carcross is an interpretative centre today for Yukon culture.

Madurowicz, A., and B. Macintosh (2022) **Integral field spectroscopy with the solar gravitational lens.** ASTROPHYSICAL JOURNAL 930:doi.org/10.3847/1538-4357/ac5e9d (available as a free pdf)

[Einstein predicted that gravity fields would bend light. His prediction was proven in 1919. In the last decade, incredible advances in space telescopes have revealed gravitational lenses, where massive bodies warp and concentrate light like an optical lens.]

Authors' abstract: *The prospect of combining integral field spectroscopy with the solar gravitational lens (SGL) to spectrally and spatially resolve the surfaces and atmospheres of extrasolar planets is investigated.*

The properties of hyperbolic orbits visiting the focal region of the SGL are calculated analytically, demonstrating trade-offs between departure velocity and time of arrival, as well as gravity assist maneuvers and heliocentric angular velocity.

Numerical integration of the solar barycentric motion demonstrates that navigational acceleration is needed to obtain and maintain alignment. Obtaining target ephemerides of sufficient precision is an open problem. The optical properties of an oblate gravitational lens are reviewed, including calculations of the magnification and the point-spread function that forms inside a telescope.

Image formation for extended, incoherent sources is discussed when the projected image is smaller than, approximately equal to, and larger than the critical caustic. Sources of contamination that limit observational signal-to-noise ratio (S/N) are considered in detail, including the Sun, the solar corona, the host star, and potential background objects.

A noise mitigation strategy of spectrally and spatially separating the light using integral field spectroscopy is emphasized. A pseudo-inverse-based image reconstruction scheme demonstrates that direct reconstruction of an Earth-like source from single measurements of the Einstein ring is possible when the critical caustic and observed S/N are sufficiently large.

In this arrangement, a mission would not require multiple telescopes or navigational symmetry breaking, enabling continuous monitoring of the atmospheric composition and dynamics on other planets.

Tusch, J., et al (2022) **Long-term preservation of Hadean protocrust in Earth's mantle.** PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES USA 119:doi.org/10.1073/pnas.2120241119 (available as a free pdf)

Authors' abstract: *Due to active plate tectonics, there are no direct rock archives covering the first ca. 500 million years of Earth's history. Therefore, insights into Hadean geodynamics rely on indirect observations from geochemistry.*

We present a high precision ^{182}W dataset for rocks from the Kaapvaal Craton, southern Africa, revealing the presence of Hadean protocrustal remnants in Earth's mantle. This has broad implications for geochemists, geophysicists, and modelers, as it bridges contrasting ^{182}W isotope patterns in Archean and modern mantle-derived rocks.

The data reveal the origin of seismically and isotopically anomalous domains in the deep mantle and also provide firm evidence for the operation of silicate differentiation processes during the first 60 million years of Earth's history.

With plate tectonics operating on Earth, the preservation potential for mantle reservoirs from the Hadean Eon (>4.0 Ga) has been regarded as very small. The quest for such early remnants has been spurred by the observation that many Archean rocks exhibit excesses of ^{182}W, the decay product of short-lived ^{182}Hf.

However, it remains speculative whether Archean ^{182}W anomalies and also ^{182}W deficits found in many young ocean island basalts (OIBs) mirror primordial Hadean mantle differentiation or merely variable contributions from older meteorite building blocks delivered to the growing Earth.

Here, we present a high-precision ^{182}W isotope dataset for 3.22- to 3.55-Ga-old rocks from the Kaapvaal Craton, southern Africa. In expanding previous work, our study reveals widespread ^{182}W deficits in different rock units from the Kaapvaal Craton and also the discovery of a negative covariation between short-lived ^{182}W and long-lived ^{176}Hf–^{143}Nd–^{138}Ce patterns, a trend of global significance.

Among different models, these distinct patterns can be best explained by the presence of recycled mafic restites from Hadean protocrust in the ancient mantle beneath the Kaapvaal Craton. Further, the data provide unambiguous evidence for the operation of silicate differentiation processes on Earth during the lifetime of ^{182}Hf, that is, the first 60 million years after solar system formation.

The striking isotopic similarity between recycled protocrust and the low-^{182}W end member of modern OIBs might also constitute the missing link bridging ^{182}W isotope systematics in Archean and young mantle-derived rocks.

Paleobiology.

Bicknell, R.D.C., et al (2022) **Habitat and developmental constraints drove 330 million years of horseshoe crab evolution.** BIOLOGICAL JOURNAL OF THE LINNEAN SOCIETY 136:doi.org/10.1093/biolinnean/blab173

Authors' abstract: *Records of evolutionary stasis over time are central to uncovering large-scale evolutionary modes, whether by long-term gradual change or via enduring stability punctuated by rapid shifts. The key to this discussion is to identify and examine groups with long fossil records that, ideally, extend to the present day.*

One group often regarded as the quintessential example of stasis is Xiphosurida, the horseshoe crabs. However, when, how and, particularly, why stasis arose in xiphosurids remain fundamental, but complex, questions.

Here, we explore the protracted history of fossil and living xiphosurids and demonstrate two levels of evolutionary stability: developmental stasis since at least the Pennsylvanian and shape stasis since the Late Jurassic.

Furthermore, shape and diversity are punctuated by two high-disparity episodes during the Carboniferous and Triassic, transitions that coincide with forays into habitation of marginal environments.

In an exception to these general patterns, body size increased gradually over this period and, thus, cannot be described under the same, often-touted, static models of evolution.

Therefore, we demonstrate that evolutionary stasis can be modular and fixed within the same group at different periods and in different biological traits, while other traits experience altogether different evolutionary modes.

This mosaic in the tempo and mode of evolution is not unique to Xiphosurida but likely reflects variable mechanisms acting on biological traits, for example transitions in life modes, niche occupation and major evolutionary radiations.

Teofilo, G., et al (2022) **Cretaceous (Maastrichtian) chelonian burrows preserved in floodplain deposits in the Bauru Basin of Brazil: Evidence for the fossorial origin of turtle shells.** PALAEOGEOGRAPHY, PALAEOCLIMATOLOGY, PALAEOECOLOGY 596:doi.org/10.1016/j.palaeo.2022.110994

Authors' abstract: *Burrowing behavior is an important adaptation of animals that live in arid and semi-arid conditions. In this paper, we describe examples of vertebrate burrows from the Upper Cretaceous (Maastrichtian) Adamantina Formation of the Bauru Basin, Brazil, most likely produced by turtles.*

The Adamantina Formation preserves abundant and diverse turtle body fossils such as Bauruemys elegans (Testudines: Pleurodira); however turtle burrows have not been previously documented.

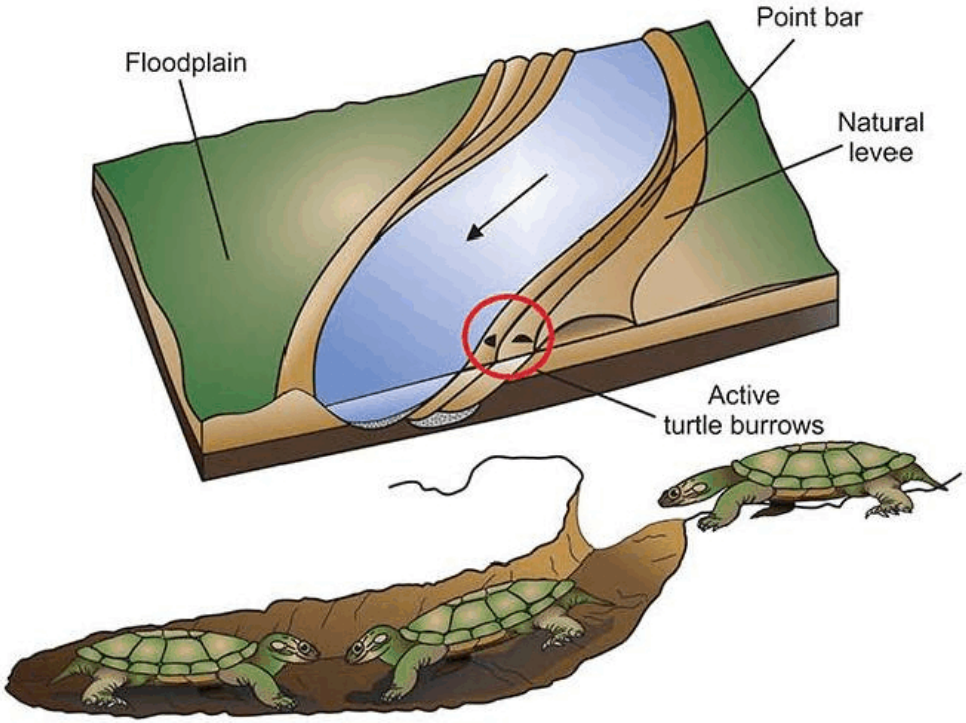
The newly reported burrows are preserved in fluvial sandstone facies and exposed in sections that partially preserve their three-dimensional geometry. Burrows are simple J-shaped tunnels with a cross-sectional shape that is semicircular (half-dome) with a flattened floor.

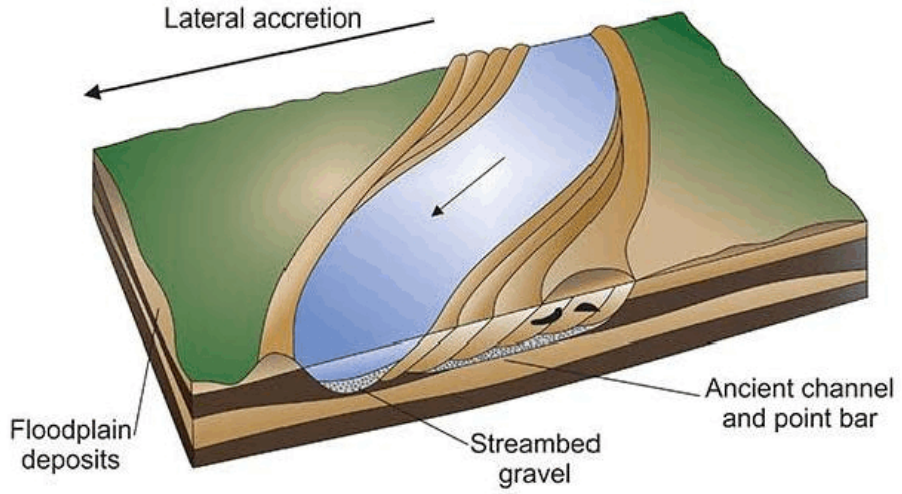
Such burrows show a partially preserved entrance with an inclined ramp angle (22˚), and grooves and ridges up to 1 cm in width preserved along the burrows walls and floor. The architecture and sedimentary facies of the host sandstone body, together with the occurrence of Taenidium barretti and the absence of rhizoliths, suggest that the burrow was excavated by scratch digging into an exposed point bar of a meandering river channel.

Based on burrow morphology, dimensions, as well as ridges,and grooves in the walls and floor, we propose that burrows were formed by a chelonian (such as a freshwater turtle) during aestivation.

We highlight that these are first examples of turtle burrows reported from the Cretaceous, and their occurrence reinforces the hypothesis that the original function of turtle shells was as an adaptation to fossorial behavior.

[Images are from this paper.]





Dinosaurs.

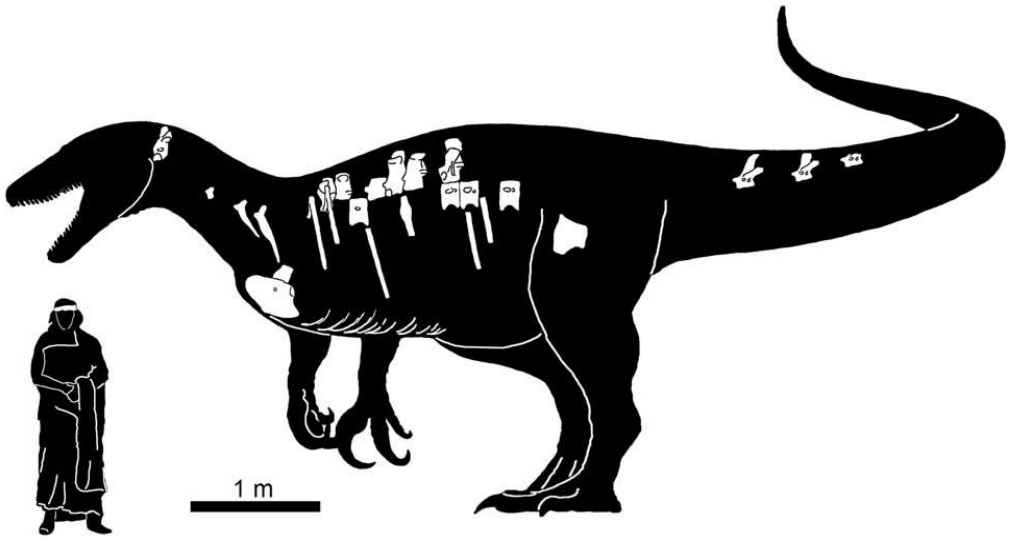
Rolando, A.M.A., et al (2022) **A large Megaraptoridae (Theropoda: Coelurosauria) from Upper Cretaceous (Maastrichtian) of Patagonia, Argentina.** SCIENTIFIC REPORTS 12:doi.org/10.1038/s41598-022-09272-z (available as a free pdf)

Authors' abstract: *Megaraptora is a theropod clade known from former Gondwana landmasses and Asia. Most members of the clade are known from the Early to Late Cretaceous (Barremian-Santonian), with Maastrichtian megaraptorans known only from isolated and poorly informative remains.*

The aim of the present contribution is to describe a partial skeleton of a megaraptorid from Maastrichtian beds in Santa Cruz Province, Argentina. This new specimen is the most informative megaraptoran known from Maastrichtian age, and is herein described as a new taxon.

Phylogenetic analysis nested the new taxon together with other South American megaraptorans in a monophyletic clade, whereas Australian and Asian members constitute successive stem groups. South American forms differ from more basal megaraptorans in several anatomical features and in being much larger and more robustly built.

[Image is from this paper.]



Zoology.

Zhang, S., et al (2022) **Male spiders avoid sexual cannibalism with a catapult mechanism.** CURRENT BIOLOGY 32:doi.org/10.1016/j.cub.2022.03.051 (available as a free pdf)

Authors' extracts: *Here, we unveil a novel mechanism in a communal orb-weaving spider Philoponella prominens (Uloboridae), whereby males undertake a split-second catapult action immediately after mating, thereby fleeing their partner.*

We demonstrate that males achieve their superfast action (up to 88.2 cm/s) by extending the tibia-metatarsus joint of their first leg pair via hydraulic pressure in a joint that is known to lack extensor muscles in spiders. This rapid expansion greatly reduces the likelihood of the male being sexually cannibalized.

Dunmall, K.M., et al (2022) **First juvenile chum salmon confirms successful reproduction for Pacific salmon in the North American Arctic.** CANADIAN JOURNAL OF FISHERIES AND AQUATIC SCIENCES 79:doi.org/10.1139/cjfas-2022-0006 (available as a free pdf)

Authors' abstract: *The distributional extent of Pacific salmon (Oncorhynchus spp.) in the North American Arctic is unresolved. While adult Pacific salmon have a recurring presence across the Alaskan North Slope and into the Canadian Arctic, it is uncertain if these fish are part of established Arctic populations, vagrants from outside sources reproducing unsuccessfully, or both.*

Here we present the first confirmed record of a juvenile chum salmon (Oncorhynchus keta) captured in the nearshore marine ecosystem in the North American Arctic. This provides the first scientific evidence of successful spawning and early marine survival of Pacific salmon in the North American Arctic.

It was caught near Kaktovik, Alaska, in August 2017 with a group of similarly sized age-0 Mackenzie River Arctic cisco (Coregonus autumnalis). Stable isotope and otolith microchemistry analyses are consistent with use of the nearshore estuarine corridor from the Mackenzie River west along the northern coast.

This contributes critical information needed to identify, manage, and conserve biodiversity at the northern range edge and will help to clarify the status of Pacific salmon as potentially emerging fisheries develop in the North American Arctic due to climate warming.

Bischof, R., et al (2022) **Mapping the "catscape" formed by a population of pet cats with outdoor access.** SCIENTIFIC REPORTS 12:doi.org/10.1038/s41598-022-09694-9 (available as a free pdf)

Authors' abstract: *The domestic cat (Felis catus) is among the most popular companion animals and most abundant carnivores globally. It is also a pet with an immense ecological footprint because even non-feral and food-subsidized cats can be prolific predators.*

Whereas knowledge about the spatial behavior of individual domestic cats is growing, we still know little about how a local population of free-ranging pet cats occupies the landscape.

Using a citizen science approach, we GPS-tagged 92 pet cats with outdoor access living in a residential area in southern Norway. The resulting position data allowed us to construct both individual home range kernels and a population-level utilization distribution.

Our results reveal a dense predatory blanket that outdoor cats drape over and beyond the urban landscape. It is this population-level intensity surface, the "catscape", that potential prey have to navigate. There were few gaps in the catscape within our residential study area and therefore few terrestrial refuges from potential cat predation.

However, cats spent on average 79% of their outdoor time within 50 metres to their owner's home, which suggests that the primary impact is local and most acute for wildlife in the vicinity of homes with cats.

Morrill, K., et al (2022) **Ancestry-inclusive dog genomics challenges popular breed stereotypes.** SCIENCE 376:doi.org/10.1126/science.abk0639 (available as a free pdf)

Authors' abstract: *Behavioral genetics in dogs has focused on modern breeds, which are isolated subgroups with distinctive physical and, purportedly, behavioral characteristics.*

We interrogated breed stereotypes by surveying owners of 18,385 purebred and mixed-breed dogs and genotyping 2,155 dogs. Most behavioral traits are heritable, and admixture patterns in mixed-breed dogs reveal breed propensities. Breed explains just 9% of behavioral variation in individuals.

Genome-wide association analyses identify 11 loci that are significantly associated with behavior, and characteristic breed behaviors exhibit genetic complexity.

Behavioral loci are not unusually differentiated in breeds, but breed propensities align, albeit weakly, with ancestral function. We propose that behaviors perceived as characteristic of modern breeds derive from thousands of years of polygenic adaptation that predates breed formation, with modern breeds distinguished primarily by aesthetic traits.

Modern dog breeds are less than 160 years old (~50 to 80 generations), a blink in evolutionary history compared with the origin of dogs more than 10,000 years ago. Prehistoric wolves likely adapted to use human refuse through changes in morphology, behavior, metabolism, and reproduction.

Early humans may have given favored dogs increased access to limited resources, but there is little evidence of humans intentionally breeding dogs until 2000 years ago. By contrast, the modern dog breed, emphasizing conformation to a physical ideal and purity of lineage, is a Victorian invention.

Before the 1800s, dogs were primarily selected for functional roles such as hunting, guarding, and herding, heritable behaviors derived from the wolf predatory sequence. Modern breeds retain these component motor patterns, but their contexts, sequences, and thresholds vary.

The extent to which ancient behavioral propensities persist in modern breeds, defined primarily by aesthetics and often disconnected from functional

behavioral selection, is unclear. Dogs with ancestry from a single modern breed (purebred dogs) predominate in genetic studies, which capitalize on their unusual population history and limited genetic diversity, but are a minority of all dogs.

More than 80% of the nearly 1 billion dogs on Earth are free-living, free-breeding, and not under human control (e.g., village dogs). Even in countries with large purebred populations, dogs with ancestry from more than one breed are common (~50% in the United States).

Speirs: My father was a livestock veterinarian. When I was a boy, I used to ride with him to farm calls. I learned quickly there was a correlation between the friendliness of farm dogs, the behaviour of the farmer, and how well the farm was run.

If, upon arrival, the farm dogs dashed out and slobbered happily all over us, the farmer was a genial sort, and his operation well run. If we had to wait inside the car until the farmer called off his dog and chained it, chances were that not only were livestock poorly kept but the farmer would ostiff Dad on the bill.

Couet, J., et al (2022) **Short-lived species move uphill faster under climate change.** OECOLOGIA 198:doi.org/10.1007/s00442-021-05094-4 (available as a free pdf)

Authors' abstract: *Climate change is pushing species ranges and abundances towards the poles and mountain tops. Although many studies have documented local altitudinal shifts, knowledge of general patterns at a large spatial scale, such as a whole mountain range, is scarce.*

From a conservation perspective, studying altitudinal shifts in wildlife is relevant because mountain regions often represent biodiversity hotspots and are among the most vulnerable ecosystems.

Here, we examine whether altitudinal shifts in birds' abundances have occurred in the Scandinavian mountains over 13 years, and assess whether such shifts are related to species' traits.

Using abundance data, we show a clear pattern of uphill shift in the mean altitude of bird abundance across the Scandinavian mountains, with an average speed of 0.9 m per year. Out of 76 species, 7 shifted significantly their abundance uphill. Altitudinal shift was strongly related to species' longevity. Short-lived species showed more pronounced uphill shifts in abundance than long-lived species.

The observed abundance shifts suggest that uphill shifts are not only driven by a small number of individuals at the range boundaries, but the overall bird abundances are on the move.

Overall, the results underscore the wide-ranging impact of climate change and the potential vulnerability of species with slow life histories, as they appear less able to timely respond to rapidly changing climatic conditions.

Botany.

Sicangco, C.K., et al (2022) **Active space garnering by leaves of a rosette plant.** CURRENT BIOLOGY 32:doi.org/10.1016/j.cub.2022.03.055. (available as a free pdf)

Authors' extracts: *Plant community development is often portrayed as a process of serial dominance by successively taller species, but here we describe a mechanism by which a low-growing rosette species alters community spatial structure.*

Elephantopus elatus (Asteraceae), an herbaceous savanna plant with low-growing leaves that emerge radially from a central bud, pushes neighboring plants away and thereby avoids being overtopped.

Active pushing is possible because the leaves have stout petioles that are basally anchored rather than attached to flexible twigs or stems. ... Low-statured plants require little structural support and suffer little damage from grazing animals.

Einzmann, H.J.R., et al (2022) **What happens to epiphytic bromeliads in a windy spot?** JOURNAL OF TROPICAL ECOLOGY 38:doi.org/10.1017/S0266467422000037 (available as a free pdf)

[Epiphytes are plants that grow on tree branches as support but are not parasitic. Bromeliads are popular flowering plants often seen in florist shops.]

Authors' abstract: *Several studies of hurricane damage on epiphyte communities implied that epiphytes might be in danger of being blown off their host when subjected to strong wind. There is very limited knowledge about the mechanical impact that wind may have on epiphytes.*

Using a wind-triggered camera set-up, we observed how epiphytic tank bromeliads are affected by wind. Despite offering a relatively large area of 'attack' to the airflow, bromeliads moved relatively little themselves.

Rather than being directly moved by wind, the bromeliads in the upper crown of tall trees moved with the sway of the branches. Only when the substrate did not move, bromeliads with long broad leaves showed considerable disturbance due to wind.

{Image is from Wikipedia and shows a selection of bromeliads in cultivation.]

Lopez-Valdivia, I., et al (2022) **Gradual domestication of root traits in the earliest maize from Tehuacan.** PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES USA 119:doi.org/10.1073/pnas.2110245119 (available as a free pdf)

[Corn, as we North Americans call it, or maize, as the rest of the world calls it, is a manmade species. Ancient Mexican farmers noticed a few freak stalks of teosinte grass that had large kernels and which did not scatter their seeds. From them were bred the giant plants scientifically known today as *Zea mays*.]

Authors' abstract: *Efforts to understand the phenotypic transition that gave rise to maize from teosinte have mainly focused on the analysis of aerial organs, with little insights into possible domestication traits affecting the root system.*

Archeological excavations in San Marcos cave (Tehuacan, Mexico) yielded two well-preserved 5,300 to 4,970 calibrated years B.P. specimens (SM3 and SM11) corresponding to root stalks composed of at least five nodes with multiple nodal roots and, in one case, a complete embryonic root system.

To characterize in detail their architecture and anatomy, we used laser ablation tomography to reconstruct a three-dimensional segment of their nodal roots and a scutellar node, revealing exquisite preservation of the inner tissue and cell organization and providing reliable morphometric parameters for cellular characteristics of the stele and cortex.

Whereas SM3 showed multiple cortical sclerenchyma typical of extant maize, the scutellar node of the SM11 embryonic root system completely lacked seminal roots, an attribute found in extant teosinte and in two specific maize

mutants: root with undetectable meristem1 and rootless concerning crown and seminal roots.

Ancient DNA sequences of SM10, a third San Marcos specimen of equivalent age to SM3 and SM11, revealed the presence of mutations in the transcribed sequence of both genes, offering the possibility for some of these mutations to be involved in the lack of seminal roots of the ancient specimens.

Our results indicate that the root system of the earliest maize from Tehuacan resembled teosinte in traits important for maize drought adaptation.

Human Prehistory.

Rodríguez, J., et al (2022) **Sustainable human population density in Western Europe between 560.000 and 360.000 years ago.** SCIENTIFIC REPORTS 12:doi.org/10.1038/s41598-022-10642-w (available as a free pdf)

Authors' abstract: *The time period between 560 and 360 thousand years ago (MIS14 to MIS11) was critical for the evolution of the Neanderthal lineage and the appearance of Levallois technology in Europe.*

The shifts in the distribution of the human populations, driven by cyclical climate changes, are generally accepted to have played major roles in both processes.

We used a dataset of palaeoclimate maps and a species distribution model to reconstruct the changes in the area of Western Europe with suitable environmental conditions for humans during 11 time intervals of the MIS14 to MIS 11 period.

Eventually, the maximum sustainable human population within the suitable area during each time interval was estimated by extrapolating the relationship observed between recent hunter-gatherer population density and net primary productivity and applying it to the past.

Contrary to common assumptions, our results showed the three Mediterranean Peninsulas were not the only region suitable for humans during the glacial periods. The estimated total sustainable population of Western Europe from MIS14 to MIS11 oscillated between 13,000 and 25,000 individuals.

These results offer a new theoretical scenario to develop models and hypotheses to explain cultural and biological evolution during the Middle Pleistocene in Western Europe.

Mackay, A., et al (2022) **Environmental influences on human innovation and behavioural diversity in southern Africa 92 to 80 thousand years ago.** NATURE ECOLOGY AND EVOLUTION 6:361-369

Authors' abstract: *Africa's Middle Stone Age preserves sporadic evidence for novel behaviours among early modern humans, prompting a range of questions about the influence of social and environmental factors on patterns of human behavioural evolution.*

Here we document a suite of novel adaptations dating approximately 92 to 80 thousand years before the present at the archaeological site Varsche Rivier 003 (VR003), located in southern Africa's arid Succulent Karoo biome.

Distinctive innovations include the production of ostrich eggshell artefacts, long-distance transportation of marine molluscs and systematic use of heat shatter in stone tool production, none of which occur in coeval assemblages at sites in more humid, well-studied regions immediately to the south.

The appearance of these novelties at VR003 corresponds with a period of reduced regional wind strength and enhanced summer rainfall, and all of them disappear with increasing winter rainfall dominance after 80 thousand years before the present, following which a pattern of technological similarity emerges at sites throughout the broader region.

The results indicate complex and environmentally contingent processes of innovation and cultural transmission in southern Africa during the Middle Stone Age.

Valtuena, A.A., et al (2022) **Stone Age *Yersinia pestis* genomes shed light on the early evolution, diversity, and ecology of plague.** PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES USA 119:/doi.org/10.1073/pnas.2116722119 (available as a free pdf)

Authors' abstract: *The bacterial pathogen Yersinia pestis gave rise to devastating outbreaks throughout human history, and ancient DNA evidence has shown it afflicted human populations as far back as the Neolithic.*

Y. pestis genomes recovered from the Eurasian Late Neolithic/Early Bronze Age (LNBA) period have uncovered key evolutionary steps that led to its emergence from a Yersinia pseudotuberculosis-like progenitor.

However, the number of reconstructed LNBA genomes are too few to explore its diversity during this critical period of development.

Here, we present 17 Y. pestis genomes dating to 5,000 to 2,500 years BP from a wide geographic expanse across Eurasia. This increased dataset enabled us to explore correlations between temporal, geographical, and genetic distance.

Our results suggest a non-flea-adapted and potentially extinct single lineage that persisted over millennia without significant parallel diversification, accompanied by rapid dispersal across continents throughout this period, a trend not observed in other pathogens for which ancient genomes are available.

A stepwise pattern of gene loss provides further clues on its early evolution and potential adaptation. We also discover the presence of the flea-adapted form of Y. pestis in Bronze Age Iberia, previously only identified in in the Caucasus and the Volga regions, suggesting a much wider geographic spread of this form of Y. pestis.

Technology.

Nizam, A.M. (2022) **Impact of e-money on money supply: Estimation and policy implication for Bangladesh.** PLOS ONE 17:doi.org/10.1371/journal.pone.0267595 (available as a free pdf)

Author's abstract: *With the rapid proliferation of mobile telephony and the establishment of an IT-enabled payment and settlement system, Bangladesh nowadays is experiencing a remarkable growth in the usage of mobile financial services (MFS).*

As more and more people are opting to use this service, a huge number of mobile accounts are opened every day and a substantial amount of money is deposited, withdrawn and transferred frequently through the mobile network.

This ever-increasing amount of mobile money flowing through the network may have a sizeable impact on the overall money supply of the country. Thus far, no systematic study has been conducted to quantify the impact of the mobile money on the conventional money supply of Bangladesh.

In this study, we attempt to quantify the contribution of mobile money on the money supply which is an important quantity-based nominal anchor of monetary policy in Bangladesh.

Apart from deriving algebraic relationships between money supply and emoney, here we have empirically shown that during the three-year span of 2018-2021, MFS transactions account for nearly 10.88% and 11.29% of total narrow and broad money supply of Bangladesh as on January 2021.

Besides, we also qualitatively discuss the impact of emoney on an important price-based nominal anchor of monetary policy in Bangladesh, i.e., interest rate.

Based upon the above discussion, here we argue that MFS can act as an effective tool to slash interest rate by a reasonable proportion through adding significantly to the overall supply of money in Bangladesh.

Speirs: There is no reason to believe that Bangladesh is unique. In other countries around the world, there is a greater money supply in circulation than was created by the banks. The central banks are losing control and eventually will no longer be able to manipulate currencies or economies.