OPUNTIA 493

Late January 2021

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

CURRENT EVENTS: PART 12

by Dale Speirs

[Parts 1 to 11 appeared in OPUNTIAs #474, 475, 479, 480, 483, 484, and 488 to 492.]

Canada Post occasionally repaints some of its delivery vans to advertise new stamps or, in this case, to congratulate its workers on toughing it out during the pandemic. The van shown on the cover and below was in front of the Central Post Office in downtown Calgary where I have my box number.

For comparison, the regular vans look like this one that I photographed last summer.

The Internet was supposed to destroy the postal system but only changed it. Letter mail is a fraction of what it once was but the parcel system has exploded. Canada Post now regularly breaks records for daily deliveries, far beyond the traditional Christmas rush. All those WFHers and CERBers are buying everything online, and Canada Post delivers to more addresses than the private parcel companies do.

The Calgary Philatelic Society had an annual stamp show CALTAPEX which, like everything else, was cancelled in 2020. The club rebounded by hosting an online show CalVirt 2021 from January 20 to February 10 at its Website www.calgaryphilatelicsociety.com (scroll down and look for the tab 'Virtual Exhibition' on the left side). Exhibitors scanned their albums pages and converted their exhibits into pdfs. These can be viewed free.

As part of the activities, one of our members arranged for Picture Postage stamps (personalized stamps from Canada Post) and two covers. Since all these items mention COVID-19, I bought copies for my thematic collection of pandemic stamps.

The first set, a stamp to mourn CALTAPEX 2020, is shown here. (None of these images are to the same scale.) Below is the outside of the stamp booklet. At bottom right is the interior of the booklet. Picture Postage stamps are sold in booklets of twelve.

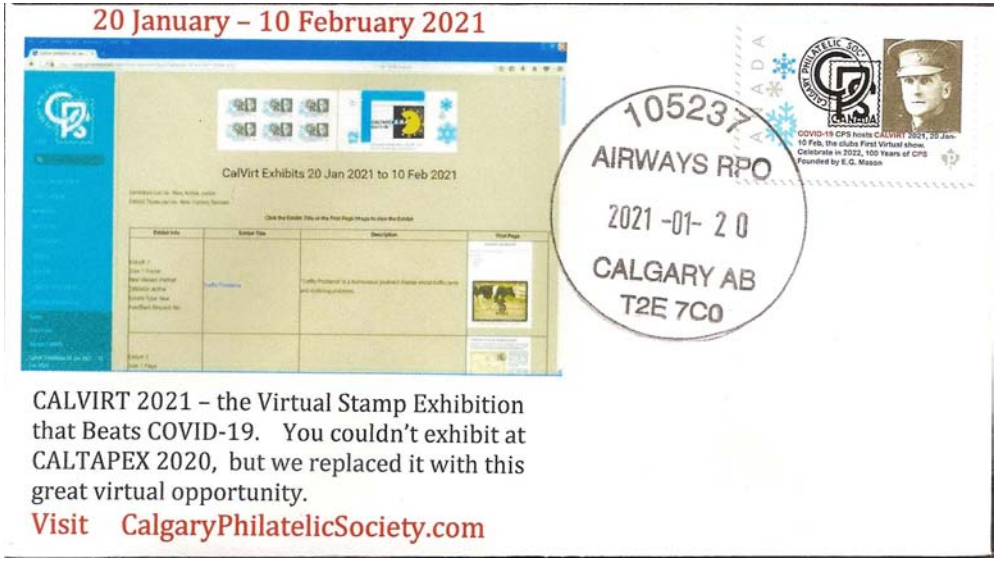
The man on the stamp is Dr Edward George Mason, who founded the CPS in 1922. This is the only known photo of him, in his Medical Corp uniform. He served in the front lines of trench warfare of WW1 with the Canadian Army until he was wounded. After recuperation, he became the medical director of a hospital in Shoreditch, England, for the rest of the war. When the influenza pandemic ran its course, he returned to Calgary and died at an advanced age in 1947. He knew what a real pandemic was like.

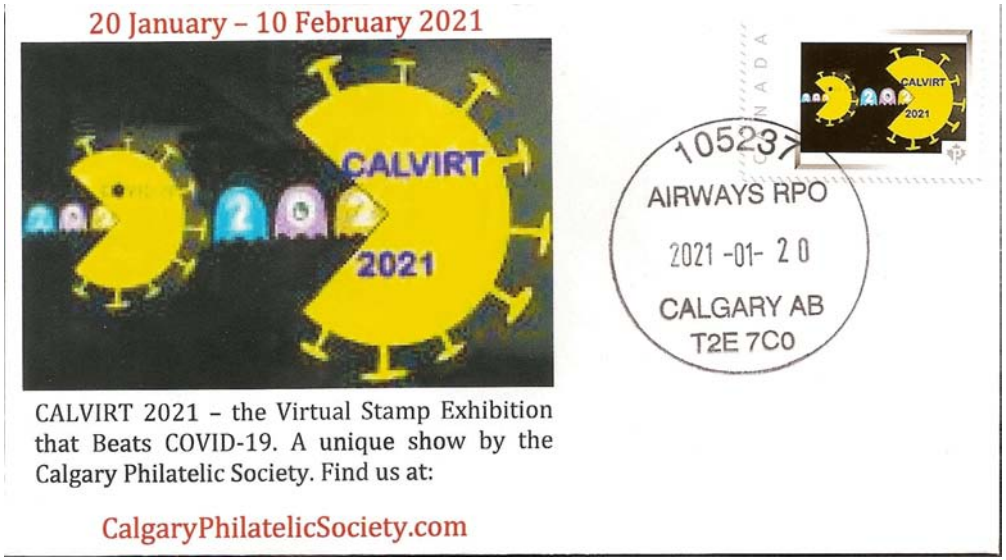
The second set of personalized stamps was for the CalVirt 2021 show.

These stamps are always valid for domestic postage at what is called the Permanent rate. Notice the letter P in the corner of the stamps. I doubt many collectors will use them for postage.

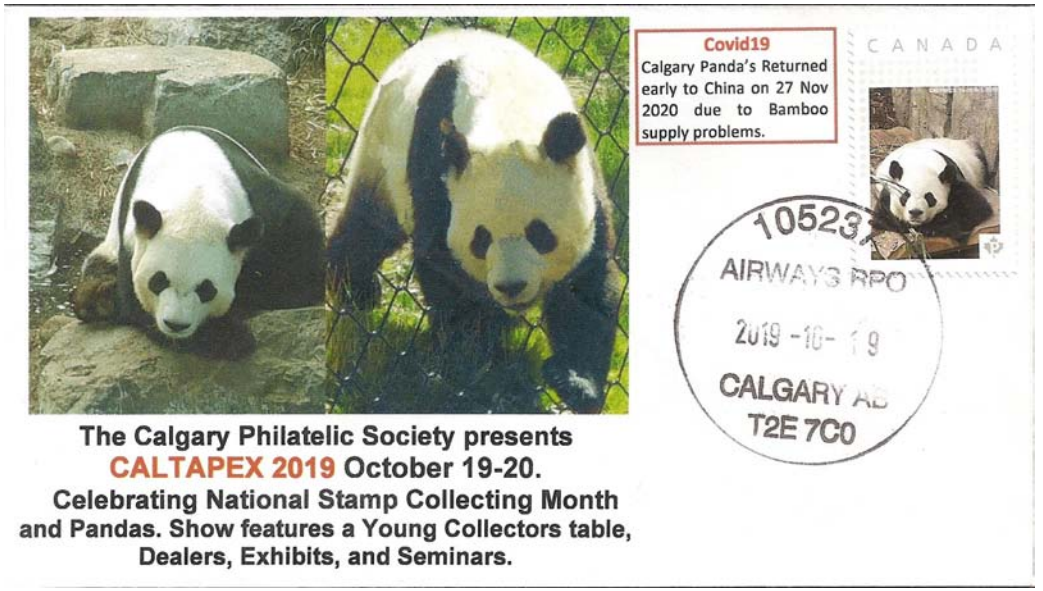
Below: Show covers for CalVirt 2021. In philatelic parlance, a cover is the combination of envelope, stamp, and postmark.

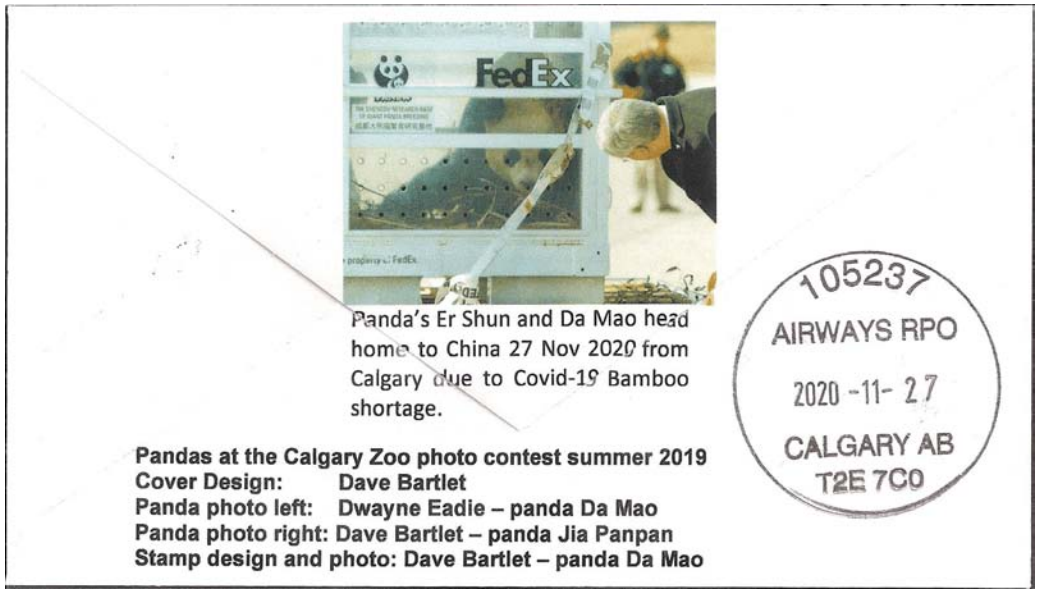
Like other shows and conventions, we convened in Zoom meetings for seminars and business sessions.



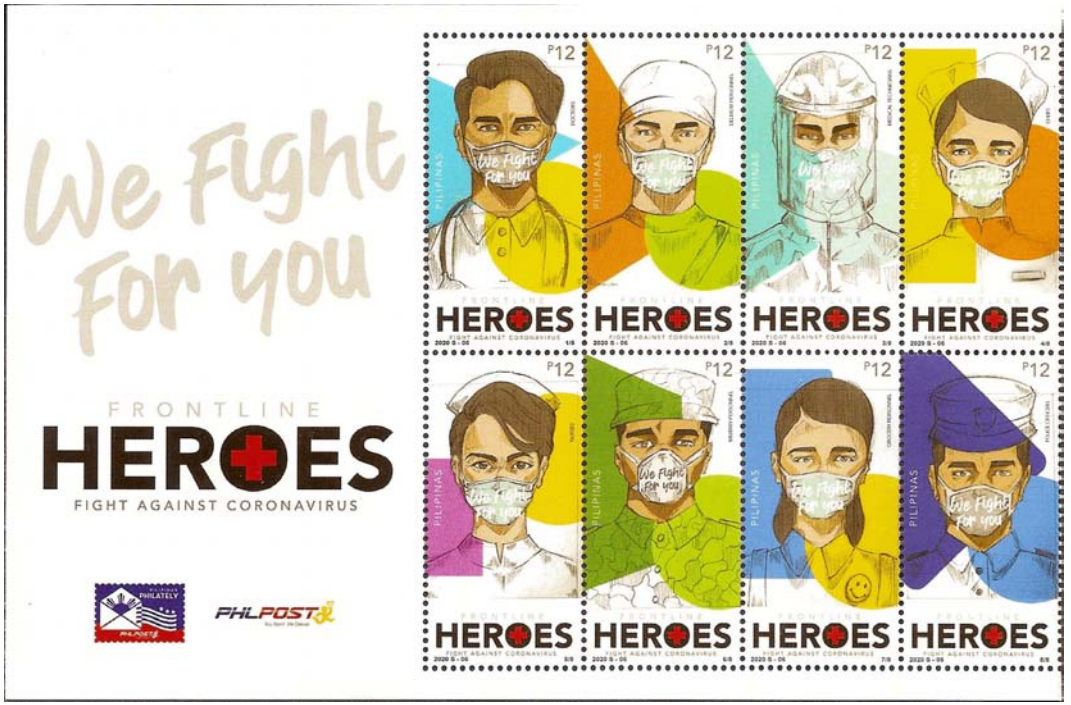


The CALTAPEX 2019 show covers honoured the presence of the giant pandas at the Calgary Zoo. The pandemic crippled supplies of bamboo, so on November 27 the furballs were shipped back to China. A few leftover show covers were overprinted and then recancelled as a postal history of this event. The two sides of the cover are shown below. Note the difference in dates of the front and back postmarks.





From my local stamp dealer I bought my latest batch of COVID-19 stamps (not to same scale). Below is a Portugal mini-sheet which at first glance doesn't appear to be on the topic. The righthand stamp with the circular gridwork is printed in graphene. Downloading an app from Portugal Correios, activating your smartphone's Near Field Communication setting, and then holding the phone close to the stamp will bring up an inspirational poem.



These two items are both from the Philippines.

Another update on my neighbour's yarnbombing project. The Boo! band was Halloween and the Joy band was Christmas.

COVID-19 Papers Recently Published.

Cioruta, B.V., et al (2020) **COVID-19 stamps: A new collecting theme vs philatelic promotion of care for affected community and environment.** ASIAN JOURNAL OF EDUCATION AND SOCIAL STUDIES 9(2):25-37 (available as a free pdf)

Authors' abstract: *The coronavirus has reached its claws into every aspect of human activity, and philately is no exception. This is reflected both by decisions to cancel some philatelic issues originally scheduled in the editorial plan of the postal administrations, in shifting the dates of appearance of other issues, or editing new issues with the theme of the new coronavirus.*

Speirs: This paper illustrates and analyzes the early postage stamps issued on the theme of the pandemic. Iran issued the world's first COVID-19 stamp on 2020-03-17. This paper points out that the stamp was in part due to criticism that the Iranian government had been slack in its response to the pandemic. The stamp issue ceremony was attended by the President of Iran and received major news coverage in that country in an effort to prove the government was taking action.

Howard, J., et al (2021) **An evidence review of face masks against COVID-19.** PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES USA 118:doi.org/10.1073/pnas.2014564118 (available as a free pdf)

Authors' abstract: *The science around the use of masks by the public to impede COVID-19 transmission is advancing rapidly. In this narrative review, we develop an analytical framework to examine mask usage, synthesizing the relevant literature to inform multiple areas: population impact, transmission characteristics, source control, wearer protection, sociological considerations, and implementation considerations.*

A primary route of transmission of COVID-19 is via respiratory particles, and it is known to be transmissible from presymptomatic, paucisymptomatic, and asymptomatic individuals. Reducing disease spread requires two things: limiting contacts of infected individuals via physical distancing and other measures and reducing the transmission probability per contact.

The preponderance of evidence indicates that mask wearing reduces transmissibility per contact by reducing transmission of infected respiratory particles in both laboratory and clinical contexts. Public mask wearing is most effective at reducing spread of the virus when compliance is high.

Given the current shortages of medical masks, we recommend the adoption of public cloth mask wearing, as an effective form of source control, in conjunction with existing hygiene, distancing, and contact tracing strategies.

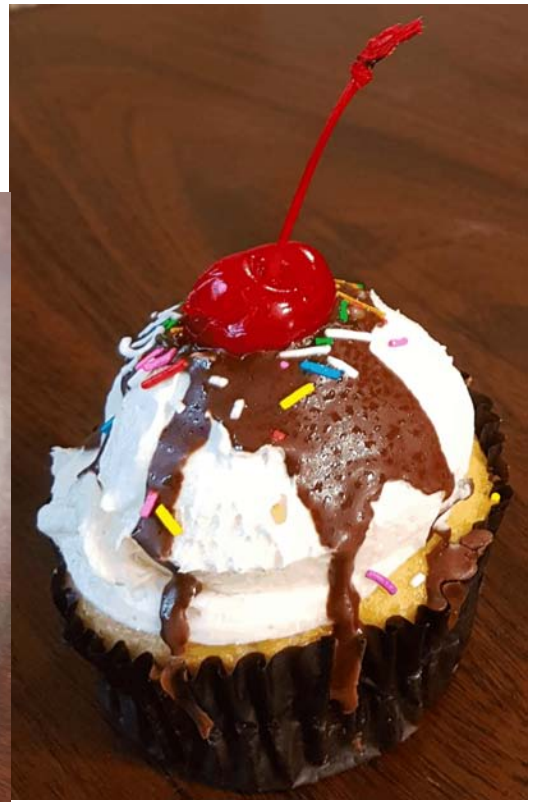
Because many respiratory particles become smaller due to evaporation, we recommend increasing focus on a previously overlooked aspect of mask usage: mask wearing by infectious people ("source control") with benefits at the population level, rather than only mask wearing by susceptible people, such as health care workers, with focus on individual outcomes. We recommend that public officials and governments strongly encourage the use of widespread face masks in public, including the use of appropriate regulation.

As of January 26, Canada had 757,011 cases of COVID-19 and 19,403 deaths. There were 868,454 vaccinations. Canada's population is about 38,000,000.

WHY I AM NOT LOSING WEIGHT DURING THE LOCKDOWN DESPITE LONG WALKS AROUND GLENMORE RESERVOIR

photos by Dale Speirs, cupcakes by Safeway

The icing roses are my favourites. Pure works of art so good that it seems a shame to eat them. At top right is a pair of red velvets, strawberry and raspberry.



WEIRD FICTION: PART 4
by Dale Speirs

[Parts 1 to 3 appeared in OPUNTIAs #412, 458, and 484.]

Ghoulies And Ghoosties And Things That Go Bump In The Night.

"The Pale Man" by Julius Long (1934 September, WEIRD TALES, available as a free pdf from www.archive.org) was narrated by an old man who went to a country hotel for some rest. It was the quiet season and he was the only guest, yet he kept seeing a pale man on his floor. What was puzzling was that each night the pale man occupied a different room on the floor.

Eventually the narrator realized that each room was closer to his, and the night would come when the pale man reached his room. The door was bolted, yet it slowly swung open ...

REVOLT OF THE ZOMBIES was a 1936 movie written by Victor Halperin, Howard Higgin, and Rollo Lloyd. It is available from Mill Creek Entertainment on their "Horror Classics" 50-movie DVD boxed set.

The movie opened during the final stages of World War One, when the French army brought in some cannon fodder from Indochina. They proved to be zombies and helped the French break the German lines. Their use in the war was hushed up.

Afterwards, it was agreed that the zombies must be wiped out at their origins at Angkor, Cambodia. An expedition was promptly dispatched. There were assorted military men, a beautiful young thing, and a couple of young studs to vie for her hand and whatever else they could get hold of. One of the young men was Armand Louque, who was an expert in languages and a part of the love triangle.

The natives were Hollywood's idea of inscrutable temple priests and their minions. To be fair, unlike most studios at that time, the Cambodians were not white men in Fu Manchu makeup but genuine orientals, although I suspect most were Chinese or Japanese.

Louque was the one who finally discovered the secret of the zombies. He began creating an army of them. Somehow the effect wore off, and an angry mob of Cambodians stormed the palace. He didn't survive to the end credits.

The movie was predictable and slow paced, even for that era. Most of the plot was conveyed by conversations, which were cheaper than staging fresh scenery. To sum up, it wasn't a bad movie, just a dull movie.

DEAD MEN WALK was a 1943 movie written by Fred Myton. It is available from Mill Creek Entertainment on their "Mad Scientist Theatre" 50-movie DVD boxed set. The lead actor was George Zucco, a character actor who appeared frequently in horror movies. He played the brothers Dr Lloyd Clayton and his evil twin Elwyn.

Lloyd had secretly murdered Elwyn for his satanic practices, without anyone realizing the death was not natural. The movie opened with the funeral service, a camera shot looking down the aisle of the church at the minister, with the coffin in front of the pulpit.

The evil that men do lives after them, and Elwyn returned from the grave as a vampire. He was both a ghost who could walk through walls and vanish into thin air, and a vampire with a taste for the blood of comely young women. (Vampires never seem to go after fat women, despite the extra blood supply.)

Lloyd, his niece Gayle, and her fiancé David were in peril from Elwyn. The pace of the movie was slower than what modern audiences are used to. It took quite a while and many extended conversations to reach the point where everyone realized that Elwyn was back.

Gayle was bitten on the neck but an old family retainer gave her a necklace with a cross to drive away subsequent attacks. The villagers formed a lynch mob but as this was the modern era, they carried kerosene lanterns instead of torches.

In the final confrontation, they saw the two brothers fighting to the death as the mansion burned around them. The closing scene was another funeral service, same camera angle, this time for Lloyd. The minister intoned: *Greater love hath no man than this, that a man lay down his life for his friends.*

Gimme That Old Time Radio.

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

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

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

"The Hand Of Glory" aired on 1952-01-11. Harry Lime met a beautiful young woman named Helen on board the English Channel ship. She invited him to stay with her at her uncles' manor house in rural England. Sensing an opportunity to glom some money, or at least some of the silverware, Lime agreed.

Her uncles Gregory and John were delighted to have a guest. Too delighted, as it transpired. They spent their days working in their laboratory upstairs, telling Lime they were seeking the philosopher's stone to transmute base metals into gold. He went along with the gag, being more concerned about chasing Helen, the sole heir to her very wealthy uncles.

Curiosity got the better of him, and one night he entered the laboratory through an outside window. Purely out of courtesy, you understand, as picking the lock might damage the door. Browsing around inside, he discovered that the uncles were actually practicing witchcraft. In particular, they seemed to be seeking the Hand of Glory, a five-fingered candle which, when lit with the hair of a hanged man as wicks and made from the hand of a murdered man, would unveil the secrets of the universe to them.

Lime suddenly realized why they were so hospitable to him. He then noticed an old man, a ghost, watching him. A very friendly chap. They talked a while, then the old man said Lime should really be getting back to his room.

That night, instead of reposing in bed, Lime hid behind a curtain. About midnight the two uncles crept into his bedroom and were most annoyed to find him missing. They fell to quarreling. Gregory stabbed John to death in the heat of the moment, then in remorse hanged himself. Too bad they weren't able to chop off a hand and light the Hand of Glory.

Helen and Lime fobbed off the police, who accepted his testimony the deaths were a murder-suicide. Once the constabulary were clear of the manor, Lime began rubbing his hands in glee at the thought of marrying an heiress. No such luck. Helen wasn't about to have anyone getting at her estate. She threw Harry off the premises. She was going to be an independent woman.

Revival Radio.

THEATER FIVE was a short-lived attempt at reviving drama shows on radio. It aired for the 1964-65 season but the war against television was lost a decade prior, so it failed. The episodes were generally well written and produced, and are worth downloading from www.otrrlibrary.org. The episodes were a mixture of science fiction, fantasy, mystery, and weird fiction.

"Your Time Is Up" aired on 1964-08-20 and was written by Raphael David Blau. The protagonists Paul and Rhoda Powers had moved to the rural area of Dover Ridge. She preferred the city life but Paul wanted their son Bobbie to grow up in the country like he did.

Rhoda had premonitions of Bobbie dying by a garden shed which Paul scoffed at until they came true. The boy had tripped and impaled himself on an old harrow. He never got a speaking part, alas.

Her next premonition was Paul dying in a commuter train wreck. That would make things more convenient for her and her lover Arthur.

Arthur was reluctant about their relationship after she told him about the foreboding with Paul. She pushed Arthur too hard and he broke up with her. He had nothing against Paul and told her to warn him about the train.

She phoned Paul at work. He almost ignored her alarm but acceded and didn't take his regular train. He took a taxi instead. The driver tried to beat the train over a crossing but didn't make it.

"The Noon Stars" was written by Richard McCracken and aired on 1964-09-14. The episode was set in a rural village dominated by a hardshell preacher. One sunny day he and the villagers noticed a young boy playing in the public square. The boy told them he could see the stars in the daytime and point them out by position and name.

The preacher was not amused but at least didn't condemn the boy to the stake. He let the villagers harass the boy. A young couple took pity on the boy and sheltered him. The trio finally fled when the villagers began shouting "Burn him". After they left, the village settled back into complacency.

But not for long. The next night there were no stars in the sky. The Moon began shrinking and faded out. Neighbouring villages were unaffected. The Sun is a star. Desperately the villagers searched for the boy to apologize for him, but found they were trapped in ever-darkening gloom.

"Around The Corner From Nowhere" aired on 1965-05-12 and was written by Winifred Wolfe. A newspaper photographer named Ted Clark, not Casey, was drinking in a tavern instead of reporting in to his city editor. Clark had just been jilted by his girlfriend and was drowning his sorrows with ethanol.

The editor's assistant Lucy Phelps tracked Clark down by telephone. She ordered him to meet her at the morgue to photograph a young woman recently murdered. Either that or he could report to the unemployment office.

Clark called ahead to the morgue for some details. The telephone was answered by a sultry female voice. He thought he had dialed a wrong number, and here was his chance to rustle up a replacement girlfriend. He was instantly smitten sight unseen and invited her to the tavern.

Six minutes into the episode and the listener will have already guessed the plot. She arrived at the tavern, introducing herself as Cassie Turner. Clark offered her dinner but warned her the food in the tavern wasn't very good. "*I'm sure it won't kill me*", she replied.

The rest of the dialogue was equally full of premonitions and insinuations about her immediate past. Clark startled her by taking her photo. She told him it wouldn't turn out. Clark replied he had noticed that she looked pale and half-dead.

By now the script writer was not only waving a red flag at the listener but shooting off fireworks, those big chrysanthemum ones. Since Clark was the only one who didn't get the idea that Turner was the dead woman, she spelled it out to him. Gangster Tony Karr had killed her because she had testified to a grand jury.

She then fled the tavern. Clark, still not understanding that he had been courting her ghost, tried to follow but lost her. His denials about the truth were tedious and far over-acted.

Phelps arrived at the tavern, indignant because Clark never showed at the morgue. She said he looked awful, the same colour as that Turner girl on the slab. In a postscript, the photo he took showed an empty chair.

"Across The River From Grandma's House", written by Leonard Stad, aired on 1965-01-19. The episode opened to the sound of a prison siren warning of an escaped prisoner.

A grandmother fussed over her granddaughter Penelope, who was going out for some shopping errands. The girl encountered the prisoner Matthew Krim and offered to take him to Grandma's house. He was suspicious of the help, but having been wounded in the escape had no choice but to accept.

Grandma fussed over Krim and Penelope gushed how wonderfully evil he was, which put him on edge. They dressed his wound under his protest. The bloodhounds were soon at the house but Grandma bluffed the police away.

They gave him herbal tea as he chatted with them. Grandma was quite evasive as to why they were helping an escaped prisoner. The tea was drugged and put Krim to sleep. When he woke up, Penelope was sitting by the bed. She tried to seduce him but he was more concerned with the strange noises coming from the basement.

Dragging her along, he found a sub-basement where Grandma was at work digging a grave. There was a sudden jump cut to a rowboat in the river, where the two women tried to convince Krim to come back to their house. What happened in between was never hinted at, but presumably the sight of Grandma digging a grave prompted him to flee the house.

His wounds did him in just as they reached the far shore of the river. A ghostly voice challenged them. Grandma replied they had brought a new soul for it. The voice was annoyed about the body, having no use for material things, but was mollified by the arrival of the soul.

Grandma was put out because she had take the body back for burial. Penelope reminded her that Satan was the boss and orders were orders.

ALL THAT GLISTERS: PART 4

by Dale Speirs

[Parts 1 to 3 appeared in OPUNTIAs #324, 362, and 471.]

Radioactive Gold.

"The Stolen Element" by Paul Ernst (1934 September, ASTOUNDING, available as a free pdf from www.archive.org) had some plausibility to it and was certainly prescient about radioactive elements. The setting was a laboratory where Dr Vichoni was experimenting with transmutation of elements, such as turning iron into gold by adding extra protons.

Since iron has 26 protons and gold has 79, this would require quite the jolt. Not entirely unbelievable, although the energy costs would far outweigh the added value, which is why no one is doing it today. (Nor extracting gold from seawater; too much energy required to separate it.)

Vichoni's laboratory assistant Carlo watched with greed. Unfortunately he did not fully understand the consequences. He killed Vichoni, turned a bar of iron into gold, and took it to a dealer who didn't ask questions. He carried it there in his hand.

Back at the laboratory with his ill-gotten cash, he felt some pain in his arm. It was turning into solid gold. The weight dragged him to the floor and he could only watch as the Midas touch worked its havoc on him. At that point, the handwaving began by the author as to why touching a transmuted bar would convert flesh and bone into gold. That part failed the suspension of disbelief test.

YOURS TRULY, JOHNNY DOLLAR was the last old-time radio series, airing from 1949 to 1962. (Available as free mp3s from the Old Time Radio Researchers at www.otrrlibrary.org) Almost all the OTR shows had died off by 1955. Johnny Dollar was an insurance investigator based in Hartford, Connecticut. Each episode began with a claims adjustor from an insurance company ringing him up and asking him to take on a case.

The running joke of this series was that Dollar shamelessly padded his expense account. Each scene was introduced by Dollar reciting a line item from his expense report, followed by a segue to the action.

"The Radioactive Gold Matter" was a 1954 episode written by Sidney Marshall. Johnny Dollar was rushed to South Bend, Indiana, to investigate the theft of four troy ounces of gold worth about $150 from Washington Research Hospital. (Today worth about US$7,500.)

Naturally Dollar asked why the excitement over such a small claim, and was informed the gold was a radioactive isotope used for research. The thief was carrying deadly loot. I checked Google and learned that gold has 18 isotopes, of which ^{198}Au is a radioactive isotope used for cancer treatment.

The doctor in charge of the radiology laboratory told Dollar that other radioactive elements were left untouched, indicative that the thief was just after something valuable and easily fenced. Whomever stole the gold left its lead container behind. The police sent out a news alert and the search was on.

A pawnbroker called in with a possible suspect, having bought some gold leaf that morning. The name given was John Jones. It was a false lead, so the search resumed.

Another turn in the case was when a hospital laboratory technician Doris Fourier thought she had radiation poisoning. She seemed to be suffering severe psychological problems but denied taking the gold. She said she had forgotten to put the gold in the vault the night it was stolen. Now she blamed herself and thought she was dying for her sins.

Her confession didn't help. All it demonstrated was that anyone could have taken the gold. The police were flooded with calls from the public. Back at the hospital, they found radioactive traces in a janitor's cart. All the maintenance staff were tested with Geiger counters but were clean. Another false lead.

A young boy was exposed, which provided more contact tracing to be done. The next-door neighbour proved to be a cancer patient who had been in the hospital for treatment. He admitted the theft because he wanted to make some gold jewelry for his wife. It was their 50th wedding anniversary.

He had spent the last two days in his basement workshop pounding the gold flakes into rings. He said he was willing to pay for it. Replied Dollar in a sad voice: "*Yes, you will*".

Total expenses claimed were $165.45.

Transmutation.

Those who struggled to create gold from base substances never seemed to think through the consequences of what would happen if they succeeded. Gold is valuable because it is relatively rare, but a flood of it would reduce the price to that of iron or lead. But they kept trying.

"The Gold Triumvirate" by Walter Kately (1929 November, SCIENCE WONDER STORIES, available as a free pdf from www.archive.org) was one such story. It was an alchemical story set in modern times.

The plot began with an infodump on sub-atomic structure that was hopelessly wrong even for that era. The idea was to produce gold from other elements with the same atomic weight by changing neutrons into protons, throwing some electrons into the mix, and heating them at the boil. Something like that.

The characters were well aware what would happen if a flood of gold reached the market, which resulted in a second infodump, this one on inflation. They tried to feed the gold into the market slowly but were eventually found out. As the economy crashed, the narrator made a run for a South Pacific island, where conch shells were the currency.

As the Great Depression intensified, "The Mystery Metal" (1930 March, SCIENCE WONDER STORIES) was published by T. Howard James and Maurice James. A mad scientist had developed the ability to transmute gold into bronze (that is, copper and tin) by beaming a ray into bank vaults.

The world was still on the gold standard back then, so the idea was economic warfare. The mad scientist in question was just plain evil and vengeful for past hurts, real or imagined.

As news leaked out that banks were missing their gold reserves, panic broke out and there were bank runs. The heroes finally tracked down the laboratory, only to find the mad scientist dead, having accidently stepped in front of the ray.

"Gold" by Clyde Crane Campbell (1935 January, ASTOUNDING, available as a free pdf from www.archive.org) was another in the long list of modern-day alchemists. Lloyd Walsh was the man selling the gold, in small amounts each day, but because he sold to the same dealer each time, he drew attention to himself from the wrong type of people.

Walsh was running his operation by himself, working 15-hour days and at the point of physical collapse from exhaustion. He hired Herbert Benton as an assistant, who was, to no reader's surprise, a spy from the goldsmiths.

The job interview was a peculiar infodump about transmitting electrical power through the air, a la Tesla, but enough to give the idea that for Walsh the gold was only a means to a different end.

Walsh explained further: *"Now", he breathed hard, watching intently Benton's shining eyes, "suppose I was able to liberate enough energy to make it too cheap to buy? Do you know what that would be? The true solution of the economic problem. Liberate enough energy to serve all the people instead of only a few, and you can do anything, make anything, and so cheaply that there's nothing on earth worthless enough to pay for it in its real value."*

Benton sat quietly, thoughtfully stroking the shoulder of the machine that dared attempt to solve the problems of the world. "You'd make energy the medium of exchange?" he asked.

"No, no! Wipe out every medium of exchange, do away with gold, with capital, with buying power. I'd make things so cheaply there'd be nothing cheap enough to pay for them; nothing to do but to give them away, and that province would be the government's."

"Communism!" Benton blurted out.

The fallacy behind this argument is that if people didn't have to work for a living, then who would auger your plugged basement sewer drain? Or raise the food you eat? And why would anyone invest capital in a factory if the products couldn't earn a profit?

Walsh went on to explain to Benton that the gold production was only to pay expenses. He was on to something, specifically a hydrogen-to-helium fusion reactor. For 1934, when the story would have been written, this was a good prediction, albeit still unfulfilled today.

The infodumps about atomic energy continued and bid fair to turn the story into a novel. Before that could happen, the goldsmiths arrived bearing guns, wanting the secret of the gold. Benton changed sides and used Walsh's fusion machine as a death ray. The human body is 80% water, and since water is an oxide of hydrogen, the machine fused the bodies of the goldsmiths into helium.

What Benton overlooked was the energy created by the fusion, which wrecked the building. At that point, the story abruptly stopped, like a car driving into a concrete wall, if I may mix the metaphors. And that was it.

Gold In Them Thar Oceans.

"Gulf Stream Gold" by Ed Earl Repp (1930 May, SCIENCE WONDER STORIES) was pretty much described by the title. Scientists have long known that sea water has dissolved within it various types of minerals including gold, albeit at very low dilutions. Technically they could be extracted but the problem is that the energy and other costs are higher than the value retrieved.

That didn't discourage an inventor named Cantrell (first name never given by the narrator) who had a process that could extract gold from the Gulf Stream. The flow of the water allowed a continuous process. Cantrell had a superscience submarine with the extraction device.

Most of the story was an action-adventure with may alarums en route to fill out the pages. Nor did they end with the success of the gold machine. The

submarine ran into trouble and foundered. The narrator managed to fill his pockets with some of the gold but Cantrell took the secret of the machine to the bottom of the gulf. Just as well, as they would have collapsed the price of gold had they succeeded.

Gold For The Taking.

The traditional method of obtaining gold at low cost, albeit high risk, is to steal it. As such, gold is generally a MacGuffin in fiction.

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

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

"The Golden Fleece" aired 1951-10-12. Harry Lime was in Spain watching a bull fight. He struck up a conversation with the woman next to him, named Nadia something-or-other in Russian. (I couldn't make out the name.) She mentioned she was looking for a captain for her yacht, so Lime volunteered. He forgot to ask what happened to the original captain.

Lime hastily arranged to get a set of forged master of the vessel papers. He had no experience but was desperate for money. Only after boarding did he learn that the destination was China. He hired a fellow grifter named Sidney Cotton who was a genuine sailor and would be able to cover for him.

Both of them figured the yacht must be carrying contraband. It couldn't be narcotics because nobody smuggled them from Spain to China. Cotton discovered the ship was wired with explosives. It was a gigantic floating bomb. That wasn't the contraband, he added, but before he could tell Lime (and the listener), they were interrupted by Nadia.

Lime never found out because Cotton disappeared during the night. Fortunately Lime was able to gull the second mate into running the ship. The voyage continued into Hong Kong and then up the river into China. As they puttered along, Nadia told Lime the ship was lined with gold, $500,000 worth, which would be 14,285 Troy ounces at the fixed US$35 price back then in the days of the gold standard. Call it $27 million at today's prices.

They met with a warlord, the events being before the Communist takeover. She introduced him to Lime as her father. She was the product of a mixed marriage between a Chinese woman and a Russian. The reunion was celebrated with a 7-hour banquet which ended on a sour note when they discovered someone had stolen the yacht.

A chase down the river with the warlord's gunboat ended with machine gun fire and grenades just as the yacht made it out to sea. The missing captain reappeared, none other than Nadia's husband. She had pushed him overboard back in the Mediterranean before she met Lime. Now there he was, very annoyed. It was then mentioned she had also disposed of Cotton. Both men got too close to her secret.

After telling her he was a better swimmer than she thought he was, her husband declared that he was going to do unto others as they did unto him. Nadia thought not, and detonated the explosives. Lime dived overboard as he saw her going for the trigger and therefore was the only survivor.

His reputation as a sharp practice man prevented anyone from believing the story of the gold, the location of the sunken ship which he would reveal for a price. No one would put up the money for the salvage. All Lime had was a tale to tell in the tavern.

"Fool's Gold" aired on 1952-04-04 and is an example of a story made obsolete by the march of time. First an infodump, which will explain why the episode is obsolete except as an historical piece.

Until 1971, when Richard Nixon took the USA off the gold standard, the price of gold was fixed at US$35 per Troy ounce (31.1 grammes). Other countries fixed their currencies to gold in similar manner. In the postwar decade, inflation

set in. The countries in Europe and North America, as well as others such as Australia and New Zealand regulated the price of gold at their fixed price.

The problem was that there were many countries not on the gold standard, where gold was worth much more because of currency depreciation. This meant that gold standard countries had to watch exports and imports of gold closely, and maintain constant vigilance for smugglers taking gold out of the USA or Europe to Asia for resale at a higher price.

One example of this sort of thing was illustrated in the James Bond movie GOLDFINGER, where Bond's initial job was to find out how the supervillain Goldfinger was smuggling gold out of Britain. (By casting the gold as fenders and bumpers of cars, then shipping the cars to Switzerland.)

Which brings us back to Harry Lime, who heard a story in a Paris bistro about how gold shipments were smuggled out of the USA and sent to Kuwait for transhipment to Asia at a higher price.

The gold was stored with minimal security in Kuwait. Lime hired two henchmen named Clancy and Seymour. Clancy had a freight airplane in which the trio flew down to Kuwait. Lime did the heist and in no time the plane was carrying a half-ton of gold to Karachi, where it could be sold for US$70 per Troy ounce. Call it a profit of $1 million, or $10 million in today's currency.

Lime decided Karachi would provide the best price but Clancy knew a man in Portuguese Goa, an enclave long since absorbed back into India. Nonetheless it was to Karachi they went. While Lime was making contact with a dealer, Clancy and Seymour took off with the gold, preferring a 50-50 split between themselves.

Lime chartered a plane and raced them to Goa, and found them in the street in front of their gold dealer's shop, unloading the gold. He had a gun in his coat pocket pointed at Clancy and so was able to greet them as a sidewalk superintendent. He made certain who the correct payee would be.

Just then, the police swooped in and arrested Clancy and Seymour. They had been tracking the stolen gold and took the two henchmen into custody. Lime was just as passerby as far as they were concerned, so he escaped with his freedom, if nothing else.

The PHILO VANCE series aired on old-time radio from 1945 to 1950, based on the novels by S.S. Van Dine. Script writers were not credited. The detective was also found in a series of movies. Philo Vance was a know-it-all amateur sleuth, a wealthy man who moved in high society.

In the radio series he was usually asked by District Attorney John Markham to investigate, as apparently the local police could not be trusted to find the killer. Markham frequently came out and did field investigations, something a real D.A. would not do.

The police occasionally appeared but usually just the two men brought in the culprit. Markham narrated the second half of each episode, after the commercial break.

"The Idol Murder Case" aired on 1949-01-25. A break-and-enter suspect Joe Ferrell offered a plea bargain to John Markham. He told the District Attorney that a local museum was receiving a shipment of artefacts and the place would be robbed.

One of the items was the Bonji, a statue of great interest to a gang which wanted to heist it. They represented a jungle tribe who wanted their idol returned. Elsewhere a rich collector Enid Carter wanted it for herself. So did an art dealer named Maurice Abbott.

In short, the Bonji was the MacGuffin everyone was chasing. It was said to be made of copper, 3 feet high, 1 foot wide, and weighing 3,500 pounds. That didn't seem correct to me but Philo Vance soon answered that discrepancy. Carter was the first victim, shot dead by her competition as she tried to steal the Bonji from the museum. What wasn't discussed was how she would have been able to carry such a heavy load out of the museum.

Vance realized the statue was too heavy to be copper. It was solid gold, with a coat of copper. As he and Markham discussed the matter in the museum, gunshots resounded. Thieves and police had encountered each other, with predictable results. The thieves got away.

Trying a bluff, Vance had the newspapers announce that he had identified the thieves and would tell the police. As he expected, the thieves appeared at his office. The leader of the gang denied killing Carter. He said he was pledged to return the statue to the tribe.

Abbott was detained for questioning but denied everything. Back to the museum after hours to confront the true culprits. They caught them in the act and found the guilty party was the assistant curator Jasper. In the denouement, Vance explained everything at great length. A policeman remarked that he certainly went on. Vance replied: "*I like to make statements*". Indeed.

WHEN WORDS COLLIDE 2021

August 13-15, 2021, will be the 10th Calgary readercon When Words Collide as a meeting place for readers, writers, and other professionals in the literary world. More information from www.whenwordscollide.org

2021 Festival Guests.

Cathy Ace - past president of Crime Writers of Canada and award-winning author of mystery fiction.
Vicki Delany - bestselling crime writer and winner of the 2019 Derrick Murdoch Award.
Steena Holmes - bestselling author in multiple genres with over 2 million copies sold.
Fonda Lee - award-winning speculative fiction author and black belt martial artist.
Dave Reynolds - Local Authors Manager for Indigo/Chapters/Coles for Western Canada.
Morgan Rhodes - bestselling and award-winning YA fantasy author aka Michelle Rowen, bestselling romance and paranormal author, and past president of Toronto Romance Writers.

When Words Collide 2021 In-Person or Online?

While the Alberta's government's vaccine rollout schedule suggests large in-person events will not be viable in August, that could still change in the weeks ahead. We continue to plan for an in-person festival for August 2021. Should health concerns prevent us, we will move the entire festival (except the banquet and autograph session) online. Either way, we are also planning to hold an online festival warm-up on Saturday Aug 7, 2021 where we will have some special online presentations and social events.

A selection of webcasts from our 2020 online festival (as well as podcasts from earlier festivals) are available on the When Words Collide YouTube Channel: www.youtube.com/channel/UCYLP-1XdcKWDyRftkL_a8lQ/

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.]

CHRISTIAN NEW AGE QUARTERLY V24#4 (US$5 from Catherine Groves, Box 276, Clifton, New Jersey 07015-0276) The lead-off article was about the irony of isolation caused by so-called social media and the advent of the pandemic which made people yearn for real social contact.

LETTERS TO THE EDITOR

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

FROM: Lloyd Penney 2021-01-19
Etobicoke, Ontario

OPUNTIA #491: [Re: Calgary snowfall] Your car is white, with red highlights. We have been very lucky here in that we have but a dusting of snow on the ground, and that only came last night. I suspect we will get more snow before the spring arrives, but it looks like we won't have to deal with snowbanks this year, fingers firmly crossed.

[We still have about half of the snow. A mild chinook came through in the middle of January but didn't finish the job. Temperatures have been quite agreeable though, from 0ºC to -10º. We haven't had any cold weather down in the -20º to -30º range, which we usually get for a week or two each winter. Said he, crossing his fingers.]

[The City Roads Dept is slowly getting the residential streets ploughed but that creates additional problems because the snow windrows block our driveways. I went out to do some grocery shopping one day and upon my return to Chez Opuntia discovered that in the interim a snow plough had been down my street. I high-centred the Opuntiamobile trying to get into my driveway. I had to take a shovel out of the garden shed and dig away the windrow. The joys of home ownership.]

[Re: murals on houses] The artwork that adorns the electrical boxes here has yet to spread to houses. I think there is great fear that anything that might change the regular look of your house will affect your resale value. There are no houses for the first-time buyer here, and there haven't been for years, so resale value could be huge.

[I doubt that murals would affect house prices. I've recently seen tarpaper shacks in Calgary sell above list price within a couple of days because people are desperate to buy a walk-out instead of sharing germy elevators in a condo tower. What hath COVID-19 wrought?]

Online businesses: I have been able to sell four pairs of earrings through social media, and Yvonne has been very lucky in selling nine of her great Hawaiian-style shirts so far, also through social media. I need to find the time to take more photos of the jewelry I have in stock, and I hope for some more sales soon.

I have always liked the idea of teleportation, and I suspect it was Trek that gave that to me. While SFnal aspects are fun, I especially like reading stories of scientists trying to make this fiction factual.

[Some people are speculating that quantum entanglement could make it work. The questions are the energy costs and, for living organisms, the Heisenberg uncertainty principle.]

My letter: We have seen pleas online to keep Christmas light displays up to keep spirits up, and most people have agreed, probably with the idea that I don't have to take them down just yet. As you say, the lights brighten up an otherwise cheerless season, and seeing it's post-Christmas, this month certainly qualifies as cheerless. Our current lockdown is supposed to end February 11, but given our case numbers, I suspect we will mark the full year of pandemic in March.

[Before the pandemic, the City of Calgary encouraged homeowners to keep their lights up until middle February when the Glow Festival was held.]

OPUNTIA #492: [Re: skiers in Calgary parks] I've never done any cross-country skiing, but I can see the exercise value. I am just happy to get out for a walk every so often. I remember building snow forts when I was a kid in Orillia, but we had to be careful when the machines came around to trip the snowbanks, and make the roads a little more visible for drivers.

I haven't seen any yarnbombing in the trees this Christmas, but I did see plenty of lightbombing, with tree trunks covered in lights, and the upper branches covered in them, too.

We've done some shopping through curbside pick-up, and we go once a week for groceries, but for the most part, we stay home. We have masks for when we do go out, but otherwise, we stay home. Good thing we have lots to do.

[It is interesting to see what businesses are actually prospering from a stay-at-home economy. Stamp dealers are doing good business, and a friend in the horticultural industry told me that there is a shortage of houseplants and garden seeds. Home renovations are booming, good for contractors and hardware stores.]

I don't suppose there has been anything from When Words Collide about their weekend? Around here, some events that had been re-scheduled for 2021 have been re-re-scheduled for 2022, and even then, no one is certain. I am hoping for the best, but wonder if being away for two years or more will dilute the enthusiasm for the interest? I am moving more into editorial work, but will there be anything for me to edit?

[I have my doubts there will be a live event, as indications are that it will take until September at least to vaccinate a majority of 38,000,000 Canadians. I don't think conventions will suffer in the long run, anymore than they did after the 1918 pandemic.]

SEEN IN THE LITERATURE

Neubert, T., et al (2021) **Observation of the onset of a blue jet into the stratosphere.** NATURE 589:371-375

Authors' abstract: *Blue jets are lightning-like, atmospheric electric discharges of several hundred millisecond duration that fan into cones as they propagate from the top of thunderclouds into the stratosphere.*

They are thought to initiate in an electric breakdown between the positively charged upper region of a cloud and a layer of negative charge at the cloud boundary and in the air above. The breakdown forms a leader that transitions into streamers when propagating upwards.

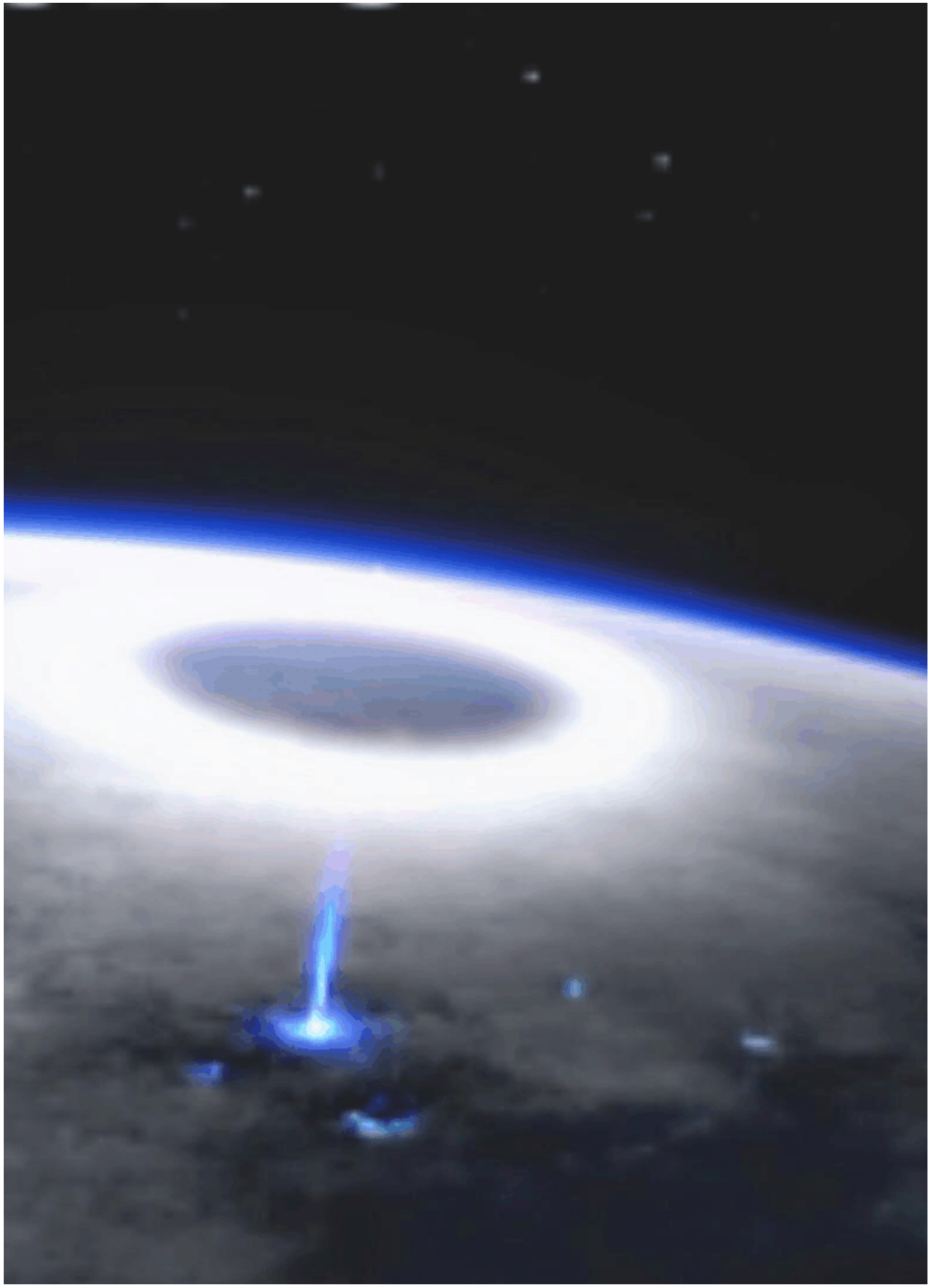
However, the properties of the leader, and the altitude to which it extends above the clouds, are not well characterized. Blue millisecond flashes in cloud tops have previously been associated with narrow bipolar events, which are 10- to 30-microsecond pulses in wideband electric field records, accompanied by bursts of intense radiation at 3 to 300 megahertz from discharges with short (inferred) channel lengths (less than one kilometre).

Here we report spectral measurements from the International Space Station, which offers an unimpeded view of thunderclouds, with 10-microsecond temporal resolution. We observe five intense, approximately 10-microsecond blue flashes from a thunderstorm cell. One flash initiates a pulsating blue jet to the stratopause (the interface between the stratosphere and the ionosphere).

The observed flashes were accompanied by 'elves' in the ionosphere. Emissions from lightning leaders in the red spectral band are faint and localized, suggesting that the flashes and the jet are streamer ionization waves, and that the leader elements at their origin are short and localized.

We propose that the microsecond flashes are the optical equivalent of negative narrow bipolar events observed in radio waves. These are known to initiate lightning within the cloud and to the ground, and blue lightning into the stratosphere, as reported here.

[Image from NATURE]



Amarante, A., et al (2021) **Stability and evolution of fallen particles around the surface of asteroid (101955) Bennu.** JOURNAL OF GEOPHYSICAL RESEARCH: PLANETS 126:doi.org/10.1029/2019JE006272

Authors' abstract: *In this study, we study the dynamics of particles around Bennu. The goal is to understand the stability, evolution, and final outcome of the simulated particles around the asteroid. According to the results, the particle sizes can be divided into two main groups depending on their behavior. Particles smaller than a centimeter are quickly removed from the system by solar radiation pressure, while the dynamics of particles larger than a few centimeters is dominated by the gravitational field of Bennu.*

Because of its shape and spin period, Bennu has eight equilibrium points around it. The structure of the phase space near its equatorial surface is directly connected to these equilibrium points. Therefore, we performed numerical simulations to obtain information about the orbital evolution near the equilibrium points. The results show that most of the particles larger than a few centimeters fall in the equatorial region close to the Kingfisher area or close to the region diametrically opposite to it. In contrast, almost none of these particles fall in the equatorial region close to the Osprey area.

In addition, we also performed computational experiments considering a spherical cloud of particles initially orbiting Bennu. Most of the particles in prograde orbits fall on the surface within our integration period, which was limited to 1.14 years. The particles preferentially fall near high-altitude regions at low equatorial latitudes and close to the north pole. The mid-latitudes are those more depleted of falls, as in the Nightingale and Sandpiper areas.

In general, asteroids are small bodies with a very irregular shape that is not spherical. Bennu is an asteroid being explored by the spacecraft mission OSIRIS-REx. This asteroid has a size smaller than 500 m (1/3 mile), and its shape is a bouldery spheroid with an equatorial ridge.

Bennu's gravity is very weak and complicated because of its shape, and it rotates around itself about every 4 hours. The majority of the impacts are in the equatorial region where the locations near valleys of the surface did not have a significant number of falls, while the number of falls is high near peaks. The polar regions also show a considerable number of impacts, and there is a location in Bennu's north pole with a large number of falls.

Firestone, R.B. (2021) **The correlation between impact crater ages and chronostratigraphic boundary dates.** MONTHLY NOTICES OF THE ROYAL ASTRONOMICAL SOCIETY 501:3350-3363

Author's abstract: *The accurately measured ages of 89 large impact craters and layers were compared with the boundary dates for periods, epochs, and ages of the geological time-scale by a weighted least-squares fit.*

They are highly correlated with a X2/f = 0.63. A Monte Carlo simulation of randomly chosen crater ages gives a >99.8 per cent probability that this result is not random.

No craters are found in the oceans or, until recently, in ice which collectively cover 80 per cent of Earth's surface indicating that far more impacts have occurred than are known.

Multiple impacts cluster near the times of boundary dates so, based on the observed cluster sizes assuming a binomial distribution, it was determined that the average cluster multiplicity is five.

Comparison of the impact ages with the dates of the great extinctions revealed a strong correlation with X2/f = 0.36 and a multiplicity of 8 to 9 impacts. It is shown that volcanism, although correlated with boundary dates, is a continuous process unrelated to sudden extinctions.

During the past 125 Ma, the rate of global change and the impact rate have increased dramatically as the Earth passes near the OB star association. Multiple impacts 12.9 ka ago ended the Pleistocene epoch at the onset of the Younger Dryas causing worldwide extinctions.

The date and extent of the YD impact may be consistent with a 62 Ma cycle of major impact events. During the Holocene 20 crater, airburst and impact tsunami chevron ages correspond to dates of global cooling with a X2/f = 0.75 and >99 per cent probability. Future impacts could reverse global warming or even induce next ice age.

Saleh, F., et al (2021) **Large trilobites in a stress-free Early Ordovician environment.** GEOLOGICAL MAGAZINE 158:261-270

[The Ordovician era was from 488.3 to 443.7 megayears ago.]

Authors' abstract: *In modern environments, large marine animals are mostly found in cold waters. However, numerous parameters can influence body size variations other than temperatures, such as oxygenation, nutrient availability, predation or physical disturbances by storms.*

Here, we investigate trilobite size variations in the Lower Ordovician Fezouata Shale deposited in a cold-water environment. Trilobite assemblages dominated by small- to normal-sized specimens that are a few centimetres in length are found in proximal and intermediate settings, while those comprising larger taxa more than 20 cm in length are found in the most distal environment of the Fezouata Shale.

Drill core material from distal settings shows that sedimentary rocks hosting large trilobites preserved in situ are extensively bioturbated with a high diversity of trace fossils, indicating that oxygen and nutrients were available in this environment. In intermediate and shallow settings, bioturbation is less extensive and shallower in depth.

The rarity of storm events (minimal physical disturbance) and the lack of predators in deep environments in comparison to shallower settings would also have helped trilobites attain larger body sizes.

This highly resolved spatial study investigating the effects of numerous biotic and abiotic parameters on body size has wider implications for the understanding of size fluctuations over geological time.

Pan, Y.Y., et al (2021) **The 20-million-year old lair of an ambush predatory worm preserved in northeast Taiwan.** SCIENTIFIC REPORTS 11:doi.org/10.1038/s41598-020-79311-0 (available as a free pdf)

Authors' abstract: *The feeding behavior of the giant ambush-predator "Bobbit worm" (Eunice aphroditois) is spectacular. They hide in their burrows until they explode upwards grabbing unsuspecting prey with a snap of their powerful jaws. The still living prey are then pulled into the sediment for consumption. Although predatory polychaetes have existed since the early Paleozoic, their bodies comprise mainly soft tissue, resulting in a very incomplete fossil record, and virtually nothing is known about their burrows and behavior beneath the seafloor.*

Here we use morphological, sedimentological, and geochemical data from Miocene strata in northeast Taiwan to erect a new ichnogenus, Pennichnus. This trace fossil consists of an up to 2 m long, 2 to 3 cm in diameter, L-shaped burrow with distinct feather-like structures around the upper shaft.

A comparison of Pennichnus to biological analogs strongly suggests that this new ichnogenus is associated with ambush-predatory worms that lived about 20 million years ago.

Speirs: Some interesting illustrations worth looking at.

Gong, C., et al (2021) **Family graveyards form underappreciated local plant diversity hotspots in China's agricultural landscapes.** SCIENTIFIC REPORTS doi.org/10.1038/s41598-020-80362-6 (available as a free pdf)

Authors' abstract: *In the intensively farmed, homogenous agricultural landscape of the North China Plain, family graveyards form distinct cultural landscape features. In addition to their cultural value, these graveyards represent semi-natural habitat islands whose potential roles in biodiversity conservation and ecological functioning has remained poorly understood.*

In this study, we investigated plant species richness on 199 family graveyards of different ages and sizes. In accordance with biogeography theory, both overall and insect-pollinated plant species richness increased with area and age of graveyards.

Even small graveyards show a strong potential for conserving local plant richness, and a mosaic of both large and small family graveyards could play an important role in the conservation of farmland biodiversity and related ecosystem functions.

The launch of agri-environmental measures that conserve and create semi-natural habitats, in turn benefitting agricultural biodiversity and ecological functioning, has proven difficult in China due to the shortage of

dispensable arable land. Given the great value of family graveyards as semi-natural habitats reflected in our study, we propose to focus preliminary efforts on conserving these landscape features as existing, widespread and culturally important semi-natural habitat islands.

This would represent an effective, complementary policy to a subsequent re-establishment of other semi-natural habitats for the conservation of biodiversity and ecological functioning in agricultural landscapes.

Niu, Y., et al (2021) **Commercial harvesting has driven the evolution of camouflage in an alpine plant.** CURRENT BIOLOGY 31:doi.org/10.1016/j.cub.2020.10.078

Authors' abstract: *An alpine herb used in traditional medicine varies in color among populations. The degree of background matching correlates with human harvest pressure. Plant concealment greatly influenced search time of humans. The color evolution of this plant is likely driven by commercial harvesting.*

Color in nature mediates numerous among and within species interactions, and anthropogenic impacts have long had major influences on the color evolution of wild animals. An under-explored area is commercial harvesting, which in animals can exert a strong selection pressure on various traits, sometimes greater even than natural selection or other human activities.

Natural populations of plants that are used by humans have likely also suffered strong pressure from harvesting, yet the potential for evolutionary change induced by humans has received surprisingly little attention.

Here, we show that the leaf coloration of a herb used in traditional Chinese medicine (Fritillaria delavayi) varies among populations, with leaves matching their local backgrounds most closely. The degree of background matching correlates with estimates of harvest pressure, with plants being more cryptic in heavily collected populations.

In a human search experiment, the time it took participants to find plants was greatly influenced by target concealment. These results point to humans as driving the evolution of camouflage in populations of this species through commercial harvesting, changing the phenotype of wild plants in an unexpected and dramatic way.

Smith, S.T., et al (2021) **Automatic detection of influential actors in disinformation networks.** PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES USA 118:doi.org/10.1073/pnas.2011216118 (available as a free pdf)

Authors' abstract: *The weaponization of digital communications and social media to conduct disinformation campaigns at immense scale, speed, and reach presents new challenges to identify and counter hostile influence operations (IOs). This paper presents an end-to-end framework to automate detection of disinformation narratives, networks, and influential actors.*

The framework integrates natural language processing, machine learning, graph analytics, and a network causal inference approach to quantify the impact of individual actors in spreading IO narratives.

We demonstrate its capability on real-world hostile IO campaigns with Twitter datasets collected during the 2017 French presidential elections and known IO accounts disclosed by Twitter over a broad range of IO campaigns (May 2007 to February 2020), over 50,000 accounts, 17 countries, and different account types including both trolls and bots.

Our system detects IO accounts with 96% precision, 79% recall, and 96% area-under-the precision-recall (P-R) curve; maps out salient network communities; and discovers high-impact accounts that escape the lens of traditional impact statistics based on activity counts and network centrality. Results are corroborated with independent sources of known IO accounts from US Congressional reports, investigative journalism, and IO datasets provided by Twitter.