OPUNTIA 488


PLEASE USE
OTHER DOOR
This is an entrance
only door.
PLEASE USE
OTHER DOOR
PUSH
PUSH
PUSH

Middle November 2020

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

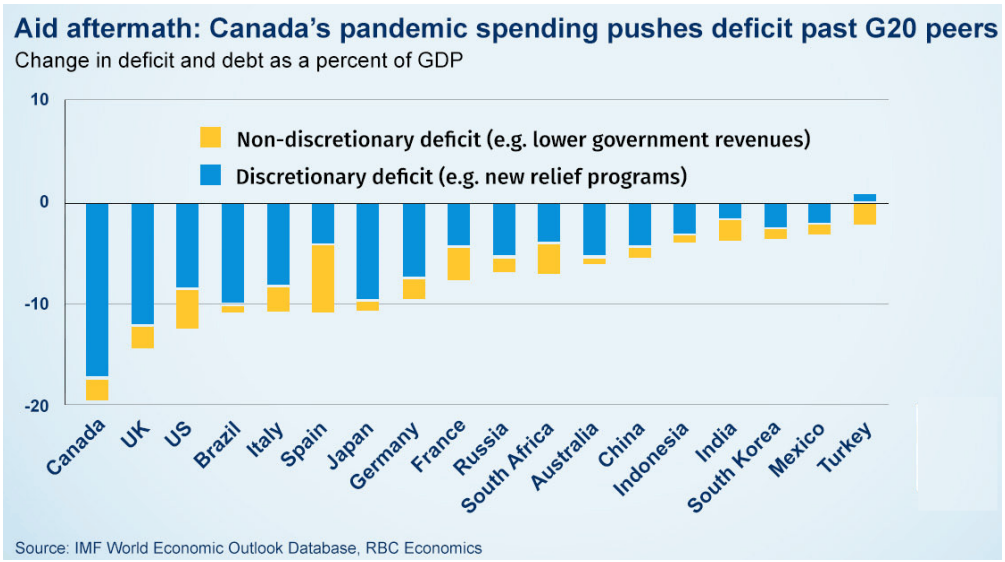
About The Cover: The northwest entrance of the Watermark Tower in downtown Calgary on 7 Avenue SW near 5 Street. Once you're in, you can't get out. Well, actually you can; just push on the door handle.

CURRENT EVENTS: PART 7

by Dale Speirs

[Parts 1 to 6 appeared in OPUNTIAs #474, 475, 479, 480, 483, and 484.]

Below: Floor sign in front of a fitness center in a downtown skyscraper.
At right: On a Calgary Transit bus.



In January 2020, Prime Minister Justin Trudeau was criticized because the annual federal deficit was on track to be $20 billion. It is now past $400 billion and will be closer to $1 trillion by the time the pandemic is over. That's just the annual budget shortfall, not the accumulated national debt.

The second wave of the pandemic in Canada began in middle October. It wasn't surprising because of all the Thanksgiving dinners with extended family members come from away for the gathering. This meant there were multiple superspreader events where one asymptomatic family member could infect assorted cousins, aunts and uncles, siblings, nephews and nieces, while everyone was enjoying their turkey dinner.

Allowing a week or two for infected people to show symptoms, that meant the surge began about October 15. In Alberta, the Premier fumed about those who would not stay in their bubbles but to no avail. The Halloween house parties brought a further surge in early November. The Ministry of Health issued a ban on gatherings of more than 15 unrelated people but that didn't make any difference.

At the national level as of November 17, there were 300,306 cases across Canada, with 11,007 deaths.

As for me, I've started a new sideline of my stamp collecting as a flood of postage stamps are issued about COVID-19. Here are a few of my recent acquisitions.

LA LUTTE CONTRE LA PANDÉMIE CORONAVIRUS

World Health Organization

COMITE INTERNATIONAL GENEVE
ICRC

MEDECINS SANS FRONTIERES

COVID-19 RESPONSE


Projet philatélique dans l'effort de combat l'épidémie de COVID-19 (Nouveau Coronavirus) qui a été déclarée pandémie le 11 mars 2020 par l'Organisation mondiale de la Santé (OMS)
Soyez en sécurité, restez à la maison et récupérez vos timbres en ligne!
REPUBLIQUE CENTRAFRICAINE 800 FCFA
Lutte contre l'épidémie mondiale de COVID-19 (Nouveau Coronavirus) • Postes 2020
STOP
COVID-19
NOUVEAU CORONAVIRUS


Projet philatélique dans l'effort de combat l'épidémie de COVID-19 (Nouveau Coronavirus) qui a été déclarée pandémie le 11 mars 2020 par l'Organisation mondiale de la Santé (OMS)
Soyez en sécurité, restez à la maison et récupérez vos timbres en ligne!
SYMPTÔMES
PROTECTION
REPUBLIQUE CENTRAFRICAINE 3300 FCFA
Lutte contre l'épidémie mondiale de COVID-19 (Nouveau Coronavirus) • Postes 2020
STOP COVID-19
NOUVEAU CORONAVIRUS


Luta contra a pandemia de Covid-19: Homenagem ao pessoal de saúde
500 FC FA
1500 FC FA
2020
GUINÉ-BISSAU
GUINÉ-BISSAU


COVID-19
A Tribute to those on the Front Line
Medical Staff around the world, working to help those in need
Social Distancing
HOPE
2M
TUVALU $2.50
- Finis coronat opus -
Latin Proverb
2019

I've shown this tree before in this zine. It is on Amiens Crescent SW a few blocks from my house. These photos were taken on November 11, Remembrance Day. Each week my neighbour adds another yarn band. Once she worked her way down the trunk, she started up one of the main branches.

REMEMBRANCE DAY 2020
photos by Dale Speirs

Each year Calgary has dozens of Remembrance Day services around the city but this year there were no public events. The electronic art wall in Bow Valley Square downtown did have something, and there were a few scattered memorials elsewhere.


LEST WE FORGET
PATTISON

CONVENTIONAL FICTION: PART 12
by Dale Speirs

[Parts 1 to 11 appeared in OPUNTIAs #70.1A, 270, 285, 313, 364, 385, 398, 414, 421, 439, and 459.]

What hath COVID-19 wroth? But we'll meet again some sunny day.

Conventions.

A ROSE FROM THE DEAD (2007) by Kate Collins (pseudonym of Linda Tsoutsouris) was a novel in a cozy series about Abigail Knight of New Chapel, Indiana, who owned a flower shop.

As the story began, she was attending the Midwestern Funeral Directors Association annual convention. She had a booth in the trade show, hoping to bring in more business for her flower shop.

She had thought morticians were a deadly dull bunch (her words) but learned those in the business did have a sense of humour. Convention events included casket races, and a banquet where Dracula dress was required and the featured drink was Bloody Marys.

The delegates included pranksters who liked locking people inside caskets, an eco-mortician specializing in green burials, and a Goth woman who taped the music created by dying people as their souls departed. Not to forget the glassblower who made vases from the ashes of dearly departed.

The convention organizer Sybil Blount wasn't the most competent conchair. She wound up in a casket as a real corpse, not as a cosplayer. A friend of Knight was suspected, so she went into Marple mode.

The convention went on, including the build-your-own coffin demonstration. Knight got herself taped up by the murderer, who had killed Blount because she was blackmailing him. It ended well. Knight lived to see another day and another novel.

OWL BE HOME FOR CHRISTMAS (2019) by Donna Andrews was a cozy novel in a series about Meg Langslow of Caerphilly, Virginia. Ostensibly a blacksmith when not mothering children, Langslow spent most of her time as an amateur detective.

Like other villages in the Miss Marple tradition, Caerphilly had a murder rate that would frighten a Chicago gang member. This was the 26th novel of the series, so Langslow's reputation as a murder magnet was well established.

As the novel opened, the Caerphilly Inn was hosting an ornithologist's convention just before Christmas. It was organized by Langslow's grandfather and was called the Owl Fest, a scientific conference on those birds. Langslow ended up doing much of the volunteer work. Just as the convention began, a blizzard settled over the eastern seaboard, stranding everyone inside the hotel.

The obvious victim, and the reader will not be disappointed, was Dr Oliver Frogmore. He was an ill-mannered boor with a giant ego, and that was just at the convention. Langslow learned from other delegates about the dirty tricks he used to get tenure and promotions. At the banquet he rose to make a toast and sat down as a dead man. Poison in his champagne.

Langslow and the Deppity Dawgs had the advantage that the guilty could not flee. Everyone was trapped inside the hotel, so the detecting, both Marple and police, was easier. The convention carried on with its seminars. Some were packed, like the one on the sex life of owls (with videos). Others had panelists outnumbering the audience. Seemed like a typical science fiction convention to me.

Frogmore's death was traced back to a plagiarized dissertation that might be exposed. After the gunpoint confrontation, Langslow survived what to her by now was a routine incident.

"Black Magic Holiday" by Robert Bloch (1955 January, IMAGINATIVE TALES, available as a free pdf from www.archive.org) was about a hotel with a magicians' convention. Real magicians, not the Las Vegas phonies. Bill Dawson was in town on vacation and picked the wrong hotel to stay in.

The furniture were animated, and resented all those years of people sitting or sleeping on them. The werewolf had trouble registering as a guest, as the manager was prejudiced against the differently furred. The telephones talked back to the callers, in both senses of the phrase.

Matters became serious when someone decided to extend the elevator shaft down into the nether regions of Hell. Because he could, apparently. The problem was that demons knew how to use an elevator and press the up button.

The restaurant excursion didn't go well. Trials, tribulations, and alarums aplenty. Many of the magicians weren't any better than a Las Vegas act. The hotel finally had relief from the convention, not so much as the fact that it ended but because someone created an oil well in the basement.

The story was written as a broad farce of the nudge-nudge-wink-wink style, which made it tiresome at times. However, Robert Bloch is one of the Elder Gods of science fiction, so we can accept it as a one-time read.

Renaissance Fairs.

THE UNPLEASANTNESS AT THE BATTLE OF THORNFORD by C.C. Benison (pseudonym of Doug Whiteway) was copyrighted November 2020 in the colophon. That was a neat trick since I bought it in October.

Be that as it may, it was part of a series about an Anglican vicar named Thomas Christmas in the rural village of Thornford Regis. The villagers were re-enacting a 1645 skirmish that had taken place with the neighbouring village of Hamlyn Ferrers during the English Civil War. The former had stood for the King and the latter for Parliament.

Four centuries later the hard feelings had not entirely died away. The re-enactment was not the fancy SCA style, but rather village lads very roughly dressed and using the opportunity to settle grudges with real fisticuffs. Someone went too far and speared Charley Rouse of Hamlyn Ferrers with a pike. Not in the battle but in a nearby wood.

Tom Christmas was the local amateur sleuth, the village not having a Miss Marple or Jessica Fletcher but definitely a murder rate one would expect in a big-city slum. He began snooping after the authorities claimed the deceased had accidently spiked himself through the neck with his 10-foot pike and pinned himself to the ground.

The villages had a network of illicit romantic entanglements and sharp practice men to supply a plethora of suspects. The police detectives, named Bliss and Blessing, did their own snooping. They were not inclined to share data with Christmas, much to his annoyance. Didn't they read cozies and know who really solved the cases?

Christmas circulated about the denizens of the village, gradually picking up the scandals and hearsay. Rouse had been accused of pedophilia back when, although nothing was proven. It didn't have to be when one of his victims, now grown, took the opportunity for revenge at the Renaissance fair.

The sister of the murderer attempted to distract police attention by mopping up some of the blood onto her clothes. Christmas had been at the re-enactment but so were all the plausible suspects. If you're going to stab someone to death, then the best place to do it is at a gathering where at least half those attending are carrying weapons, including the victim.

FINANCIAL FICTION: PART 3
by Dale Speirs

[Parts 1 to 2 appeared in OPUNTIAs #444 and 461.]

Tontines.

A tontine was a last-one-standing club where members, when they were young, each put a sum of money into a pool. The money was allowed to grow for a couple of decades and the dividends re-invested to increase it faster. At an agreed upon age, the surviving members, usually in their 60s or later, shared the dividends and left the principal to continue providing income.

When a member died, his share of the capital remained in the fund and his dividend was shared out between surviving members. Tontines did not allow heirs to have any part of them. The final survivor then got all the capital. Tontines were outlawed in most countries. The reason was that older members were tempted to improve their chances of getting money while still young enough to enjoy it.

Tontines were not all about large sums of money. Many were formed around a bottle of expensive wine, the last survivor to drink a toast to those who predeceased him.

This was demonstrated in a short story "The Last Man's Club" by Robert M. Clutch (1905 March, THE BLACK CAT, available as a free pdf from www.archive.org). More of a vignette than a story, it was about an elderly man who after 64 years became the final survivor of a wine bottle tontine.

He prepared a banquet table with 38 other places set, which represented all the other members gone before him. As he sat down to drink it, he found himself transported back in time and imagined he saw all the plates with the members at their accustomed places. When he picked up his glass of wine to toast them, they vanished, and he fell forward, dead in his chair. A soppy bit of pathos, but the story described well what it must have been like to be the last man standing.

The Cashless Society.

We are racing to a cashless society, not by government edict but by popular demand of the sheeple. Most of those tapping terminals with credit cards or doing their banking on a smartphone have never thought through all the consequences.

To be sure, many are aware of the threat of hackers or the problems of a mistake in a bank statement, but there are other risks. The friendly folks at the tax agencies can now track every penny you earn or spend. Police can follow your movements on a smartphone and guess your intentions from your expenditures.

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, murder, and sometimes plain drama.

"Living Credit" was written by Mort Golding and aired on 1964-11-06. It was narrated by William Grandell, Chief Credit Supervisor of a large city. He bragged that he was more important than the mayor or city manager, since no one could get along without credit. Parents needed a child account before having children, and a burial account for their deaths. The credit records determined how a person would live in between.

The story began with a young couple named Krell, who wanted a new refrigerator. Alas, their credit records had been garbled and they quickly found out how difficult it was to survive in a cashless world.

Grandell, to be fair, spent considerable time and effort trying to track down the error. In the meantime, the Krell's lives began to dwindle away. During the inter-departmental blame-shifting, the records were lost. The Krells suffered while the clerks eventually forgot who they were.

The Krells were not real anymore. They didn't exist. They faded into nothingness. Not just figuratively but in reality.

Counterfeiting.

The PHILO VANCE series aired on old-time radio from 1945 to 1950, based on the novels by S.S. Van Dine. (This and other old-time radio shows are available as free mp3s from www.archive.org or www.otrrlibrary.org.) 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.

"The Money Machine Murder" was a 1950 episode, no writer credited. A con man Joe Crane was selling machines that converted blank pieces of paper into banknotes. The cost was a bargain at $10,000, about $100,000 in today's depreciated currency.

The scam was obvious. There were genuine 1-dollar bills inside, enough to crank out and convince the gullible mark. The victim was encouraged to test the quality of the bills by depositing them in a bank. Since they were indeed genuine bills salted into the machine, the teller accepted them, thereby convincing the mark.

As the episode opened, Crane was having difficulty with a prospective client Mrs Emily Willoughby. Her test was to put her initials on a blank piece of paper and then look for it on the banknote. This threw Crane for a loop but he faked his way through.

Willoughby wanted to know why Crane didn't just keep the machine for himself. His excuse was that he couldn't distribute or deposit huge wads of 1-dollar bills without attracting suspicion. The currency had to be distributed widely.

Jump cut to the next scene where Willoughby complained to District Attorney John Markham that she had been swindled with a fake counterfeiting machine and wanted him to get her $10,000 returned. The word 'oblivious' came to mind. She was indignant when he didn't take her seriously, but he promised to put a man on the case.

Elsewhere, honour among thieves was demonstrated when Crane got into a fight with the machine's builder Sniffy Edwards and killed him. Crane's girlfriend Jeannie saw the murder but wasn't particularly perturbed.

Philo Vance became the man on the case. Edwards' body had been dumped in the country and provided a few starting clues, specifically a diagram of the machine. Joe and Jeannie made a run for freedom but were intercepted by Markham and Vance after a car chase and arrested.

Pause for digression. The two men had no authority to be pulling over motorists, which should have been done by uniformed police. Further, a District Attorney would not be hunting criminals in person, as his job is to prosecute the case in court.

One is reminded of the Batman television series, where a Police Commissioner, Chief of Police, and two masked vigilantes took care of Gotham's criminals without the use of uniformed men.

Willoughby identified Crane, after which Vance interrogated him. Crane and Jeannie made bail for fraud but nothing could be proved for murder. They parted ways and Jeannie, apparently well supplied with boyfriends, visited Frank Mason, who gave her a handgun.

The plot switched back and forth. Jeannie killed Mason with his own gun. Vance bluffed Crane into a J'accuse! meeting and had him arrested. There followed an infodump on how the machine worked, presumably in case any listener wanted to get into the racket.

Having solved the case, Vance and Markham agreed to toss the money-making machine into the river to prevent anyone else from using it. The listener is left speechless at the thought of a District Attorney disposing of his main piece of evidence before the trial.

The Stock Market.

"The Word Of Bentley" by E. Hoffmann Price (1933 May, WEIRD TALES, available as a free pdf from www.archive.org). was published in the depths of the Great Depression. A stock broker John Bentley, dying along the side of a railroad track after a train wreck, gave his daughter Janet power of attorney to manage his estate and that of his good friend Jim Woodford, who was out of the country exploring in the jungles of Yucatan.

John had promised Woodford to look after his stock portfolio while he was away, and had purchased for him what is known as a put option, which guaranteed a certain price for the stocks. In a falling market, as indeed it was during that time, selling someone a put option was a guarantee to lose money. John was a man of honour and wanted Janet to honour the transaction.

She was stuck with a burden heavier than the six feet of soil they buried her father under. His agreement with Woodford was a handshake deal, which wasn't so bad in itself, but the put option was indefinite, lasting until Woodford came back home from Yucatan.

No brokerage then or now will sell any option on such a basis. Few will even go more than nine months, and the vast majority of options are for days or a few months.

Janet sat in her father's office and despaired. The stock ticker suddenly came to life and showed the market was crashing again. She picked up the telephone and ordered Woodford's entire portfolio to be sold at market for whatever she could get.

Stock brokers have three days to settle the payout on transactions. When she went to her counterpart to pick up the cheque, she was astonished to learn that she had sold the shares during an uptick and made a handsome profit for Woodford.

Checking back on the stock ticker, she discovered that the service had been disconnected just after her father's death. Yet the machine had come to life with quotes of a crashing market. Those quotes became reality the following week. Her father had sent the quotes from beyond the grave as a warning to her.

Fiddling The Books.

THE WHISTLER was an old-time radio anthology series that aired from 1942 to 1955. (This and other episodes are available as free mp3s from www.otrrlibrary.org or www.archive.org)

It was not a mystery show. Both the narrator and the protagonist explained everything to the listener as a perfect crime was plotted and carried out. The criminal would gloat after the crime and get in a few bwah-ha!-ha!s.

After the final commercial, the epilogue would reveal some detail the criminal overlooked that tripped him up. It was for the listener to keep track of the little details and discard the red herrings, then predict what the twist ending would be.

"The Deadly Penny" was a 1946 episode, written by Bernard Gerard. It was first aired on November 11. Take note of that date. As the narrator said in his opening remarks, Millie Parker would rather be a wealthy fugitive than an poor but honest citizen. She was solving that problem but had to use her estranged husband Yancy, who was definitely poor.

Millie worked at the Consolidated Investment bank and had stolen $45,000 in negotiable bonds, about $450,000 in today's depreciated currency. She needed Yancy to liquidate the bonds. The bonds were collateral and were stored in a safe-deposit box, unlikely to be missed for a year.

Her boss Mr Poole, unaware of the theft, called in Millie on Friday to express his concern about Yancy, worried that he might harm her. She reassured him it wasn't a concern. It was obvious Poole had feelings for her.

Then Poole dropped a bombshell that the auditors were coming first thing next week. They had found a 1-cent discrepancy and wanted to re-check everything.** Millie realized they were going to find an additional 45,000,000 cents discrepancy. She had to get the bonds back before the auditors checked them.

** My Uncle Norman was a banker. When I was a teenager, he was reminiscing about his early days as a bank teller in the uranium district of northern Saskatchewan in the early 1950s. He mentioned having to work unpaid on a Sunday because the Saturday close of the bank had a discrepancy of a few cents. All the staff had to come in until the accounts were balanced. I asked him why someone didn't just drop in a few pennies from their own pocket. He assured me that banks didn't operate that way and had to prove their sums were correct, no matter how small. It was the principle of the thing.

Poole unknowingly barged into the efforts of Millie and Yancy, and made life difficult for both of them. Complications piled up and Millie's stress level went sky-high. On Monday she met with Yancy. She tried to use force with a gun when he refused to return the bonds on time. In the struggle, Millie accidently shot him.

Yancy had said he would courier them to her on Tuesday. On his body she found a receipt from the courier for the bonds, to be delivered the next day. She knew that would be too late since the auditors would be there Monday afternoon.

A private detective hired by Poole to protect Millie, whom she didn't know about, was following her. He heard the gunshot, burst in, and had to bring her in for murder.

After a pause for the final commercial from Signal Oil, the twist was delivered in the epilogue. Millie told him about the bonds. The detective gently reminded her that Monday was Armistice Day and the bank was closed. She would have had time to return the bonds on Tuesday morning before the auditors arrived.

Coin Of The Realm.

"The Three Marked Pennies" by Mary Elizabeth Counselman (1934 August, WEIRD TALES) began with posters appearing in the rural town of Blankville advising that three pennies had been put into circulation in that burg. It is easier to do a copy-and-paste to explain the setup of the story.

During this day of April 13, three pennies will find their way into the pockets of this city. On each penny there will be a well-defined mark. One is a square; one is a circle; and one is a cross. These three pennies will change hands often, as do all coins, and on the seventh day after this announcement (April 21) the possessor of each marked penny will receive a gift.

To the first: $100,000 in cash.
To the second: A trip around the world.
To the third: Death.

The answer to this riddle lies in the marks on the three coins: circle, square, and cross. Which of these symbolizes wealth? Which, travel? Which, death? The answer is not an obvious one.

To him who finds it and obtains the first penny, $100,000 will be sent without delay. To him who has the second penny, a first-class ticket for the earliest world-touring steamer to sail will be presented. But to the possessor of the third marked coin will be given ... death. If you are afraid your penny is the third, give it away, but it may be the first or the second!

Show your marked penny to the editor of the 'News' on April 21, giving your name and address. He will know nothing of this contest until he reads one of these signs. He is requested to publish the names of the three possessors of the coins April 21, with the mark on the penny each holds.

It will do no good to mark a coin of your own, as the dates of the true coins will be sent to Editor Haverty.

An interesting sociological experiment. The three pennies soon surfaced and began rapidly circulating through the town. Despite a two-thirds chance of success, no one wanted to be left holding the penny that might bring death. Then came the day.

The $100,000 was won by a man dying of cancer who had only about a month to live. The steamship ticket was won by a blind woman starving in poverty. Death was administered to the loser by a poisoned silver box sent to him as a gift.

Nor was anything else ever brought to light about the mysterious contest of the three marked pennies, which are probably still in circulation somewhere in the United States.

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. Well worth downloading as free mp3s from www.archive.org.

"Three Farthings For Your Thoughts", aired on 1951-11-30, began with a woman holding up a Liverpool tavern at gunpoint. Harry Lime had been sipping a drink when she concluded an argument with the bartender by pulling out a gun and demanding everyone hand over their coins. She didn't want any banknotes, to everyone's surprise, just their pocket change and whatever coins were in the cash register.

After she left, the bartender told the assemblage that the argument had been a demand for all the farthings in the till. Even in 1951 a farthing (one-quarter of a penny) wasn't much use except as change. Something like the Canadian 1-cent coin, which was withdrawn from circulation in 2012.

Lime departed from the pub, having recognized the woman. She was Helen Barrett, whose husband Bill was in prison for a long stretch for a £20,000 robbery. The loot had never been found. Lime tracked her down, correctly surmising that she was trying to find the cash and that farthings had something to do with it.

Reluctantly she agreed to cut him in for a percentage if he did the legwork. She showed him a letter from Bill, who said he was enclosing three farthings for her to be going on with. However, the envelope only held two of the coins. Bill had been a band leader and mentioned he looked forward to someday being able to play Beethoven again with an orchestra.

Helen's purse had been stolen by a housemaid named Lily Dodson. Helen traced her to the pub, hence the holdup. Helen told Lime that Bill's partner in the holdup, Johnny Baxter, had visited her demanding to know where Bill hid the money. Baxter had double-crossed him in exchange for freedom.

Lime's first stop was to visit the prison. The warden told him that Bill had escaped an hour ago, to which Lime replied this was a slipshod way of running a prison. The next stop was Dodson, who lived in a nice apartment far above her means. Lime had no doubt that Baxter was supporting her. He found one of the farthings in her purse. Dodson said Helen had the other.

Alarums followed, including the traditional rendering of the hero unconscious by slugging him. After staggering back to his hotel room, he met Helen and learned she was now a widow. The murderer had been looking for the cash and Bill got in the way.

Lime and Helen examined the two farthings and discovered they had clues scratched into them which led to an address Bill's orchestra had once used. The place was boarded up but with racks of sheet music and records still intact. Baxter and Dodson were already there snooping. There were some more alarums, shots were fired, and there was a fight to the finish. Once Lime was victorious, he surveyed the room. He remembered Bill's remark in his letter and walked over to the record shelves.

On them was one particular selection of Beethoven: "Rage Over a Lost Farthing, Vented in a Caprice". In the original German, the title was "Die Wut über den verlorenen Groschen, ausgetobt in einer Caprice". (A groschen was a hundredth of an Austrian schilling, about the same usefulness as a farthing.)

Lime had an epiphany and suddenly realized where the cash was hidden. Before he could act, the police arrived. The gunshots had aroused the neighbours, who called the police. Lime's reward was to be deported forthwith from Britain. He was unable to get back to the house and the cash remained hidden there to his immense frustration. His final line: "*The whole farthing deal was my unfinished symphony.*" I'm surprised that line got past the network censor.

Money For Nothing.

DUFFY'S TAVERN was a sitcom that aired on old-time radio from 1941 to 1952. It is available as free mp3s from the Old Time Radio Researchers at www.otrrlibrary.org The owner of the tavern was Patrick Duffy, never heard but only talking with Archie the manager in one-sided telephone conversations. The tavern was on Third Avenue in a part of Manhattan the tourist brochures failed to mention and for good reason. The food was bad, the liquor was watered, and the service was lousy.

Archie spoke with a Noo Yawk accent. He was lazy but always looking for a fast buck in schemes that failed. Other characters were Miss Duffy, the ugly daughter of the proprietor, and Clifton Finnegan. who was the village idiot, if you consider Manhattan to be a village. Eddie the waiter was the smart one of the bunch, whose sarcasm usually went over Archie's head.

"Archie's Adaptation Of Frankenstein" aired on 1945-01-12. The Third Avenue businesses were having a War Bonds rally. Archie had lured Boris Karloff to the joint for the fund raiser, in honour of which he had written a play "Young Monster Malone, Or, I'll Be Sawing You".

One by one the characters arrived at the tavern for a few minutes routine each in the setup. Eddie the waiter was already there of course. Clifton Finnegan then wandered in. Clancy the cop was next to arrive, with a vaudeville Irish accent that even back then was obsolete on the stage.

Once he was done begorrahing, Miss Duffy arrived. Her accent, from Brooklyn, was more authentic. She wanted to open a kissing booth for every man who bought a bond but Archie nixed the idea on the grounds that it would discourage sales.

The plot then suddenly made a right-angle turn for an infomercial about the bonds. Their real purpose, as Archie explained to Finnegan, was to slow inflation. In the wartime economy, people were making good money working in airplane and munitions factories but consumer goods were scarce.

More currency chasing fewer goods produced higher prices. The idea of War Bonds, in all the Allied countries, was not just to finance the war but to divert excess currency out of the consumption economy. Archie tied himself into knots attempting to explain inflation to someone who was several bricks short of a hod.

His explanation to Finnegan was that bonds and currency were printed on the same kind of paper. Ergo (and Archie used that word), the bonds would reduce the amount of paper available to print currency. Sounds logical to me.

The episode was by now at the halfway mark. Cue the entrance of Boris Karloff. After some crosstalk, Karloff was introduced to Finnegan. They chorused together about each other: "*Say, what is that?*", which put the audience in the aisles with laughter.

The play finally got going with six minutes left. Karloff was Dr Stein and Archie was Dr Frank. They were collaborating on a new monster. The surgery lasted about one minute. With 14 seconds left in the episode, the monster stirred to life. In Finnegan's voice it said: "*Duh, I am inflation, the worst monster of all.*" Truer words were never spoken.

GROUND CONTROL TO MAJOR TOM: PART 5
by Dale Speirs

[Parts 1 to 4 appeared in OPUNTIAs #396, 405, 453, and 460.]

Palaeorocketry.

We forget how little anyone knew of space travel until the middle 1960s. Until 1961 no one knew for certain if humans could survive even a brief trip into space. From the 1953 May issue of WORLDS OF IF (available as a free pdf from www.archive.org) was this factual report of cutting-edge scientific studies on zero gravity, using mice sent up in V2 rockets to the edge of the atmosphere.

One of the photographs made available shows a mouse floating in a plastic drum. Since the walls of the drum were glassy smooth, the animal was unable to gain a foothold and was undoubtedly in a state of helpless panic.

Another photograph shows a mouse in an adjoining section of the drum. This section had a shelf, and the second mouse was able to take firm hold, stay calm, and keep his equilibrium while the rocket shot through the weightless period.

The results of these experiments, plus others in which several humans took part in jet fighter planes, lead to the conclusion that it is undoubtedly possible for man to be able to stand for brief periods the gravity-free state expected in rocket flight to the outer atmosphere.

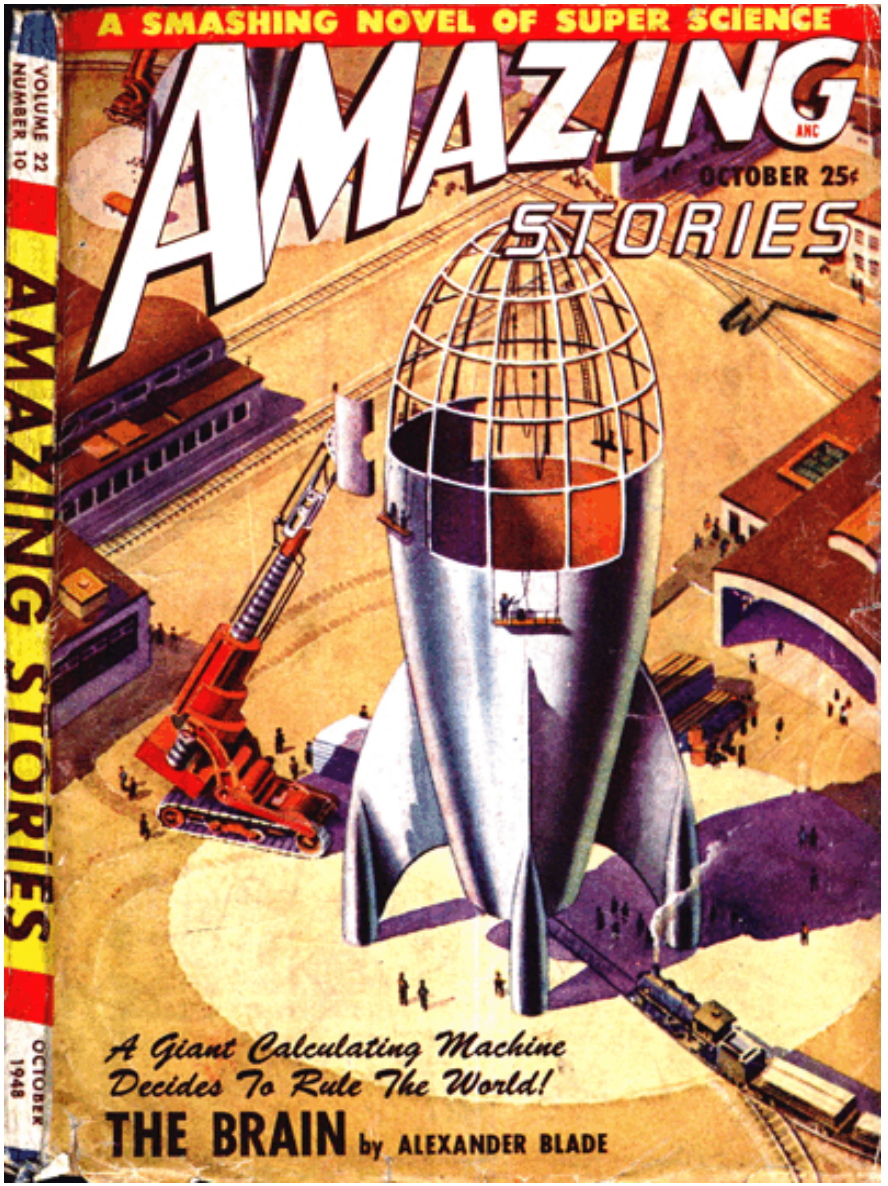
But he must have something to hang on to. Properly secured in the aircraft, he should be able to function normally during brief periods of zero gravity, and without difficulty should be able to perform any operations that would be necessary to pilot the craft.

The story "Planetbound" by E.C. Tubb (1955 September, NEBULA SCIENCE FICTION, available as a free pdf from www.archive.org) was an example of the uncertainty of human survival in space.

Astronauts were going insane at the 1,000 mile mark of altitude. It didn't matter what their background or training was, they came back to Earth as gibbering lunatics with no hope of recovery. Psychiatrists had no answers. Eventually it was surmised that the fear of depending on an artificial environment was what did it.

The astronauts had no reassurance that their spacecraft was safe. They wanted air and the reassurance of living on Earth. Not a plausible assumption. Submariners were in a similar hostile environment with no possibility of being able to swim up to the surface. The water pressure of the deeps would crush them flat. Yet they don't go wacko.

Humans have been mining deep below the surface for millennia, living with the possibility of being crushed to death, yet mines continued to operate. Aircraft had flown at altitudes where bailing out meant death. As an extrapolation of space travel, this story simply wasn't plausible.



Pseudorocketry.

THE PHIL HARRIS / ALICE FAYE SHOW was a domestic sitcom that aired on old-time radio from 1946 to 1953. Phil Harris was well known as a band leader from Jack Benny's shows, while his wife Alice Faye was a B-list actress and singer.

"A Trip To The Moon" was a 1953 episode written by Ed James and Jack Douglas. The episode began with Alice worrying that her daughter Alice Jr wouldn't be accepted into the proper type of finishing school. The problem was that they didn't approve of her father Phil, who was only an actor.

Elliott Lewis suggested Harris come up with a better occupation or at least a respectable avocation. They settled on him becoming an explorer, but by 1953 there were no new places left to explore. Julius, the grocery delivery boy who appeared in each episode, suggested a trip to the Moon.

Faye then sang her solo, after which the plot resumed, set later in time with Harris telling Lewis that a group had called him up and offered a flight to the Moon. Lewis was quite surprised, as well he might be, given that humans wouldn't go into space until 1961.

Harris said his job would be to pull an important lever of the controls when asked. He paused for a moment, then realized the job entailed flying up above the stratosphere, and that he was afraid of flying.

As always, Lewis knew a guy who could help. A German scientist from the rocket programme during the last war. Theirs, of course. Before you could say "Ach der lieber", they were at the Professor Von Straufman's house. His accent was straight from vaudeville.

The professor said not to worry. During der war, pardon me, the war, he had sent a colleague afraid of heights up into space on the X69T2-83 rocket. Harris asked if der astronaut had been cured of his fear. The professor admitted they didn't know because the man was still up there.

When told that Harris was going to the Moon, the Professor told him that he would love the magnificent view. No oxygen, but he would love the view. Straufman didn't succeed in curing Harris.

Jumping forward, Harris was packing while Faye fretted. She hadn't read a thing about a Moon voyage, but her husband reassured her that the commander was coming over to visit. And so he did, Commander Corry from the television series SPACE PATROL. (Not to be confused with Commander Cody from a movie serial. He also had a spaceship.)

Harris didn't know it was a kiddies show and thought it was real. In 1953, space flight was all a kiddies show or movie. Science fiction fans knew better, but they were kiddies. The Germans had lost the war but their scientists were in the USA or Russia, determined to go to the Moon.

By 1964, space flight was no longer kiddies shows or movies. Nonetheless the Hollywood producers were older men who thought it still was, just as their idea of young adult programming was beatniks instead of the Beatles.

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, murder, and sometimes plain drama.

"Outside Time" was written by Lawrence Weinberg and aired on 1964-09-01. The plot began with the launching of a spacecraft where no man had gone before. That exact phrase was used in the narration, two years before Capt. Kirk began his travels. The space capsule (as it was repeatedly referred to, a hangover from early NASA days) disappeared from telemetry shortly after it reached orbit. Many alarums in Mission Control. Nothing on radar and no transmissions from the astronaut Capt. Tyrrell. Then the real excitement began.

A few moments after Tyrrell's spaceship vanished, the missing astronaut walked into Mission Control. No sign of his spacecraft. Tyrrell simply materialized out of nowhere. He was dazed and confused, to coin a phrase. Initially he was incoherent. Eventually he recovered enough to say that he had been sent back to deliver a message.

The problem was that he couldn't remember the message. Most of the episode was taken up with Mission Control trying to refresh his memory while simultaneously locking down the control centre. Another spacecraft had been prepared for a subsequent launch. The mission commander decided to use it to rush Tyrrell into orbit, in the hope that the experience would jog his memory.

Up he went, but again he and the spacecraft disappeared. This time he didn't come back. What the message was, no one would ever know.

Space Stations.

THE ZERO HOUR was an anthology series, one of several which attempted to revive radio drama in the early 1970s. Rod Serling narrated the intro and the outro in the same style as his television series, although the series was produced by Elliott Lewis. It is available as free mp3s from the Old Time Radio Researchers at www.otrrlibrary.org

"Skylab, Are You There?", written by Keith Walker, aired on 1974-05-30 with William Shatner as a Mission Control director. The episode was broadcast a month after the final real-life Skylab mission. The abandoned space station orbited until 1979, when it re-entered the atmosphere and burned up over the Indian Ocean and Australia.

The episode began with a space walk gone wrong during a rendevous with a shuttle. New solar panels twisted during installation, damaged the shuttle, and seriously injured an astronaut. Shuttle astronauts came aboard and rendered assistance but the Skylab astronaut died.

Mission Control monitored the situation but radio contact was lost and sensors indicated no life forms detected. Another shuttle was launched from Cape Canaveral 11 hours later. The rescue ship found Skylab empty, with no sign of any astronauts. A thermal scan of the interior revealed the missing astronauts plus a humanoid form, even though they were invisible to the rescuer in ordinary light.

Communication was re-established. The astronauts said they had been shifted in time by the alien, who also revived the dead astronaut. The alien said it was an observer who had been watching Earth for 600 years. It represented a council of 2,000 planets.

The alien said judgement about Earth was still in abeyance. It was here to help and was doing so now. The strict condition was that Mission Control had to keep secret what happened. The general public must never know. The plot of aliens standing watch over Earth was an old one, but it was carried off well. Most of the dialogue was in the form of shortwave radio talk which, combined with authentic jargon, added to the verisimilitude of the episode.

Alternative Rocketry.

OUT OF REITSCH? was a 1967 one-shot fanzine by John Berry which collected earlier stories about fictitious stamps depicting Germany's postwar space programme. It was recently posted as a free pdf from www.fanac.org That Website, if you are not familiar with it, has tens of thousands of fanzines from the 1930s to date, all available as free pdfs. Well worth browsing if you have any interest at all in science fiction fandom history.

The premise of the one-shot was that instead of the USA and the USSR grabbing as many German scientists as they could in 1945, they were allowed to remain in Germany under Four Powers supervision. Peenemunde was declared a separate state, with rotating Allied commanders. The scientists were given a mandate to develop peaceful space travel by 1957.

Von Braun and the boys developed the A13 rocket, basically a multi-stage version of the V2. The first satellite was launched into space in 1947. Work then began on a manned spacecraft, or perhaps a womanned spacecraft because the first launch was intended for Hanna Reitsch.

She really existed in our timeline and was one of Nazi Germany's most famous test pilots, particularly with Hitler's wonder weapons. In this AH, she was chosen because she was not only one of the best test pilots alive but a petite woman whose light weight and size would enable her to fit into the tiny capsule. Reitsch flew on the A16 rocket in 1957 and became the first human in space.

Most of the story was taken up by the long and winding road to a Moon landing by 1963. Interminable Cold War politics mixed with the engineering difficulties of a Moon shot. The decision had been made to send four astronauts to the Moon but weight considerations meant that they had to be dwarves.

The story abruptly cut off with a manned orbit of the Moon in 1962 but no landing. The text was profusely illustrated with hand drawings of stamps and commemorative covers related to the AH but they were crudely drawn. The artist could not draw portraits.

Notwithstanding that, the AH, while optimistic about the co-operation of the Soviets, wasn't too far removed about the possibilities of space technology in the first decade after World War Two.

STAMPING AROUND COWTOWN
by Dale Speirs

I'm very active in the Calgary Philatelic Society, which has about 150 members and, before the pandemic, a wide range of activities. Our annual stamp show CALTAPEX is normally held in October on the weekend after Thanksgiving. Gone, of course. In lieu, like hundreds of other philatelic groups, the Show Committee is arranging an online stamp show. It is called CalVirt Stamp Show, to be held January 20 to February 11, at www.calgaryphilatelicsociety.com

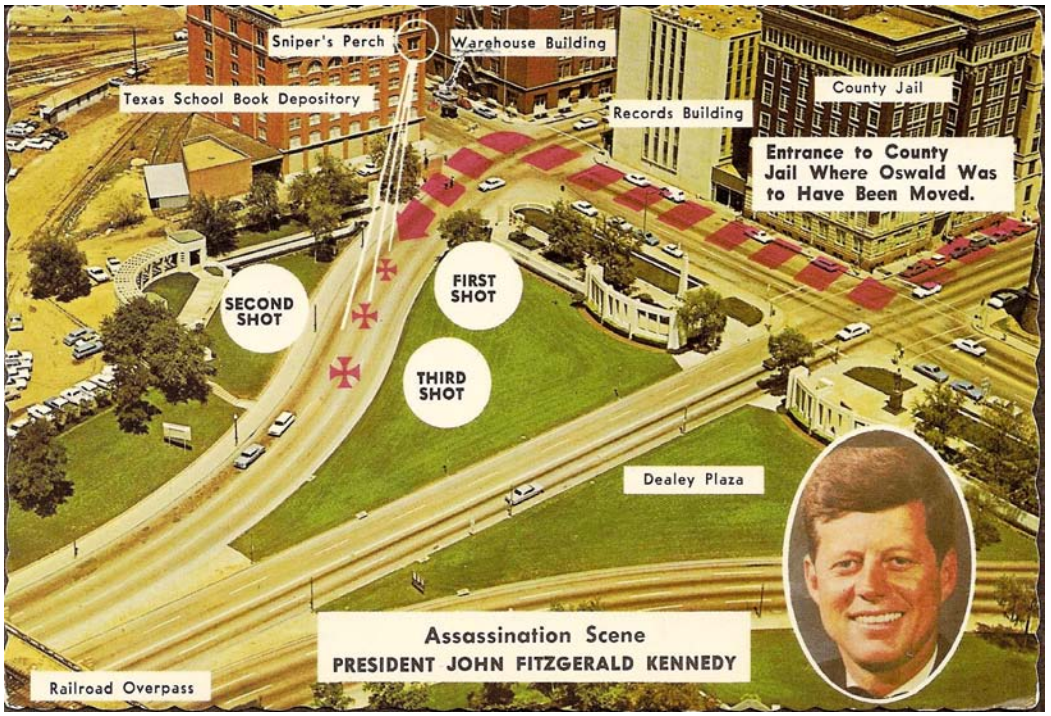
The exhibits will be pdfs of album pages. They will be unjudged since there is no way to verify if the stamps are genuine or just illustrations cropped from the Internet. Most of us are using CalVirt as a trial run for the exhibits we had scheduled for CALTAPEX 2020.

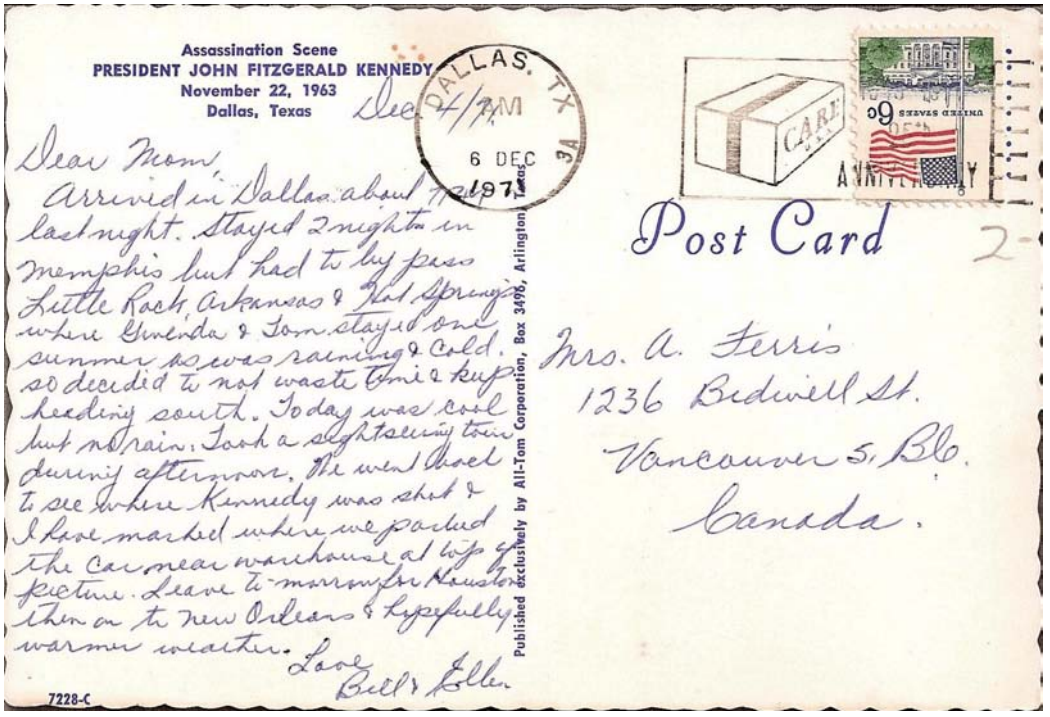
In stamp shows, exhibits are either 1-page or in multiples of 16 pages, which is what a display frame holds. Among others, I made up a 1-pager to show a postcard I bought in the dealer bourse at CALTAPEX 2019, depicting the Kennedy assassination scene.

I paid $1 for the postcard because the dealer thought it was damaged by a pen scribble on the view side. However, he didn't read the sender's message, which I did. The sender had made the scribble at the top centre of the view to show where he parked his car while in Dallas in 1971 on vacation. The relevant text reads:

Dear Mom,
Arrived in Dallas about 7 pm last night.
...
...
...
Took a sightseeing tour during afternoon. We went back to see where Kennedy was shot & I have marked where we parked the car near warehouse at top of picture.

(Pen scribble just below the word 'Warehouse' at top of postcard.)

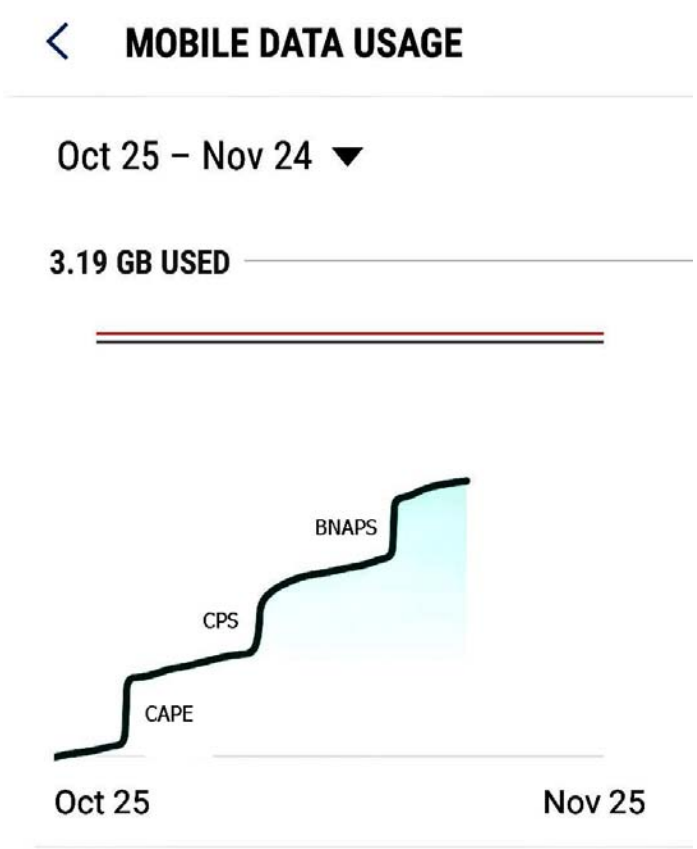




The Calgary Philatelic Society normally meets four times a month. The first Wednesday is the general meeting, with a business session followed by a speaker. If you've been to any hobby club meeting in the world for any subject, that is what the CPS is like.

Second Wednesdays are for a study group specializing in British North America philately, which is Canada, the provinces before Confederation which had their own post offices, Newfoundland (which didn't join Confederation until 1949), and pre-Revolution USA. (Canada's first Postmaster-General was Benjamin Franklin. He served until that unfortunate contretemps in 1776.)

Third Wednesdays were auctions, now cancelled for the duration. Fourth Wednesdays are the Calgary Association of Philatelic Exhibitors, a group of collectors who gathered to improve their competitive abilities. The three groups now meet on Zoom. I faithfully attend as you can see below by the three spikes in my device data usage.



The Zoom meetings use about 200 megabytes per half hour. None of the meetings go longer than two hours. Not the same as face-to-face meetings but better than nothing.

The main problem is awkward interruptions, since there are no cues as to who speaks next in a conversation other than waving your hand. As a result, attendees are constantly talking over each other or there is awkward silence because no one knows who has the floor.

SEEN IN THE LITERATURE

Botteon, A., et al (2020) **A giant radio bridge connecting two galaxy clusters in Abell 1758.** MONTHLY NOTICES OF THE ROYAL ASTRONOMICAL SOCIETY 499:L11-L15 (available as a free pdf)

Authors' abstract: *Collisions between galaxy clusters dissipate enormous amounts of energy in the intracluster medium (ICM) through turbulence and shocks. In the process, megaparsecs-scale (Mpc) diffuse synchrotron emission in form of radio haloes and relics can form. However, little is known about the very early phase of the collision.*

We used deep radio observations from 53 MHz to 1.5 GHz to study the pre-merging galaxy clusters A1758N and A1758S that are ~2 Mpc apart. We confirm the presence of a giant bridge of radio emission connecting the two systems that was reported only tentatively in our earlier work. This is the second large-scale radio bridge observed to date in a cluster pair.

The bridge is clearly visible in the LOFAR image at 144 MHz and tentatively detected at 53 MHz. Its mean radio emissivity is more than one order of magnitude lower than that of the radio haloes in A1758N and A1758S.

Interestingly, the radio and X-ray emissions of the bridge are correlated. Our results indicate that non-thermal phenomena in the ICM can be generated also in the region of compressed gas in-between infalling systems.

Lainey, V., et al (2020) **Resonance locking in giant planets indicated by the rapid orbital expansion of Titan**. NATURE ASTRONOMY 4:1053-1058

Authors' abstract: *Saturn is orbited by dozens of moons, and the intricate dynamics of this complex system provide clues about its formation and evolution.*

Tidal friction within Saturn causes its moons to migrate outwards, driving them into orbital resonances that pump their eccentricities or inclinations, which in turn leads to tidal heating of the moons.

However, in giant planets, the dissipative processes that determine the tidal migration timescale remain poorly understood. Standard theories suggest an

orbital expansion rate inversely proportional to the power 11/2 in distance, implying negligible migration for outer moons such as Saturn's largest moon, Titan.

Here, we use two independent measurements obtained with the Cassini spacecraft to measure Titan's orbital expansion rate. We find that Titan rapidly migrates away from Saturn on a timescale of roughly ten billion years, corresponding to a tidal quality factor of Saturn of Q about 100, which is more than a hundred times smaller than most expectations.

Our results for Titan and five other moons agree with the predictions of a resonance locking tidal theory, sustained by excitation of inertial waves inside the planet. The associated tidal expansion is only weakly sensitive to orbital distance, motivating a revision of the evolutionary history of Saturn's moon system. In particular, it suggests that Titan formed much closer to Saturn and has migrated outward to its current position.

Kaltenegger, L., and J. Pepper (2020) **Which stars can see Earth as a transiting exoplanet?** MONTHLY NOTICES OF THE ROYAL ASTRONOMICAL SOCIETY 499:L111-L115 (available as a free pdf)

Authors' abstract: *Transit observations have found the majority of exoplanets to date. Also spectroscopic observations of transits and eclipses are the most commonly used tool to characterize exoplanet atmospheres and will be used in the search for life. However, an exoplanet's orbit must be aligned with our line of sight to observe a transit.*

Here, we ask, from which stellar vantage points would a distant observer be able to search for life on Earth in the same way? We use the TESS Input Catalog and data from Gaia DR2 to identify the closest stars that could see Earth as a transiting exoplanet.

We identify 1,004 main-sequence stars within 100 parsecs, of which 508 guarantee a minimum 10-h long observation of Earth's transit. Our star list consists of about 77 percent M-type, 12 percent K-type, 6 percent G-type, 4 percent F-type stars, and 1 percent A-type stars close to the ecliptic.

SETI searches like the Breakthrough Listen Initiative are already focusing on this part of the sky. Our catalogue now provides a target list for this search. As part of the extended mission, NASA's TESS will also search for transiting planets in the ecliptic to find planets that could already have found life on our transiting Earth.

Signs of a biosphere in the atmosphere of transiting Earth, such as the combination of oxygen or ozone with the reducing gas methane, could have been detected for about 2 billion years in Earth's history.

Trani, A.A., et al (2020) **The ominous fate of exomoons around hot Jupiters in the high-eccentricity migration scenario.** MONTHLY NOTICES OF THE ROYAL ASTRONOMICAL SOCIETY 499:4195-4205

Authors' abstract: *All the giant planets in the Solar system host a large number of natural satellites. Moons in extrasolar systems are difficult to detect, but a Neptune-sized exomoon candidate has been recently found around a Jupiter-sized planet in the Kepler-1625b system.*

Due to their relative ease of detection, hot Jupiters (HJs), which reside in close orbits around their host stars with a period of a few days, may be very good candidates to search for exomoons. It is still unknown whether the HJ population can host (or may have hosted) exomoons.

One suggested formation channel for HJs is high-eccentricity migration induced by a stellar binary companion combined with tidal dissipation. Here, we investigate under which circumstances an exomoon can prevent or allow high-eccentricity migration of a HJ, and in the latter case, if the exomoon can survive the migration process.

We use both semi-analytic arguments, as well as direct N-body simulations including tidal interactions. Our results show that massive exomoons are efficient at preventing high-eccentricity migration.

If an exomoon does instead allow for planetary migration, it is unlikely that the HJ formed can host exomoons since the moon will either spiral on to the planet or escape from it during the migration process.

A few escaped exomoons can become stable planets after the Jupiter has migrated, or by tidally migrating themselves. The majority of the exomoons end up being ejected from the system or colliding with the primary star and the host

planet. Such collisions might none the less leave observable features, such as a debris disc around the primary star or exo-rings around the close-in giant.

Retallack, G.J., et al (2020) **Ediacaran and Cambrian paleosols from central Australia.** PALAEOGEOGRAPHY, PALAEOCLIMATOLOGY, PALAEOECOLOGY 560:doi.org/10.1016/j.palaeo.2020.110047

[A paleosol is a fossilized topsoil layer. The Ediacaran was 600 to 542 megayears ago when multicellular life began. The Cambrian followed immediately thereafter when a huge burst of speciation occurred.]

Authors' abstract: *Ediacaran to Cambrian red sandstones of the Northern Territory, including Arumbera Sandstone, and Grant Bluff and Central Mount Stuart formations, have been reexamined and sampled in order to reconstruct paleoenvironments from sedimentary facies and paleosols.*

Sedimentary facies [rock layers deposited in a given type of ecosystem] *include green-gray calcareous sandstone (Member III of Arumbera Sandstone only), red siltstone with calcareous nodules (also only Member III), and also non-calcareous red-green siltstone, interbedded red siltstone and sandstone, and trough bedded sandstone.*

The green-gray facies has diverse and distinctive Cambrian marine trace fossils, not found in the red beds which have instead an assemblage of problematic body fossils including Arumberia, Noffkarkys, Hallidaya, Ernietta, Trepassia, and Dickinsonia.

The red facies are interpreted as fluvial paleochannels (trough cross bedded), fluvial levees (interbedded siltstone and sandstone), poorly drained floodplain (red-green siltstone), and well drained floodplain or low terrace (calcareous nodular).

The carbonate nodules have micritic, replacive fabrics and a significant positive correlation of $d^{13}C$ and $d^{18}O$ characteristic of pedogenic carbonate of Calcid soils. Other red beds have pseudomorphous sand crystals after gypsum, like those of Gypsid soils.

Individual red beds show negative strain and mass transfer for cationic bases typical of soils, as well as gradational alteration down from fossiliferous tops characteristic of soils. Their varied degree of pedogenic differentiation is identified as Psamment, Aquent and Ochrept paleosols.

Phosphorus depletion in the paleosols is evidence that organisms lived in the paleosols, and were not introduced by transient marine incursions. The problematic quilted fossils Arumberia, Noffkarkys and Hallidaya formed a distinctive inland terrestrial polsterland during the Ediacaran and early Cambrian.

Lamsdell, J.C., et al (2020) **Air breathing in an exceptionally preserved 340-million-year-old sea scorpion.** CURRENT BIOLOGY 30:doi.org/10.1016/j.cub.2020.08.034

Authors' abstract: *A three-dimensionally preserved eurypterid, Adelophthalmus pyrrhae, is described. Computed tomography reveals the presence of trabeculae on the respiratory lamellae. Occurrence of trabeculae indicates eurypterids were capable of breathing air. Data from eurypterids suggest horseshoe crabs were not secondarily aquatic.*

Arachnids are the second most successful terrestrial animal group after insects and were one of the first arthropod clades to successfully invade land. Fossil evidence for this transition is limited, with the majority of arachnid clades first appearing in the terrestrial fossil record.

Furthermore, molecular clock dating has suggested a Cambrian-Ordovician terrestrialization event for arachnids, some 60 megayears before their first fossils in the Silurian, although these estimates assume that arachnids evolved from a fully aquatic ancestor.

Eurypterids, the sister clade to terrestrial arachnids, are known to have undergone major macroecological shifts in transitioning from marine to freshwater environments during the Devonian. Discoveries of apparently subaerial eurypterid trackways have led to the suggestion that eurypterids were even able to venture on land and possibly breathe air. However, modern horseshoe crabs undertake amphibious excursions onto land to reproduce, rendering trace fossil evidence alone inconclusive.

Here, we present details of the respiratory organs of Adelophthalmus pyrrhae sp. nov. from the Carboniferous of Montagne Noire, France, revealed through

micro computed tomography imaging. Pillar-like trabeculae on the dorsal surface of each gill lamella indicate eurypterids were capable of subaerial breathing, suggesting that book gills are the direct precursors to book lungs while vascular ancillary respiratory structures known as Kiemenplatten represent novel air-breathing structures.

The discovery of air-breathing structures in eurypterids indicates that characters permitting terrestrialization accrued in the arachnid stem lineage and suggests the Cambrian-Ordovician ancestor of arachnids would also have been semi-terrestrial.

[Image is from this paper. They were foot-long scorpions you wouldn't want to meet while strolling through the park.]

DiMichele, W.A., et al (2020) **Uplands, lowlands, and climate: Taphonomic megabiases and the apparent rise of a xeromorphic, drought-tolerant flora during the Pennsylvanian-Permian transition.** PALAEOGEOGRAPHY, PALAEOCLIMATOLOGY, PALAEOECOLOGY 559:doi.org/10.1016/j.palaeo.2020.109965

[The Mississippian and Pennsylvanian coalbeds were of the Carboniferous era, 359.2 to 299 megayears ago. Xeromorphic plants are those adapted to dry climates such as grasslands or deserts.]

Authors' abstract: *The Late Mississippian and Pennsylvanian have been referred to as the Coal Age due to enormous paleotropical peat accumulations (coal beds).*

Numerous fossil floras have been collected from these coals, and their associated seat-earth paleosols and roof-shales, over more than two centuries, leading to the inference of vast swampy wetlands covering the Pangean tropics during the Pennsylvanian.

In contrast, the Permian tropics are characterized as more arid, with sparser and more heterogeneous vegetation than inferred for the Pennsylvanian. In the tropics, the Pennsylvanian to Permian transition has been described as a changeover from a pteridophyte-dominated "Paleophytic flora", to a seed-plant dominated "Mesophytic flora.

This view notwithstanding, floras dominated by xeromorphic seed plants also are well known from the Pennsylvanian tropics. Some authors have characterized these plants as being occupants of uplands, subsequently transported into basinal lowland, preservational environments. In this model, uplands are well drained, causing areas of drought under otherwise ever wet climates.

In this paper, we present an alternative interpretation: that the apparent transition in Pennsylvanian-Permian tropical vegetation reflects two types of taphonomic megabias. First is a preservational megabias, strongly favoring the vegetation of humid climates over that of seasonally dry climates.

Accordingly, tropical-plant preservational potential fluctuated in concert with Late Paleozoic Ice Age glacial-interglacial oscillations, and contemporaneous sea-level and climatic changes.

Second is an analytical megabias, strongly favoring the discovery and collection of the wetland biome from Pennsylvanian strata, overlooking the less frequently and more poorly preserved drought-tolerant biome.

By Permian times, vast wetlands, and their fossil record, had largely disappeared from central Pangea (although continuing in Cathaysia), making drought-tolerant vegetation more "visible" to searchers, without changing its preservational circumstances.

We demonstrate that the upland model is untenable, being inconsistent with the principles of plant biogeography and with geological aspects of the fossil record.

Augustin, F.J., et al (2020) **A theropod dinosaur feeding site from the Upper Jurassic of the Junggar Basin, NW China.** PALAEOGEOGRAPHY, PALAEOCLIMATOLOGY, PALAEOECOLOGY 560:doi.org/10.1016/j.palaeo.2020.109999

Authors' abstract: *A theropod feeding site from the Late Jurassic Qigu Fm is described. The site yielded sauropod remains with an extremely high abundance of bite marks. Additionally, five shed theropod teeth were found at the site. The bite marks can be confidently assigned to the theropod teeth. The sauropod remains show severe trampling by large vertebrates, probably theropods.*

Direct evidence for theropod feeding behaviour is rare in the fossil record, and mainly limited to bite marks on bones. Here we describe a dinosaur assemblage from the lower part of the early Late Jurassic Qigu Formation at Liuhuanggou Gorge, southern Junggar Basin, NW China, which has yielded fragmentary remains of a large sauropod as well as four teeth of large-sized theropods and one tooth of a small-sized theropod.

The sauropod bones show numerous bite marks that can be confidently linked to the large-sized theropod, probably a metriacanthosaurid. The abundance of the theropod bite marks on a single skeleton indicates that the sauropod carcass was probably fed on extensively.

Some bones are completely crushed and occur in patches of hundreds of tiny individual fragments indicating that they were trampled repeatedly by large dinosaurs. Both the feeding traces and the trampling suggests that the sauropod carcass was exposed for a substantial amount of time before it was finally buried within the deposits of a well-drained floodplain.

Haas, R., et al (2020) **Female hunters of the early Americas.** SCIENCE ADVANCES 6:10.1126/sciadv.abd0310 (available as a free pdf)

Authors' abstract: *Sexual division of labor with females as gatherers and males as hunters is a major empirical regularity of hunter-gatherer ethnography, suggesting an ancestral behavioral pattern. We present an archeological discovery and meta-analysis that challenge the man-the-hunter hypothesis.*

Excavations at the Andean highland site of Wilamaya Patjxa reveal a 9000-year-old human burial (WMP6) associated with a hunting toolkit of stone projectile points and animal processing tools. Osteological, proteomic, and isotopic analyses indicate that this early hunter was a young adult female who subsisted on terrestrial plants and animals.

Analysis of Late Pleistocene and Early Holocene burial practices throughout the Americas situate WMP6 as the earliest and most secure hunter burial in a sample that includes 10 other females in statistical parity with early male hunter burials. The findings are consistent with non-gendered labor practices in which early hunter-gatherer females were big-game hunters.

Christiansen, T., et al (2020) **Insights into the composition of ancient Egyptian red and black inks on papyri achieved by synchrotron-based microanalyses.** PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES USA 117:27825-27835

Authors' abstract: *Ink, invented in ancient Egypt circa 5,000 years ago, is the established and time-honored medium wherewith humankind commits words to writing. A comprehensive synchrotron-based microanalysis of a considerable corpus of ancient Egyptian papyri from the Roman period, inscribed with red and black inks, reveal a hitherto undetected complex composition of inks.*

Highlighted by the presence of iron, the red color can be attributed to the use of ocher. Unexpectedly, lead is regularly present in both the red and black inks and is associated to phosphate, sulfate, chloride, and carboxylate ions. The

analysis shows that lead was probably used as a drier rather than as a pigment, similar to its usage in 15th century Europe during the development of oil paintings.

A hitherto unknown composition is highlighted in the red and black inks preserved on ancient Egyptian papyri from the Roman period (circa 100 to 200 CE). Synchrotron-based macro–X-ray fluorescence (XRF) mapping brings to light the presence of iron (Fe) and lead (Pb) compounds in the majority of the red inks inscribed on 12 papyrus fragments from the Tebtunis temple library. The iron-based compounds in the inks can be assigned to ocher, notably due to the colocalization of Fe with aluminum, and the detection of hematite (Fe_2O_3) by micro–X-ray diffraction. Using the same techniques together with micro-Fourier transform infrared spectroscopy, Pb is shown to be associated with fatty acid phosphate, sulfate, chloride, and carboxylate ions.

Moreover, micro-XRF maps reveal a peculiar distribution and colocalization of Pb, phosphorus (P), and sulfur (S), which are present at the micrometric scale resembling diffused "coffee rings" surrounding the ocher particles imbedded in the red letters, and at the submicrometric scale concentrated in the papyrus cell walls.

A similar Pb, P, and S composition was found in three black inks, suggesting that the same lead components were employed in the manufacture of carbon-based inks. Bearing in mind that pigments such as red lead (Pb_3O_4) and lead white (hydrocerussite [$Pb_3(CO_3)_2(OH)_2$] and/or cerussite [$PbCO_3$]) were not detected, the results presented here suggest that the lead compound in the ink was used as a drier rather than as a pigment.

Accordingly, the study calls for a reassessment of the composition of lead-based components in ancient Mediterranean pigments.

Burger, J., et al (2020) **Low prevalence of lactase persistence in Bronze Age Europe indicates ongoing strong selection over the last 3,000 years.** CURRENT BIOLOGY 30:4307-4315 (available as a free pdf)

[Lactase is the enzyme that enables adult humans to digest milk. Its persistence in adults of Europe and nomadic societies is considered the reason they dominated world history.]

Authors' abstract and extracts: *Lactase persistence (LP), the continued expression of lactase into adulthood, is the most strongly selected single gene trait over the last 10,000 years in multiple human populations. It has been posited that the primary allele causing LP among Eurasians, rs4988235-A, only rose to appreciable frequencies during the Bronze and Iron Ages, long after humans started consuming milk from domesticated animals.*

This rapid rise has been attributed to an influx of people from the Pontic-Caspian steppe that began around 5,000 years ago. We investigate the spatiotemporal spread of LP through an analysis of 14 warriors from the Tollense Bronze Age battlefield in northern Germany (3,200 before present, BP), the oldest large-scale conflict site north of the Alps.

Genetic data indicate that these individuals represent a single unstructured Central/Northern European population. We complemented these data with genotypes of 18 individuals from the Bronze Age site Mokrin in Serbia (4,100 to 3,700 BP) and 37 individuals from Eastern Europe and the Pontic-Caspian Steppe region, predating both Bronze Age sites (5,980 to 3,980BP).

We infer low LP in all three regions, i.e., in northern Germany and Southeastern and Eastern Europe, suggesting that the surge of rs4988235 in Central and Northern Europe was unlikely caused by Steppe expansions. We estimate a selection coefficient of 0.06 and conclude that the selection was ongoing in various parts of Europe over the last 3,000 years.

We detected no close relatives among these 14 individuals. Surprisingly, two of these individuals were women, consistent with a male-dominated, but not exclusively male, battle.

Beyond milk being a nutrient-dense and relatively nutrient balanced food, various explanations have been offered for the strong selection inferred for LP.

These include improved calcium absorption by supplementing vitamin-D-poor diets at high latitudes, the supply of a relatively pathogen-free fluid, the suppression of malaria symptoms through a reduction of p-aminobenzoic acid consumption, improvements in gut health through galactose and galacto-oligosaccharides reshaping the colonic microbiome, avoidance of diarrhea under famine conditions, and increased economic efficiency of calorie production for dairy farming.

For LP, it now seems likely that the phase of most rapid frequency rise was between 4,000 BP and 1,500 BP. We contend that research should be focused on this phase to better understand the evolutionary history of the most strongly selected single gene trait in Holocene Western Eurasia and many other parts of the world.

Based on a series of more than 100 radiocarbon dates on skeletal and wooden remains from the Tollense Valley, the finds horizon of the Bronze Age battle can now be dated to the first half of the 13th century BC. With one exception (WEZ16 was directly C14-dated to the Neolithic period) all samples are associated with the Bronze Age (c. 1,300- 1,200 calBC).

The event is interpreted as one major conflict, not a series of chronologically divergent skirmishes, due to dating results and the general appearance of the finds layer with comparable disarticulation as well as lesion patterns of the human skeletal remains at all analyzed sites

Archaeological research on the Bronze Age site in the Tollense Valley has uncovered remains of a minimum number of more than 140 individuals thus far, predominantly of young adult men. These remains represent a special Bronze Age skeletal sample due to the large number of individuals and their mortality profile.

Speirs: Any fantasy authors out there who want to write Gonad the Barbarian stories should read through this article.

Staab, M., et al (2020) **Exotic garden plants partly substitute for native plants as resources for pollinators when native plants become seasonally scarce.** OECOLOGIA 194:465-480 (available as a free pdf)

Authors' abstract: *Urban green spaces such as gardens often consist of native and exotic plant species, which provide pollen and nectar for flower-visiting insects. Although some exotic plants are readily visited by pollinators, it is unknown if and at which time of the season exotic garden plants may supplement or substitute for flower resources provided by native plants.*

To investigate if seasonal changes in flower availability from native vs. exotic plants affect flower visits, diversity and particularly plant-pollinator interaction networks, we studied flower-visiting insects over a whole growing season in 20 urban residential gardens in Germany. Over the course of the season, visits to native plants decreased, the proportion of flower visits to exotics increased, and flower-visitor species richness decreased.

Yet, the decline in flower-visitor richness over the season was slowed in gardens with a relatively higher proportion of flowering exotic plants. This compensation was more positively linked to the proportion of exotic plant species than to the proportion of exotic flower cover. Plant-pollinator interaction networks were moderately specialized.

Interactions were more complex in high summer, but interaction diversity, linkage density, and specialisation were not influenced by the proportion of exotic species. Thus, later in the season when few native plants flowered, exotic garden plants partly substituted for native flower resources without apparent influence on plant-pollinator network structure.

Late-flowering garden plants support pollinator diversity in cities. If appropriately managed, and risk of naturalisation is minimized, late-flowering exotic plants may provide floral resources to support native pollinators when native plants are scarce.

WHEN WORDS COLLIDE 2021

August 2021 may be cutting it close for a convention to re-open but Calgary's annual readercon When Words Collide will give it a go from August 13 to 15. When Words Collide organizers are already at work and hope to include a few special events to mark the occasion. Information from whenwordscollide.org

At this time they are planning an in-person festival for August 2021. Should health concerns prevent a real-world convention, they will move the entire festival (except the banquet and autograph session) online. Either way, they are also planning to hold an online warm-up on Saturday, August 7, where they will have some special online presentations and social events.