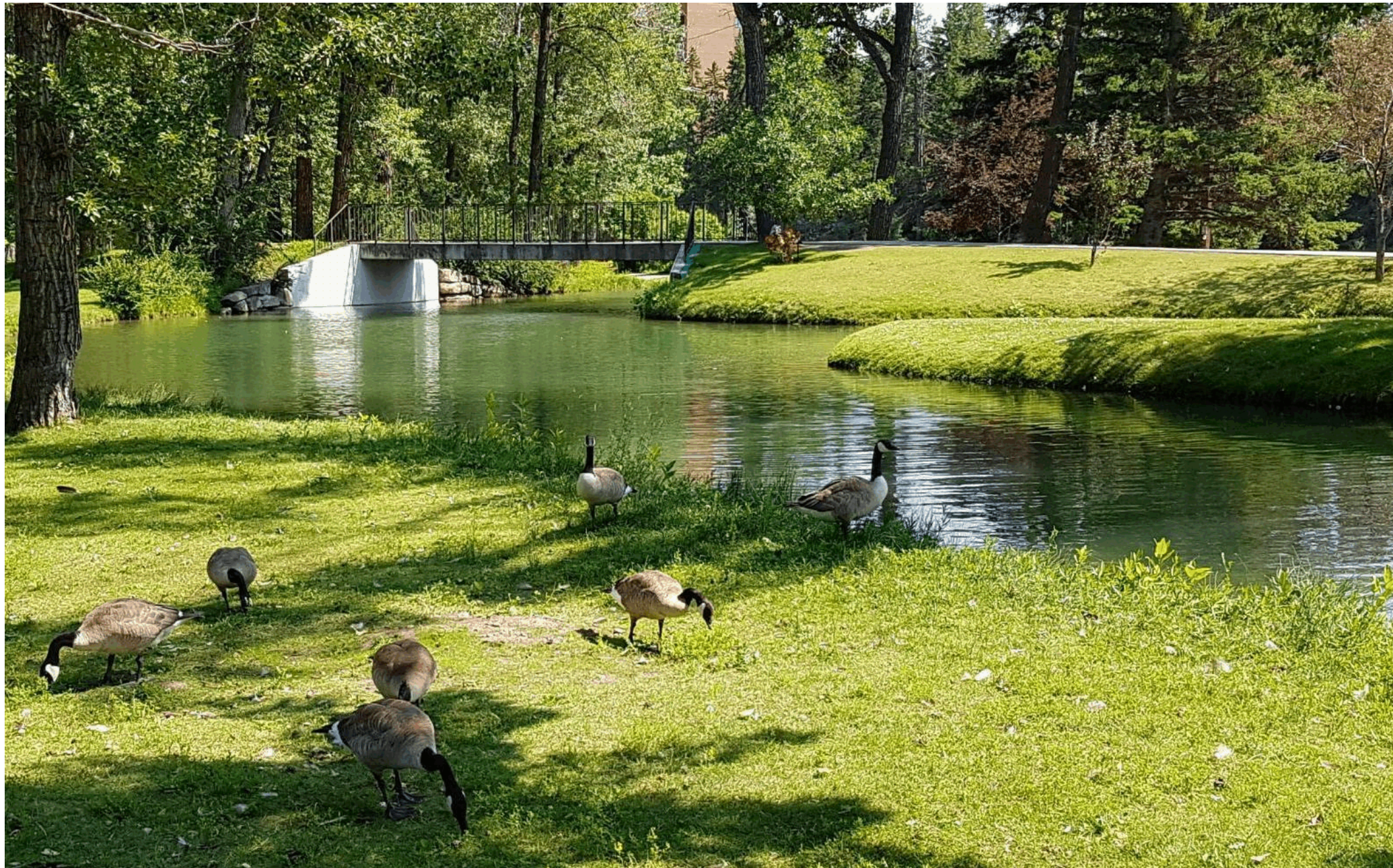


OPUNTIA 506



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.

BOWNESS PARK
photos by Dale Speirs

2021-07-12

I worked 31 years for the City of Calgary Parks Dept before retiring in 2010. For most of that period I was a District Maintenance Foreman, and spent the last decade as Weekend Trouble Calls Supervisor (Fri to Sun plus statutory holidays, 12-hour shift). The department was divided in 18 maintenance districts, and we foreman were moved to a new district every so often to keep us from getting stale and to ensure we learned the whole city. As Trouble Calls Supervisor, I covered the entire city.

Bowness Park is an island in the Bow River in northwest Calgary, a major park that is one of the top-five most used. On sunny weekends, the park is filled shoulder to shoulder. It was founded in 1911 when the village of Bowness was far out in the country from Calgary. The city swallowed it in 1961.

For about five years in the 1980s I was foreman of this park and the parks in the surrounding district. As Supervisor, I stopped by every weekend to check up on the maintenance staff and deal with any problems. I've written about running the park in older issues of OPUNTIA. See issues #4.5, 42.5, 43.5, 45.5, and 63.5A.

In 2013, southwestern Alberta was hit by the worst floods since European settlers arrived. About 100,000 Calgarians lost their homes, and among other damage, the island of Bowness Park was basically scoured clean. See OPUNTIA's # 264 to 266 for details about the great flood. Since then the park had a major rebuild, restoring some of it and using the opportunity to rearrange other facilities. I had never been back since I retired, but in the sunny weather we have been having, I decided to go and have a look on a quiet weekday.

Parking has always been scarce, so I took the #1 crosstown bus from the downtown core, which stops directly in front of the park gates. The old narrow two-lane bridge has since been replaced because of the flood damage.





At left: The lagoon is a widened part of the channel that separates the island from the mainland.

Above left: The day was warm, and not only humans sought the shade.

Above right: The old picnic shelters were swept away in the great flood and subsequently replaced.

From the early days until the 1960s, the centre of Bowness Park contained amusement rides. The last of them, except for a train, were removed in the 1970s as better commercial amusement parks were built in Calgary, and also because the rides were not considered appropriate for a natural area.

However, the train has been kept for old-times' sake, the track of which loops around the island.



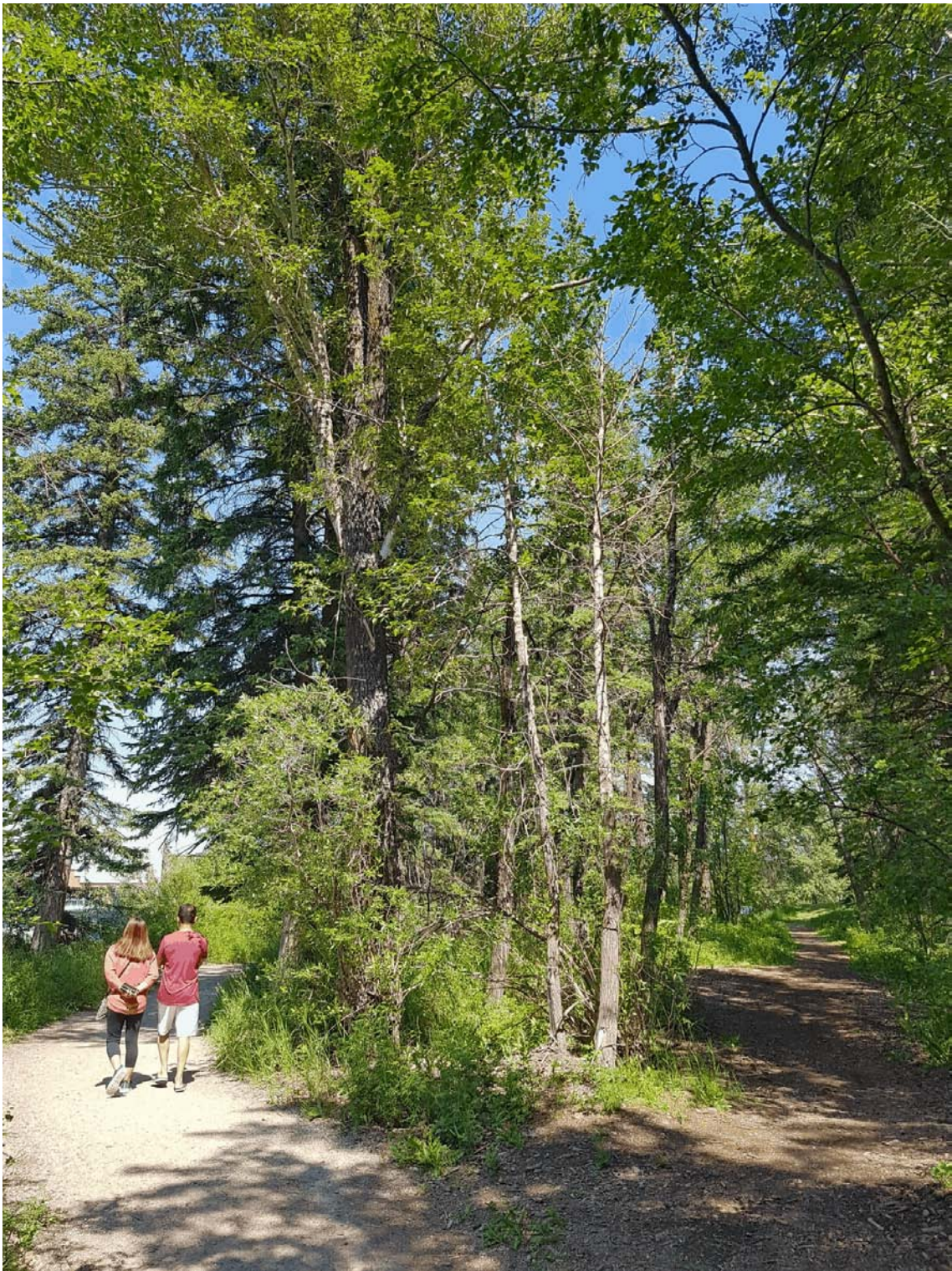
The Bow River side of the island.



The channel side of the island.



The west end of the island is natural forest.



Except, unfortunately, for the Stoney Trail freeway, which bridges the Bow River high above the park. The bridge was built with six lanes decades ago as part of a major ring road, but is now being expanded to handle traffic bypassing Calgary. So as not to disrupt the flow of traffic, the expansion is actually a second bridge beside the original bridge.



Note the pedestrian bridge slung underneath the existing bridge.



OPUNTIAS AT CHEZ OPUNTIA
photos by Dale Speirs

I would be remiss if I did not mention that Chez Opuntia has many flowers in bloom. Among them are two species of *Opuntia* native to Alberta, and I have both growing in my side yard, which faces west into the sun.

Opuntia fragilis seldom blooms in habitat but reproduces vegetatively. The species epithet refers to the ease with which pads are detached from the mother plant and are scattered, often by sticking to the legs of livestock or game animals.

I've never seen my plants of this species in bloom. They grow along the same basement wall as the other species, *Opuntia polyacantha*, so environmental conditions are not the reason. The photo below is of my *Opuntia fragilis*. The photos at right and on the next page are *Opuntia polyacantha*.





STATELY PILES: PART 6

by Dale Speirs

[Parts 1 to 5 appeared in OPUNTIA's #386, 395, 415, 455, and 481.]

Weird House.

“The Vampire Airplane” by Arlton Eadie (1933 August, WEIRD TALES, available as a free pdf from www.archive.org) was a twist on the usual sort of manor house mystery. The residents of a manor house saw an aircraft make an emergency landing on the grounds. The pilot was invited into the house, and only afterward was Count Fedor von Felhagen identified as a vampire.

Many alarms in the house, including the fair maiden within, as a result of which the occupants learned that von Felhagen had been condemned centuries ago for his sins and was still unrepentant. Fortunately Father Fabian arrived, waving a cross and chanting Latin. The Count fled in his airplane, which dived into the nearby ocean and finished him.

This was a standard vampire story in many ways but contained enough variations on a theme to take it out of the ordinary.

“The House That Walked” by Dave Barnes (1936 September, ASTOUNDING, available as a free pdf from www.archive.org) was an interesting story that deserves reprinting in an anthology. On a vacant lot, a manor house suddenly appeared. It stayed briefly, then vanished and reappeared moments later elsewhere in the city. The house appeared to be moving purposefully.

As police dealt with the strange events, the back story emerged from an oldtimer who knew the house. It had burned down 50 years ago to the day after murder was done in it. Johnny Wyatt was falsely accused of the murder and vowed revenge on the real culprit.

He dropped out of sight and built a superscience machine that would teleport the house, step by step, not only in distance but in time from the past. The murderer, by now an elderly man, was the target, eventually driven insane by the house steadily closing in on him.

Haunted Piles.

“The House On Waterloo Lane” by Nicholas Ozment (2009 May, ARKHAM TALES, available as a free pdf from www.archive.org) was about the difficulty real estate agent Thomas Cowell had selling the Pain House. The mansion had been on the market for years but prospective buyers were always frightened away. What Cowell didn’t realize was that the house was sentient and trying to drive him mad so as to claim his soul.

“Haunt Squad” by Maurissa Guibord (2009 August, ARKHAM TALES) was narrated by a staffer of a television series about haunted houses. You know the kind, where the host (Duke Dennis in this story) ran excitedly about a house narrating a fictional story as fact, with everything filmed in the dark with a night-vision camera. No actual ghosts were seen but someone would shout that they felt a cold draft, which proved the house was haunted.

The series’ grand finale was the death of a young woman witnessed by several people and the camera. She saw a ghost, as did the others, and fell off a balcony fleeing from it. Post-series the truth came out. She had told Dennis that she was pregnant with his child. He set up the ghost with dry ice mist pumped up a vent by a ceiling fan. He got his though, haunted by bad luck ever since.

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 Nameless Day” aired on 1964-11-09, written by Richard McCracken. The narrator David Neilson was domiciled in an insane asylum. His story began in Laval, Québec, a suburb of Montréal. He was bicycling when he fell ill with fever near an old mansion and collapsed by the gatehouse.

He was taken into the manor house by sisters Suzanne and Lorette. He instantly fell in love with the latter. Melodrama and romance saturated the air, along many ominous forebodings.

Pacing in his room, restless because of his fever, Neilson stepped on a loose floorboard. Investigating further, he found a box underneath, filled with papers, rings, and watches. One of the watches was inscribed “David Neilson, 1910”. The year was long before he was born.

Panicking, he tried to escape the room. It was locked, so he climbed out the second-story window and fled on foot, half dead from fever. He woke up by the gatehouse and found the mansion was an actual prison. The guard took him to a magistrate.

“Why do you Americans come to Canada to go insane?” asked the magistrate. He told Neilson that the two women had been dead for twenty years, hanged for murder, and the mansion razed long ago. Neilson’s insistence about what happened got him a ticket to the insane asylum. He refused to recant because he still had the watch with his name engraved.

A poorly plotted episode. In particular, the significance of the date on the watch was never explained. If he somehow had gone back in time, it certainly wasn’t before he was born.

THE SHADOW should not need any introduction to readers. It aired from 1930 to 1954, basically the entire length of old-time radio. (This and other episodes are available as free mp3s from www.otrrlibrary.org)

Lamont Cranston and Margo Lane frequently wound up in haunted or blood-soaked mansions. Thus it was for “The Terrible Legend Of Crownshield Castle”, aired on 1947-12-28. The castle, a mansion really, was the residence of a dysfunctional family. You know the kind, the doddering old millionaire, greedy young relatives, and everyone with a secret to hide.

A ghost was about by night, causing all kinds of turmoil in the household, as ghosts so often do. Cranston was kept busy in himself and qua The Shadow. Each suspect was given a star turn, and ultimately the daughter was accused. Notice that this show aired on December 28, for one of the key points was that the ghost had left tracks in the snow. Hardly the thing that a spirit would do.

Murder In The Big House.

MR KEEN, TRACER OF LOST PERSONS aired on old-time radio from 1937 to 1955. Writers were not credited. Mr Keen and his partner Mike Clancy did their investigating without fussing over details such as break-and-enter to gather evidence or interrogating people like the Gestapo even though they were only private detectives.

“The Silver Candlestick Murder”, aired on 1952-03-13, was an episode which bore resemblance to the board game Clue, first distributed in 1949. The mansion was in New York City. The murder took place during the first few minutes, in the drawing room, with a candlestick, but the victim was not named.

A jump cut to Mr Keen’s office, where he and Mike Clancy heard Mrs Grace Denning’s distress. Her husband Neil had gone missing the day before, and she asked the famous Tracer of Lost Persons to locate him.

She had overheard a telephone call of Neil agreeing to accept a dangerous job. The address was a grim old mansion (her words). Keen recognized the house as the residence of a recluse, the elderly spinster Abigail Tilding. He mentioned that he had once known her long ago. She had been confined to her bed for years.

The two investigators adjourned to the stately pile. Answering the door was Louise Tilding, niece of Abigail. Admitting them into the drawing room, she introduced them to her fiancé Donald Stiles. Both denied knowing Neil Denning.

Keen quickly bade farewell, puzzling Clancy as they went out the front door. Keen explained that he had noticed a blood stain on the carpet. The two men circled around to the back, then forced a door into the basement. They found Neil Denning’s body in the coal bin, head bashed in.

A few seconds later, shots were fired at them. A foot pursuit into the mansion didn’t catch the perpetrator but did bring them to Louise. She was only mildly surprised at seeing them, despite their commission of break-and-enter.

They told her they had found Denning dead in the basement. She said she didn’t want to cause a fuss and asked them not to call the police. Presumably she would have the butler tidy up. Keen insisted though.

Leaving the police to do the tidying instead of the butler, Keen and Clancy went to tell Grace Denning that she was a widow. They found her arguing with a man named Alan Page. They broke the news and she broke apart. She dashed into her bedroom.

The investigators chatted with Page while the grieving widow sobbed heartily. He admitted he was in love with her but said it was purely platonic. Not only

that, he got Neil a job working for Stiles. The same man who earlier denied knowing him.

Clancy went off to get information about Stiles while Keen returned to the Tilding mansion, determined to talk to Abigail. Remember her? She finally got her first speaking part two-thirds of the way through the episode, despite all the hoorah that had been going on in her mansion.

Abigail said Stiles was a fortune hunter whose only interest in Louise was in her prospects as an heiress. She had disinherited her nephew Robert five years earlier and had no idea where he was now. She showed him a picture of Robert, which bore a startling resemblance to Neil Denning.

Keen then worked his way through all the suspects. He tricked Louise into giving herself away as the murderer. She blabbed all. Finding Neil in the mansion, she thought he was Robert and wanted to prevent him from charming Abigail back into his inheritance. The rest was details.

From THEATER FIVE was “Across The River To Grandfather’s House” aired on 1965-03-17, written by Robert Cenedella. The old man Bartlet had been murdered five years ago in his manor house.

Three cousins, Ezra, Lulu, and Jonas, held each other prisoner in the house on suspicion of his murder. Each door had been fitted with three locks and needed three keys to open. Each cousin had one key. The windows were barred so no one could escape.

Each night since the death, they had been conducting formal meetings to discuss the matter in excruciating detail. There was an agenda and a rotating chairmanship like any stamp club or town council meeting, following Robert’s Rules of Order (which was specifically mentioned). They had gotten nowhere and were merely repeating themselves.

The monotony was broken when cousin Dan arrived unexpectedly. He had been up the Amazon River on an expedition for five years and had only just returned. His lawyer told him he had inherited one-fourth of the Bartlet estate, which was very sizeable.

The three cousins lived well on their shares, having given up their lives in the outside world. Food was delivered, as were books and music records, and the

banking was done by mail. They had actually grown to like each other in their mutually agreed confinement.

The nightly meeting began with the three agreeing to brief Dan on the problem, a rather neat way to introduce an infodump. Grandfather was a nasty man who threatened to disinherit his four grandchildren. Not surprisingly, he was helped into the next world the following day. Dan had left for his expedition that night, and the three cousins each had an iron-clad alibi for the day of the murder.

At the meeting, the three reviewed their stories for Dan in an hilarious take-off of all those amateur detective stories. You know the ones, where Miss Marple gathered the suspects in the drawing room and provided a detailed chronology of everyone's movements.

The three refused to let Dan leave and insisted he present his theory. Exasperated, he said all three of them did it. Improvising, he came up with a ridiculous script as to how they could have colluded.

In return, Lulu proposed that Dan did it, having snuck back in after he had supposedly departed. The meeting concluded with the decision to make Dan a prisoner as well. So moved and carried, with one dissension.

Poetic Justice.

THE STRANGE DR WEIRD was a 15-minute anthology radio series which aired during the 1944-45 season. It was a mixture of mystery, weird fiction, and fantasy, mostly written by Robert A. Arthur. Dr Weird was the narrator, done by the same announcer who did the closely related THE MYSTERIOUS TRAVELER.

“The House Where Death Lived” aired on 1944-11-07. As the title suggested this was a manor house mystery. Joshua Crawford was the target of two burglars posing as private detectives. They had been hired by Crawford for a job, who was unaware they were planning to do a job on him.

They lurked about until Frank the handyman left for the day, then moved in on the old man. As Bill Smith and Ben Murphy, they gained entrance and found the invalid in his bedroom. Crawford told them he had \$250,000 in jewels in the basement, which he was going to use as bait to catch seven murderers.

He told them that a decade ago seven men had breached his previous mansion and killed his daughter and son-in-law while trying to crack the safe. Crawford had since managed to trace them. He wanted Smith and Murphy to help execute them.

If they did the job, they could have the jewels. They agreed, but decided not to wait. They tortured Crawford to get the safe combination. It turned out to be a room hidden in the basement. They entered, found the jewels, and gloated, until they realized the vault door had closed on them.

Crawford spoke on an intercom and bwah-ha!-ha!-ed at them. He told them to look in an anteroom, where they found seven coffins. Five of them were occupied, and it became obvious that Smith and Murphy had been part of the gang. They joined their partners in death, eventually.

THE UNEXPECTED was a syndicated anthology radio series that aired in 1947 and 1948, and repeated in subsequent years by stations who bought the series at a later date. The 15-minute episodes are available as free mp3s from the Old Time Radio Researchers Website at www.otrrlibrary.org The stories were like THE WHISTLER, with a twist at the end.

“Museum” aired on 1947-10-01, written by Robert Lippert and Frank Burt. The narrator was a young man named Steven, who hated his life in the big house, cluttered with decrepit antiques and decaying artworks. The lady of the house was Miss Thompson, an elderly spinster who had raised him from a child and treated him like a servant.

Steven had no skills or place else to go. Her private secretary Clinton offered him an opportunity to go to college. Steven was so excited at the news that he accidentally knocked a Ming vase off its plinth and smashed it. Heated words were exchanged between Steven and Thompson. He could forget about college. She went north for the summer, while he had to stay behind to look after the mansion and its contents.

There was an accidental fire, not much and which Steven could easily have quenched with one bucket of water. He hesitated, bucket in hand, and wondered why he should try to save the house. No more antiques to look after. He knew Thompson didn’t have any insurance on the mansion or its contents. He put the bucket on the floor and ran away.

The mansion burned to the ground and Steven thought he was free. He telephoned to Miss Thompson’s summer cottage and got through to Clinton. She had died suddenly from a heart attack about the same time the mansion burned. The good news, said Clinton, was that she had left Steven the house and the antiques. He could sell them for a fortune.

BOTANICAL FICTION: PART 14

by Dale Speirs

[Parts 1 to 13 appeared in OPUNTIA #316, 317, 320, 323, 325, 334, 369, 380, 402, 412, 438, 459, and 476.]

Carnivorous Plants.

First, an item from the humorous side of man-eating plants. THE NEWLY DISCOVERED CASEBOOK OF SHERLOCK HOLMES was a radio comedy series that aired on BBC in early 1999 (available as free mp3s from www.otrrlibrary.org) The shows were well done spoofs of the canon performed before a live audience. All six episodes were written by Anthony Hare. Enjoyable and worth repeated listening.

Holmes was played in the style of a music hall comedian. Dr Watson narrated the episodes like a clichéd poofter but not a blithering idiot like Nigel Bruce. Mrs Hudson was a much put-upon housekeeper always grumbling about Holmes, whom she and Watson called a toffee-nose ponce.

“The Case Of The Deranged Botanist” aired on 1999-01-30. The story began with Holmes trying out a new disguise, camouflaging himself as an aspidistra houseplant. He was too successful, for Mrs Hudson watered his stalk.

The plot waited first on a routine about a town crier in Baker Street: “*Gladstone spotted with bag*”. With him was a pretty young woman who was the Proclamation 3 girl, a joke funnier if you lived in a city with a tabloid newspaper. The news item “*Carnage at Kew*” got their attention, followed quickly by a fake telegram that drew them to Kew Gardens.

Lestrade wasn't happy to see them. Holmes realized the telegram was a diversion to draw them away from 221B. Before heading back, they paused to consider the crime at hand. They were accosted by Chief Horticulturist Delphinium Bladderwort, much vexed by vandalism of the plants. As they spoke with her, a constable was grabbed by a man-eating plant, which Lestrade stopped with a well-placed bullet.

After a flurry of vegetable jokes, Holmes and Watson returned to Baker Street. A visitor had come and gone while they were away, undoubtedly the sender of the telegram. The stranger stole Holmes' violin but left a business card with a Limehouse address.

They ignored that and instead traveled to the village of Dribbling-On-The-End. It was in rural Somerset, which allowed plenty of ooh-arr dialect jokes. Dr Foo Man Hardcastle proved to be the culprit creating the man-eating trees. He was an unorthodox botanist breeding things that ought not to be bred. He wasn't there.

Crossing paths with Lestrade, they learned that the man-eating plants were a hybrid between a tree and a human. Back to London and into Limehouse for comic scenes in an opium den. Everyone spoke with atrocious Chinese accents.

The missing violin and the botanist Hardcastle appeared in a back room of the doss house. Many excursions, then a sudden ending and explanatory denouement, which explained too much. Holmes went back to impersonating aspidistras, which backfired on him when Lestrade snipped off a couple of cuttings for his garden.

In a more traditional vein was "Vine Terror" by Howard Wandrei (1934 September, WEIRD TALES, available as a free pdf from www.archive.org) The proprietors of South Experimental Laboratories were suspected of dealing with things man was not meant to know. The local inhabitants developed this suspicion when a boulevard tree moved itself back from the road.

Ambulatory trees were bad enough, but they developed a taste for eating any birds or squirrels foolish enough to land on the branches. Fast-moving vines would whip out and twine around the animal. Then the vines began growing toward the laboratory, breaking through the windows, and searching inside for food. You don't need a BSc in Horticulture to guess where the story headed.

From there, the vegetation developed a taste for dogs and men. The usual alarms proceeded. The crisis was solved with three drums of gasoline and a match.

"The Black Orchid" by Seabury Quinn (1935 August, WEIRD TALES) was narrated by a doctor telling of an elderly millionaire and his young niece who sickened while living in their mansion. The plot was predictable when the old man recovered his health while on a Caribbean cruise but sickened again upon returning home.

Since the story title gave away the culprit, it was just a matter of medical procedure to isolate the cause. The millionaire had served in Madagascar where he had incurred the wrath of a native priestess, who vowed revenge. The butler of the house was her agent, first drugging the bedtime coffee of both victims, then placing a parasitic orchid on them to suck out their blood. Yes, the butler did it.

"When The Flame Flowers Blossomed" by Leslie F. Stone (1935 November, WEIRD TALES) moved the carnivorous trees to Venus, a world of Carboniferous swamps as once we thought they were. The dominant forest vegetation were carnivorous trees which were mobile in their youth, then eventually settled in a good spot and became rooted. They were sentient and could communicate with each other.

The first human spaceship landed. The trees didn't know what to make of them except as food. The humans built a campfire, which fascinated the trees since they had no knowledge of fire and thought the flames were flowers. The vegetation got hungry for the new source of meat but found out the creatures could stop them with the very painful flame flowers. Balance of power was what the situation was. The humans couldn't go into the forest, and the forest couldn't get the humans.

A Tree Grows.

"Saint Julie And The Visgi" by Robert F. Young (1955 January, WORLDS OF IF, available as a free pdf from www.archive.org) was an unlikely piece about a young girl who planted a tree after alien invaders conquered Earth and cut down all the native trees. Their religion was against them. In unbelievable handwaving, she convinced the aliens to allow her newly planted tree despite the major strictures against it from their basic belief systems. Wish fulfillment.

“The Thirteenth Tree” by J.J. Beazley (2009 May, ARKHAM TALES, available as a free pdf from www.archive.org) was about a row of twelve trees planted in one of those wet damp English moors. The trees were evenly spaced when they were planted 800 years ago, excepting that halfway between them there was a blank gap.

The tradition was the trees represented the disciples and the gap was for Jesus. An incomer investigated and learned the true story. The trees were the bodies of accursed Knights Templar, who had been planted, in several senses of the word, for their crimes. The gap was filled by a young man from the present day who was out on the moors when he ought not to have been.

Landscape Maintenance.

I worked 31 years in parks maintenance before retiring in 2010, moving up from gardener to District Foreman to Trouble Calls Supervisor. As a young gardener back in the early 1980s, I worked for a district foreman whose nickname was Scotty. He had emigrated from Glasgow after the war and joined the Calgary Parks Dept in the early 1950s.

When Scotty retired in the late 1980s, I was promoted to District Foreman. He would come by about once a month to say hello to the crew and offer advice, none of which we needed. Eventually he stopped coming by. I retired, with the resolution never visit to the places I worked. It was a clean break.

Which brings me to “The Hedge” by Alfred I. Tooke. (1935 December, WEIRD TALES). Count Martel’s vast estate was surrounded by a hedge whose flowers brought visitors from afar in the spring to admire its beauty. He never paid much attention to his servants, leaving the details to his estate managers. One day he noticed a man trimming the hedge and stopped to talk to him.

The gardener was Manuel Torros III, who told the Count his sole job was to trim the hedge, taking six months to complete a circuit. His father and grandfather had also done the same job. The Count couldn’t understand how he could spend his entire life on a boring job trimming one hedge. Torros told him that to the contrary, he took great pride, knowing that it was a tourist attraction.

The Count began to dream of hedge clipping. The dreams bothered him so much that he ordered the hedge ripped out and replaced with a stone wall. Torros went mad and spent his remaining years walking along the wall with

cutters and trimming an imaginary hedge. The guilt drove the Count mad in turn and he had to be confined in a room. The walls were papered with a pattern of vines, which he spent all his time trying to clip with his fingers.

When I retired, I skimmed through my logbooks and estimated that I pruned about 1,000 trees per year, or 31,000 in my career. After I retired, I often felt agitated when out walking and saw a boulevard tree that needed a broken branch cleared. Several years went by before I could let go of the urge to keep pruning trees. I understand full well how Torros felt. Fortunately I haven’t gone mad, bwah-ha!-ha!.

“The Green That Walked” by John L. Considine (1909 February, BLACK CAT MAGAZINE, available as a free pdf from www.archive.org) began with a prison sentry reporting to the Captain of the Guard that his eyes were bothering him. As he looked out on the land, he saw a patch of grass moving across a field. The captain had a look for himself and saw it.

He instructed the sentry to fire a rifle shot at it. They then went out into the field and found an escaped convict under a blanket of live grass. The sod had been draped over his body to camouflage him as he crawled along the ground.

“Growing Just Beneath” by Steve Van Samson (2019, from the anthology MORE LORE FROM THE MYTHOS, edited by Lily Luchesi) was about the travails of weed control. A homeowner noticed one of his trees was afflicted by a strangler vine and began a determined campaign to eradicate it. It was unnaturally tough to pull out and had strange Lovecraftian properties. He thought he had succeeded, until he noticed changes in his body. The vine had penetrated within and he would end up as did the tree. All very eldritch.

Pest Control Problems.

“The Green Plague” by Stanton A. Coblentz (1934 April, ASTOUNDING, available as a free pdf from www.archive.org) had a straightforward plot. A scientist decided to create photosynthetic bacteria using subterranean species. Because he could.

There actually are photosynthetic bacteria, known as cyanophytes if you are a botanist or cyanobacteria if you are a bacteriologist. You may have seen them in stagnant waters. They are the dark blue-green slimes that grow in sheets or ribbons.

In any event, the scientist at hand, not mad, just naive, created a green bacterium. There was an accident in the laboratory, and the rest was the standard end-of-the-world plague. Victims turned green within an hour, which I found difficult to believe because no bacteria could act that fast. There was no happy ending. The narrator was the last human alive.

“Smothered Seas” by Ralph Milne Farley and Stanley G. Weinbaum (1936 January, ASTOUNDING) was an America versus the Asiatic hordes story that today would be shouted down by the wokers. An endless war between the two combatants had bogged down in a stalemate.

Both sides began using a force field device as an impregnable defense. Shortly thereafter, the oceans began turning solid with algae. Runaway green growth of algae, lichens, and just plain slime began carpeting the planet. The force fields were responsible.

The authors made one mistake that only a botanist or horticulturist would catch. They stated that the effect only applied to cryptogams, which are algae, fungi, lichens, and mosses. They mentioned Spanish moss running amok. That species is not a real moss, but a flowering plant *Tillandsia usneoides*.

Just thought I’d mention it, being a retired professional horticulturist. Carrying on with the plot, the ending wrapped up on an implausible note, as if the entire story wasn’t already that way.

From a more modern age was “The Day Of The Dog” by Andersen Horne (1958 June, WORLDS OF IF). This was at the dawn of the Space Age, when the Russians were leading the race. They had sent up a dog in a space capsule, which the author used as an alternative history divergence. Officially the dog died in space and the capsule burned up on reentry.

Bill and Carol Anderson were cruising the Caribbean in their boat when they chanced on an island just as they saw a satellite crash on the shore. It was the Muttnik, as Americans called it. The dog was not only dead but had been converted into a fungal growth that began blanketing the island.

The other divergence was that NASA had put a man into space in 1958. He died up there and his capsule was brought back under automatic control. The capsule was retrieved and opened, only to release more fungi. The world was doomed. The cause was cosmic rays, which converted animal tissue into fungi.

About the same Home’s story was published, Harlan Ellison had his story “Glug” (1958 August, IMAGINATION, available as a free pdf from www.archive.org) about an astronaut who brought back a cute critter from another planet. It only subsisted on a golden moss from that planet. The critters bred rapidly but were limited by the supply of golden moss. Then the moss began out-growing the critters and converted Earth into a golden ball, destroying the native life.

Flowers.

“Fruit Of The Moon-Weed” by J. Harvey Haggard (1935 November, ASTOUNDING) was a puzzle story set on a newly discovered planet where it was the flowering season for the local vegetation.

The astronauts had to contend with plants producing seeds as giant javelins which were fired into the air when mature, to land hundreds of metres away and thus disperse the species. Woe to anyone standing in the wrong spot when a javelin suddenly cut loose and scored a direct hit.

Another plant produced a hallucination drug that caused humans to see beautiful women instead of the giant flowers and then try to pollinate both of them.

“The Glowworm Flower” by Stanton A. Coblentz (1936 June, ASTOUNDING) began with the first trip to the Moon in 1976, when two scientists flew their rocket ship on a circumlunar voyage. After their return, and while they were being feted around the world, their spaceship sat on a landing pad.

From one of its supports, a flower germinated.

It was composed, as every one knows, of a curly mass of spidery, gray-green tendrils, which spun and twisted themselves into dainty whorls and patterns, no two alike, yet all as graceful as the curve of the lily.

There were no leaves; but near the end of the tendrils, as the plant approached its full height of two or three feet, a dazzlingly beautiful blossom appeared, a flower which, opening to the width of a large chrysanthemum, displayed a snowy-white heart, surrounded by innumerable rainbow-colored petals, which shimmered and shifted in complexion with every change of light, sometimes appearing pale-blue or lavender, sometimes delicately rose-colored, sometimes palely saffron-tinted, sometimes mauve or coral or faintly green or splashed

with opalescent, creamy lines, but more often than not a combination of all these hues, and of a thousand others defying description.

[Quite a long run-on sentence there. Coblenz was no Hemingway.]

Another peculiarity of the blossom was that, instead of being invisible at night, it glowed with a weird, almost ghostly phosphorescence, with a dim, silvery, moonlike radiance that made it visible from a considerable distance, and produced an effect at once pleasing and a little uncanny. And at times, from the white heart of the flower, little gleams and sparkles of light would appear, as though responsive to some intelligent will.

What made the plant even more wondrous to the senses was the strange, seductive odor it gave forth. There was something alluring beyond all words in its fragrance, which had a heady smell as of wine, and yet was sweeter, more pleasurable than wine, as though honey and ambrosia were blended in its composition.

Okay, it was a great-looking flower. Botanists discovered that the spaceship was covered with spores, from which the plant came. Life in space, drifting through the vacuum in panspermic manner. The glowworm plant became wildly popular, especially as it would grow in almost any climatic zone.

Then the trouble developed. The plants' perfume affected human minds like a narcotic and slowly killed them. Intellectuals in particular were dumbed down by the scent. The solution was not only to eradicate the flowers but to ban space flight lest more spores be brought back.

THE MANY LOST WORLDS: PART 3

by Dale Speirs

[Parts 1 to 2 appeared in OPUNTIA's #67.1B and 402.]

Until the 1930s there were still blank spots on the map where European or American explorers could find strange civilizations tucked away in some isolated valley or desolate climate. Alas, there are no hiding places anymore.

Antarctica.

This was one of the final hiding places of lost worlds, for even in the 1930s it was still being explored. The possibility of hidden cultures was not entirely unreasonable during that time because explorers had discovered warm valleys heated by volcanic activity. No jungles or Carboniferous swamps in them, just a few scraggly herbs, but then again they hadn't looked everywhere.

"The Forgotten World" by E. Bauer (1931 August, AMAZING STORIES, available as a free pdf at www.archive.org) posited a valley surrounded by icy mountains which was kept warm and fruitful by an adjacent volcano emitting a hitherto unknown element named noen. I had to fight with my spellchecker about that one, for it wasn't neon, it was noen.

Bud Layton, an explorer flying over the Antarctic mountains, ran into trouble and had to set down into a mist-covered valley. Underneath the layer of fog he found a warm verdant valley with an ancient civilization of winged bipeds. This developed into the usual utopia in the jungle story, but there was a twist. After he had learned the language and history, he was told by a native:

Mt. Noen is not only a mountain; it is an active, though not a grumbling, volcano, emitting now, as it has throughout these past eons of ages, a steady stream of gas over its thousand-foot cliffs. This gas contains what to you is a new element, noen, named after the mountain from which it comes.

It is this element, noen, in our atmosphere which imprisoned the two thousand people who entered here so long ago. It is the same element that caused you to experience what you have just gone through and what will hold you here.

I can appreciate that the idea of spending the rest of your life in a cliff-bound valley may not particularly appeal to you, for you have gone over such a wide expanse of the world and are used to going great lengths at your will; but regardless of your future desires you, having inhaled the air containing noen, are affected by it as are all animals or birds who enter our valley.

The first action of noen is to produce a coma. This is fortunate, for the pain following could otherwise hardly be borne. It attacks the lungs, virtually changes their construction to accommodate them to itself. This in turn creates a transformation in the blood and, to a small extent, in the color of the skin.

Noen, the element, comes or is poured into our valley at such a temperature that, despite our surrounding climatic conditions, it keeps our valley green and our atmosphere at a constant degree of temperature. However, its life-giving properties deteriorate as it cools, and in the course of three hours are entirely dissipated. Let me mention also, while we are on the subject, that noen cannot be stored or compressed for future use or we would have visited you in your lands long ago.

A mighty strange element. From there the plot devolved to the standard guided tour of utopia, a compulsory part of the trope. If you've read even one utopian story, then you've read this part. The civilization was declining rapidly but no explanation was offered by the author as to why. Indeed, the decline was so abrupt that one wonders if the editor cut out that section to make the text fit the pages.

The volcano Mount Noen then abruptly erupted and destroyed the valley, with Layton being the only one who could escape. He was found by explorers and lived long enough to gasp out the details before dying. Finis.

"Children Of The Great Magma" by Walter Kateley (1933 August-September, AMAZING STORIES) used as its premise the idea that Antarctica was a lush tropical continent in human times, which it was not. A meteorite punched a hole that resulted in hot springs and magma seeps. The area was avoided by humans as long as Antarctica was tropical. When it began to ice over, the tribes concentrated around it and eventually were trapped in the midst of a sea of ice.

The hero, and there was one, was part of an expedition to locate the Garden of Eden. They found it and met the humans living there, along with mammoths and woolly rhinoceros. Those critters never lived there but the author wasn't one to let plausibility or the facts get in the way of a story.

The tribe also had corn, which was just as impossible since it originated in Mexico and is a man-made species created after the Ice Ages were over. There is no such thing as wild corn. It was developed by ancient Mexican farmers from teosinte grass. I noticed this because I was a professional horticulturist all my career.

But I am over-analyzing what was pulp fiction dashed off to earn a living. The plot was any lost world story you ever read. The hero was finally rescued after his adventures and resolved to return some day.

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: Ray Palm
Plattsburgh, New York

2021-07-17

You're so prolific that I can't keep up. I wish I had your energy. Anyway a belated congrats for reaching the 500th issue milestone.

I see you're busy with your photography. You might have mentioned this and I missed it but have you switched from a DSLR to using a smartphone camera? Canon has to get its act together and put some of that smartphone tech into their DSLRs.

[I use my 2006 model Nikon DSLR with telephoto out in the mountains, but it is too big, heavy, and conspicuous to lug around the city. The photos of life in Cowtown are done with my smartphone camera, a Samsung Galaxy 7. Much easier to have it in my shirt pocket and pull it out for snapshots.]

Someone took a photo of me with his smartphone, no tripod needed, at night during a fireworks display. The photo came out okay, properly exposing me in the foreground while also showing enough detail in the pyrotechnics. Ironically the shot shows me standing next to my tripod, the only way I could take the shot with my DSLR and without the same exposure range.

[If I were starting over again as a young man, I wouldn't bother with a DSLR camera. Smartphone technology these days is astounding, particularly the improvements to their cameras.]

To get caught up I'm reading your last editions backwards starting with #504. Regarding your review of the movie PAUL. Good fun flick. But I don't agree that the mothership landing was traditional with what happened to Sigourney Weaver's character.

[For those who didn't see the movie, she showed up in the final scene when the mothership arrived. She was wearing a strapless ballroom gown while blasting away with a gun, having been rudely interrupted on her way to a White House formal event.]

In your review of a campy Batman TV episode you said that superheroes can only be played by mixing melodrama, comedy and slapstick together. The Marvel movies which ditched a lot of the silly comic book stuff like goofy costumes show that superheroic fiction can be dramatic with humor thrown in as needed. It's all about how the concept is handled.

[To me, the entire concept of superheroes is goofy. They certainly can't deal with terrorist attacks like 9/11 or save people from collapsing condominium towers, and the rest of time they would be just annoying. No society would tolerate superheroes if they really existed, nor depend on them to save the world.]

SEEN IN THE LITERATURE

de la Fuente Marcos, C., and R de la Fuente Marcos (2021) **Peculiar orbits and asymmetries in extreme trans-Neptunian space.** MONTHLY NOTICES OF THE ROYAL ASTRONOMICAL SOCIETY 506:doi.org/10.1093/mnras/stab1756

[AU = astronomical unit. 1 AU is the average distance between Earth and the Sun.]

Authors' abstract: *It is still an open question how the Solar system is structured beyond 100 AU from the Sun. Our understanding of this vast region remains very limited and only recently we have become aware of the existence there of a group of enigmatic bodies known as the extreme trans-Neptunian objects (ETNOs) that have large orbits with perihelia beyond the orbit of Neptune.*

Four ETNOs, Sedna, Leleakuhonua, 2012 VP₁₁₃, and 2013 SY₉₉, have perihelia beyond 50 AU. The study of the ETNOs may provide much needed information on how this remote region is organized. Here, we apply machine-learning techniques to the sample of 40 known ETNOs to identify statistically significant clusters that may signal the presence of true dynamical groupings and study the distribution of the mutual nodal distances of the known ETNOs that measure how close two orbits can get to each other.

Machine-learning techniques show that the known ETNOs may belong to four different populations. Results from the analysis of the distribution of nodal distances show that 41 per cent of the known ETNOs have at least one mutual nodal distance smaller than 1.45 AU (first percentile of the distribution), perhaps hinting at past interactions.

In this context, the peculiar pair of ETNOs made of 505478 (2013 UT₁₃) and 2016 SG₅₈ has a mutual ascending nodal distance of 1.35 at 339 AU from the Sun. In addition, the known ETNOs exhibit a highly statistically significant asymmetry between the distributions of object pairs with small ascending and descending nodal distances that might be indicative of a response to external perturbations.

Truonga, N., and J.I. Lunine (2021) **Volcanically extruded phosphides as an abiotic source of Venusian phosphine.** PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES USA 119:/doi.org/10.1073/pnas.2021689118 (available as a free pdf)

[You may recall there was a big kerfluffle last year about the possibility of life on Venus because phosphine had been detected in the clouds. Although it can be a signature of life, the chemical is also produced by volcanic action.]

Authors' abstract: *We hypothesize that trace amounts of phosphides formed in the mantle are a plausible abiotic source of the Venusian phosphine observed by Greaves et al. (doi.org/10.1038/s41550-020-1174-4)*

In this hypothesis, small amounts of phosphides (P3- bound in metals such as iron), sourced from a deep mantle, are brought to the surface by volcanism. They are then ejected into the atmosphere in the form of volcanic dust by explosive volcanic eruptions, which were invoked by others to explain the episodic changes of sulfur dioxide seen in the atmosphere. There they react with sulfuric acid in the aerosol layer to form phosphine.

We take issue with the conclusion of Bains et al. [arXiv:2009.06499 (2020)] that the volcanic rates for such a mechanism would have to be implausibly high. We consider a mantle with the redox state similar to the Earth, magma originating deep in the mantle, a likely scenario for the origin of plume volcanism on Venus, and episodically high but plausible rates of volcanism on a Venus bereft of plate tectonics.

We conclude that volcanism could supply an adequate amount of phosphide to produce phosphine. Our conclusion is supported by remote sensing observations of the Venusian atmosphere and surface that have been interpreted as indicative of currently active volcanism.

Cavalazzi, B., et al (2021) **Cellular remains in a ~3.42-billion-year-old subseafloor hydrothermal environment.** SCIENCE ADVANCES 7:doi.org/10.1126/sciadv.abf3963 (available as a free pdf)

Authors' abstract: *Subsurface habitats on Earth host an extensive extant biosphere and likely provided one of Earth's earliest microbial habitats. Although the site of life's emergence continues to be debated, evidence of early life provides insights into its early evolution and metabolic affinity.*

Here, we present the discovery of exceptionally well-preserved, ~3.42-billion-year-old putative filamentous microfossils that inhabited a paleo-subseafloor hydrothermal vein system of the Barberton greenstone belt in South Africa. The filaments colonized the walls of conduits created by low-temperature hydrothermal fluid.

Combined with their morphological and chemical characteristics as investigated over a range of scales, they can be considered the oldest methanogens and/or methanotrophs that thrived in an ultramafic volcanic substrate.

Elizabeth Baker Brite (2021) **The origins of the apple in Central Asia.** JOURNAL OF WORLD PREHISTORY 34:159-193

Author's abstract: *Due to its importance as a global commercial crop, the apple (Malus x domestica Borkh.) was the tenth plant genome to be successfully sequenced in 2010. The genomic record of the apple reveals a deep history of human-plant co-evolution by unconscious selection, domestication through hybridization, and a phylogeographic origin in Central Asia.*

The first two of these insights document a domesticate that has evolved from protracted and unconscious processes, but the third, the identification of the progenitor Malus sieversii. in Central Asia, and the necessary corollary that its hybridization arose along the 'Silk Road', invites further discussion about the

roles of human agency and intentionality in the initial stages of plant domestication.

Ren, G., et al (2021) **Large-scale whole-genome resequencing unravels the domestication history of Cannabis sativa.** SCIENCE ADVANCES 7:doi.org/10.1126/sciadv.abg2286 (available as a free pdf)

Authors' abstract: *Cannabis sativa has long been an important source of fiber extracted from hemp and both medicinal and recreational drugs based on cannabinoid compounds. Here, we investigated its poorly known domestication history using whole-genome resequencing of 110 accessions from worldwide origins.*

We show that C. sativa was first domesticated in early Neolithic times in East Asia and that all current hemp and drug cultivars diverged from an ancestral gene pool currently represented by feral plants and landraces in China. We identified candidate genes associated with traits differentiating hemp and drug cultivars, including branching pattern and cellulose/ lignin biosynthesis.

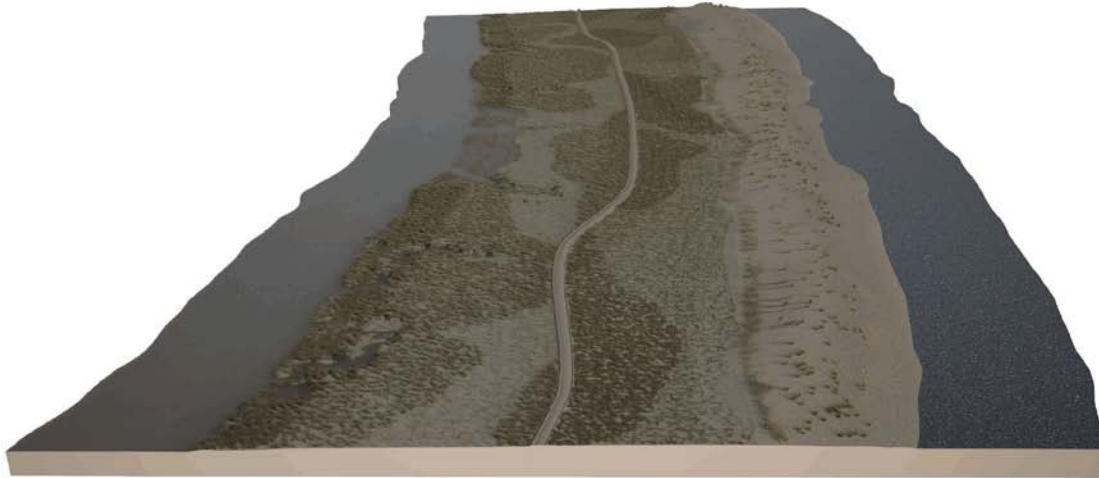
We also found evidence for loss of function of genes involved in the synthesis of the two major biochemically competing cannabinoids during selection for increased fiber production or psychoactive properties.

Madricardo, F., et al (2021) **New evidence of a Roman road in the Venice Lagoon (Italy) based on high resolution seafloor reconstruction.** SCIENTIFIC REPORTS 11:doi.org/10.1038/s41598-021-92939-w (available as a free pdf)

Authors' abstract: *This study provides new evidence of the presence of an ancient Roman road in correspondence to a paleobeach ridge now submerged in the Venice Lagoon (Italy). New high resolution underwater seafloor data shed new light on the significance of the Roman remains in the lagoon.*

The interpretation of the data through archive and geo-archaeological research allowed a three-dimensional architectural reconstruction of the Roman road. The presence of the ancient Roman road confirms the hypothesis of a stable system of Roman settlements in the Venice Lagoon.

a



The Romans built a very efficient road system extending for tens of thousands of kilometres to connect all their territories. Several portions of this ancient road network are still well preserved after more than two millennia in many archaeological sites in Europe, the Middle East and North Africa.

The transport system, however, was not limited to the routes on land, since the imperial control of the territory extended to transitional environments such as deltas, marshes, and lagoons and a capillary network of waterways was used for the exchanges of goods and the movement of people.

We know that in Roman Times, the relative mean sea level was lower than today and large parts of the lagoon, which are now submerged, were accessible by land. The fate of the Venice Lagoon, its origin and geological evolution have always been tightly linked to the relative mean sea level rise, that is now threatening the existence itself of the historical city and the lagoon island.

Venice was thought to be built in a 'desert' place without any previous traces of human presence and the Roman findings on and within the seafloor belonged to buildings in the mainland surrounding the lagoon.

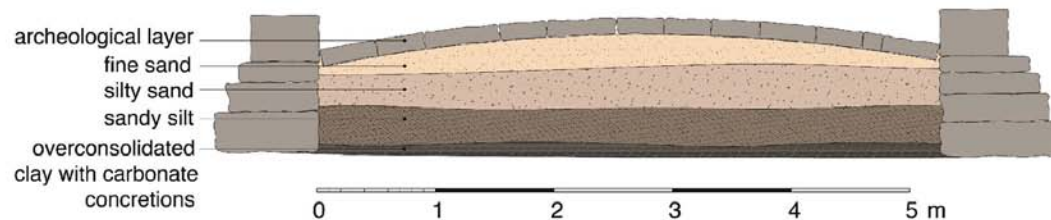
The lagoon is separated from the sea by narrow sandy beach ridges, aligned in a SW-NE direction interrupted by three tidal inlets. It has an average depth of less than 1 metre. Within the lagoon there are intertidal and submerged mudflats, salt marshes, channels, creeks, and islands.

[Images are from this paper and show the Venice lagoon before submersion.]

b



c



Evenden, M. (2021) **Stowaway beetles: Carl Lindroth, the ballast theory, and transatlantic science in the Cold War.** ENVIRONMENTAL HISTORY 26:doi.org/10.1093/envhis/emab022 (available as a free pdf)

Author’s abstract: *In his Faunal Connections between Europe and North America (1957), a landmark study of ecological introductions from Europe to North America that prefigured Alfred Crosby’s Columbian Exchange by three decades, Carl Lindroth sought to explain the distribution of fauna and particularly insects across the North Atlantic.*

It was the culmination of a multi-year investigation begun in 1949 that had seen the Swedish ecologist and entomologist collect insects in Newfoundland, compare his findings with other North American and European regions, and trace the origins of introduced insects to various sites in southwestern England.

Through this work, he identified the ballast of sailing ships as a primary vector of insect introduction to the Americas, argued for the importance of recurring introductions of breeding pairs in successful colonization, and demonstrated the importance of examining a broad range of species introductions, not just those that directly mattered to human history.

Conceived and executed in the context of the Cold War, Lindroth’s project benefited from governmental and institutional support that sought to promote transatlantic scientific cooperation and northern research. His path to researching and writing Faunal Connections reveals both the influence of geopolitics in shaping environmental ideas and the capacity for scientists to benefit from strategic funding opportunities while contributing little of strategic value.

Klump, B.C., et al (2021) **Innovation and geographic spread of a complex foraging culture in an urban parrot.** SCIENCE 373:doi.org/10.1126/science.abe7808

Authors’ abstract: *It is by now well accepted that humans are not the only animal to have complex culture, and we have also found that ecological novelty can lead to cultural innovation. We documented the emergence of an evolving set of behaviors in response to human-generated resources, specifically garbage bins, in sulphur-crested cockatoos.*

This finding both documents the existence and spread of complex foraging culture among parrots, a lineage known for high-level cognitive function, and illuminates how the spread of a cultural innovation can lead to regional distinct variations.

The emergence, spread, and establishment of innovations within cultures can promote adaptive responses to anthropogenic change. We describe a putative case of the development of a cultural adaptation to urban environments: opening of household waste bins by wild sulphur-crested cockatoos.

A spatial network analysis of community science reports revealed the geographic spread of bin opening from three suburbs to 44 in Sydney, Australia, by means of social learning. Analysis of 160 direct observations revealed individual styles and site-specific differences.

We describe a full pathway from the spread of innovation to emergence of geographic variation, evidencing foraging cultures in parrots and indicating the existence of cultural complexity in parrots. Bin opening is directly linked to human-provided opportunities, highlighting the potential for culture to facilitate behavioral responses to anthropogenic change.

Wilcox, K.A., et al (2021) **Salmon subsidies predict territory size and habitat selection of an avian insectivore.** PLOS ONE 16:doi.org/10.1371/journal.pone.0254314 (available as a free pdf)

Authors’ abstract: *The annual migration and spawning event of Pacific salmon (Oncorhynchus spp.) can lead to cross-boundary delivery of marine-derived nutrients from their carcasses into adjacent terrestrial ecosystems. The densities of some passerine species, including Pacific wrens (Troglodytes pacificus), have been shown to be positively correlated with salmon abundance along streams in Alaska and British Columbia, but mechanisms maintaining these densities remain poorly understood.*

Riparian areas near salmon streams could provide higher quality habitat for birds through greater food availability and more suitable vegetation structure for foraging and breeding, resulting in wrens maintaining smaller territories. We examined relationships between salmon biomass and Pacific wren territory size, competition, and habitat selection along 11 streams on the coast of British Columbia, Canada.

We show that male wren densities increase and territory sizes decrease as salmon-spawning biomass increases. Higher densities result in higher rates of competition as male wrens counter-sing more frequently to defend their territories along streams with more salmon.

Wrens were also more selective of the habitats they defended along streams with higher salmon biomass; they were 68% less likely to select low-quality habitat on streams with salmon compared with 46% less likely at streams without salmon. This suggests a potential trade-off between available high-quality habitat and the cost of competition that structures habitat selection.

Thus, the marine-nutrient subsidies provided by salmon carcasses to forests lead to higher densities of wrens while shifting the economics of territorial defence toward smaller territories being defended more vigorously in higher quality habitats.

Furness, A.I. (2021) **A cleaning interaction between sailfin mollies (*Poecilia latipinna*) and humans in Lake Vouliagmeni, Greece.** ENVIRONMENTAL BIOLOGY OF FISHES 104:881-886

Author's abstract: *Here, I report an unexpected interaction between the introduced fish species, *Poecilia (Mollienesia) latipinna* and humans in Lake Vouliagmeni, Greece. In this lake, I observed the normally skittish *P. latipinna* approach and graze on the exposed skin of bathing humans, presumably removing dead skin cells in what amounts to an exfoliating process.*

*The natural occurrence of this phenomenon in Lake Vouliagmeni is likely a product of multiple contingencies, including the introduction of *P. latipinna* sometime around the mid-twentieth century, and the fairly unique ecological circumstances.*

I suggest and discuss several conditions that must be met for such a cleaning interaction to develop, including an appropriate fish species being present, an environment in which fish are able to safely approach humans without being captured or otherwise harmed, and human tolerance, even enjoyment, of the behavior.

Shugar, D.H., et al (2021) **A massive rock and ice avalanche caused the 2021 disaster at Chamoli, Indian Himalaya.** SCIENCE 373:300-306 (available as a free pdf)

Authors' abstract: *On 7 February 2021, a catastrophic mass flow descended the Ronti Gad, Rishiganga, and Dhauliganga valleys in Chamoli, Uttarakhand, India, causing widespread devastation and severely damaging two hydropower projects. More than 200 people were killed or are missing.*

Our analysis of satellite imagery, seismic records, numerical model results, and eyewitness videos reveals that $\sim 27 \times 10^6$ cubic meters of rock and glacier ice collapsed from the steep north face of Ronti Peak.

The rock and ice avalanche rapidly transformed into an extraordinarily large and mobile debris flow that transported boulders greater than 20 meters in diameter and scoured the valley walls up to 220 meters above the valley floor.

The intersection of the hazard cascade with downvalley infrastructure resulted in a disaster, which highlights key questions about adequate monitoring and sustainable development in the Himalaya as well as other remote, high-mountain environments.

Speirs: Some fascinating satellite and security camera photos, as well as maps, about this disaster.

van Vliet, S., et al (2021) **A metabolomics comparison of plant-based meat and grass-fed meat indicates large nutritional differences despite comparable Nutrition Facts panels.** SCIENCE ADVANCES 7:doi.org/10.1038/s41598-021-93100-3 (available as a free pdf)

Authors' abstract: *A new generation of plant-based meat alternatives, formulated to mimic the taste and nutritional composition of red meat, have attracted considerable consumer interest, research attention, and media coverage. This has raised questions of whether plant-based meat alternatives represent proper nutritional replacements to animal meat.*

The goal of our study was to use untargeted metabolomics to provide an in-depth comparison of the metabolite profiles a popular plant-based meat alternative ($n = 18$) and grass-fed ground beef ($n = 18$) matched for serving

size (113 g) and fat content (14 g). Despite apparent similarities based on Nutrition Facts panels, our metabolomics analysis found that metabolite abundances between the plant-based meat alternative and grass-fed ground beef differed by 90% (171 out of 190 profiled metabolites; false discovery rate adjusted $p < 0.05$).

Several metabolites were found either exclusively (22 metabolites) or in greater quantities in beef (51 metabolites). Nutrients such as docosahexaenoic acid, niacinamide (vitamin B3), glucosamine, hydroxyproline and the anti-oxidants allantoin, anserine, cysteamine, spermine, and squalene were amongst those only found in beef.

Several other metabolites were found exclusively (31 metabolites) or in greater quantities (67 metabolites) in the plant-based meat alternative (all, $p < 0.05$). Ascorbate (vitamin C), phytosterols, and several phenolic anti-oxidants such as loganin, sulfurol, syringic acid, tyrosol, and vanillic acid were amongst those only found in the plant-based meat alternative.

Large differences in metabolites within various nutrient classes (e.g., amino acids, dipeptides, vitamins, phenols, tocopherols, and fatty acids) with physiological, anti-inflammatory, and/or immunomodulatory roles indicate that these products should not be viewed as truly nutritionally interchangeable, but could be viewed as complementary in terms of provided nutrients.

The new information we provide is important for making informed decisions by consumers and health professionals. It cannot be determined from our data if either source is healthier to consume.

Wiertz, D., and T. Rodon (2021) **Frozen or malleable? Political ideology in the face of job loss and unemployment.** SOCIO-ECONOMIC REVIEW 19:doi.org/10.1093/ser/mwz024

Authors' abstract: *To what degree do people adjust their political ideology in response to job loss? To answer this question, we draw on Dutch panel data over the period 2007 to 2016, paying special attention to the potential moderating role of various personal circumstances. We find that, on average, job loss triggers a leftward ideological response. Although small in size, this shock effect persists when people remain unemployed or find new employment, yet in the longer run it wears off.*

Furthermore, we find that job loss prompts a bigger shift to the left when people are simultaneously confronted with a major drop in household income, when they have fewer financial resources to serve as a buffer, and when they are more pessimistic about the economy. While we also observe many people who revise their ideology to the right during our study window, these rightward shifts do not seem driven by job loss experiences.

Alshaabi, T., et al (2021) **Storywrangler: A massive exploratorium for sociolinguistic, cultural, socioeconomic, and political timelines using Twitter.** SCIENCE ADVANCES 7:doi.org/10.1126/sciadv.abe6534 (available as a free pdf)

Authors' abstract: *In real time, Twitter strongly imprints world events, popular culture, and the day-to-day, recording an ever-growing compendium of language change. Vitality, and absent from many standard corpora such as books and news archives, Twitter also encodes popularity and spreading through retweets.*

Here, we describe Storywrangler, an ongoing curation of over 100 billion tweets containing 1 trillion 1-grams from 2008 to 2021. For each day, we break tweets into 1-, 2-, and 3-grams across 100+ languages, generating frequencies for words, hashtags, handles, numerals, symbols, and emojis.

We make the dataset available through an interactive time series viewer and as downloadable time series and daily distributions. Although Storywrangler leverages Twitter data, our method of tracking dynamic changes in n-grams can be extended to any temporally evolving corpus.

Illustrating the instrument's potential, we present example use cases including social amplification, the sociotechnical dynamics of famous individuals, box office success, and social unrest.

Speirs: Many fascinating diagrams of recent political and news events. Worth downloading if you are interested in how social media works.