OPUNTIA 466

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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.

MANHOLE COVERS: PART 3

photos by Dale Speirs

[Parts 1 to 2 appeared in OPUNTIAs #308 and 360.]

There's always something to see around your home town if you but look. Few people notice manhole covers, yet there are usually quite a diversity of them in any large city. By provincial law in Alberta, all manhole and underground vault covers must have the name of the utility on them so that first-responders know who to contact in an emergency.

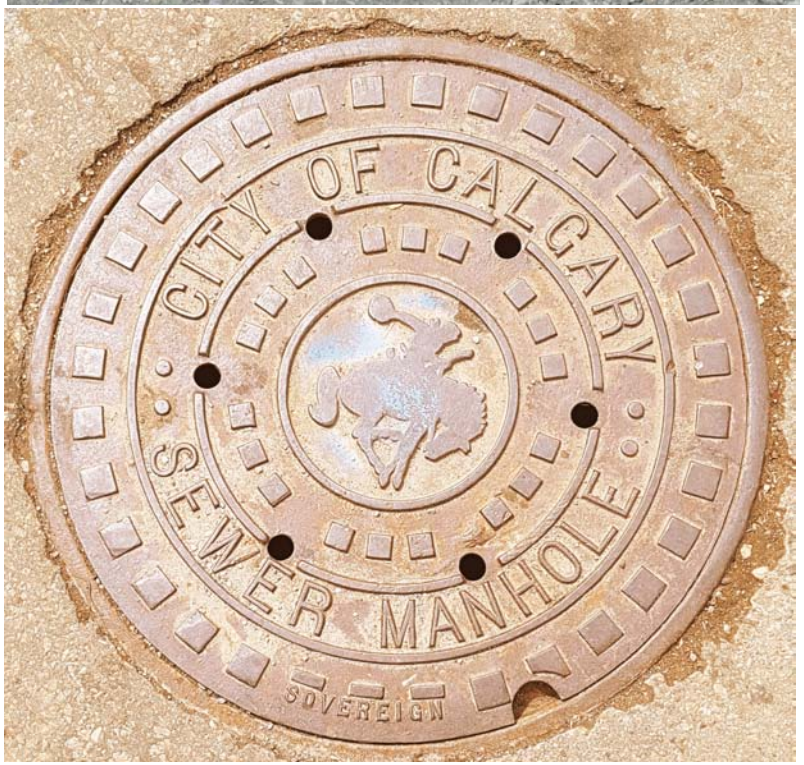
The City of Calgary tries to pep up public art anywhere it can, and a couple of years ago began ordering customized manhole covers. It costs nothing extra to cast an artistic design rather than a corporate logo. The front page of this issue shows a new-style manhole cover of the Calgary Wastewater Dept. seen in the Eau Claire district of the downtown core. The City has begun deploying them in the past few years as the old ones wear out.

No, the city doesn't paint them. Rather, the manhole covers are popular with print makers, although it seems to me that it would be easier to take a photo with a smartphone camera, as I did. This particular one was on a sidewalk out of the way. It's not as if print makers were kneeling down in the middle of a lane.

Upper right: This is another new-style cover, sans paint, for storm water.
Bottom right: This was seen at an LRT station in the winter. It isn't painted either. The white is just packed snow. I took the photo during a snowstorm after a power broom operator had run over it.

These three were photographed at the Stampede rodeo grounds. The cowboy on bucking bronco is the official logo of the Calgary Stampede. The C lazy S brand is the rodeo's livestock brand, which it uses on its own horses.

Below: Generic
Upper right: Telecommunications
Bottom right: Sewer



Top: Enmax is the City-owned electrical utility.
Bottom: Shaw is one of Canada's big four telecoms. The others are Telus, Rogers, and Bell. Notice the similarity in patterns, evidently ordered out of the manufacturer's stock catalogue.

Top: Seen in the Inglewood district along the Bow River. CDS is a contractor working for Calgary Stormwater Dept. (The black line is a shadow.)
Bottom: Taken in winter with blowing snow. I'm not sure a leaky faucet is the best logo for Calgary Waterworks.

LITTLE FREE LIBRARIES: PART 3
photos by Dale Speirs

[Parts 1 and 2 appeared in OPUNTIA #378 and 427.]

The concept of the Little Free Library was invented in 2009 by Todd Bol of Hudson, Wisconsin, and has now spread around the world. They are free book exchanges whose rise, I am convinced, is not entirely unconnected with the rapid decline of secondhand bookstores.

I've been using LFLs to dispose of my library, once three rooms full, because no one in my family is interested in physical books. The younger generation reads them only on laptops and handheld devices.

Fiction.

A MOST CURIOUS MURDER (2015) by Elizabeth Kane Buzzelli was the first novel I've seen about Little Free Libraries. The protagonist of this cozy novel was Jenny Weston, who moved back home to Bear Falls, Michigan, after a nasty divorce.

Her mother had a LFL in front of her house which a vandal destroyed. The main suspect was Adam Cane, a cranky ne'er-do-well about town. In keeping with the traditions of the mystery genre, he was the first murder victim. His body was found in the garden of Zoe Zola, next-door neighbour to Weston's mother.

The death toll rose, as did the quantity of back stories. Weston was as bad as many of the villagers when it came to melodrama. Lots of angst was shoveled out like manure from a corral.

It all came down to a sizeable inheritance of the Cane family that went astray. The murderer wanted the money, wherever it was hidden, but didn't quite succeed. The rightful heir decided to spend it on lots of LFLs for the state of Michigan.

Calgary Little Free Libraries.

I've accumulated some more photos of Calgary LFLs as I went about town. God bless the man who invented the smartphone camera.

Top:
Altadore is a well-to-do neighbourhood where even the LFLs have carports. This one was at 14A Street SW.

Bottom:
Capitol Hill Community Association, in a park adjacent to a playground.

Below: East Village on 8 Avenue SE, between the downtown core and Fort Calgary. The neighbourhood is condominium highrises where everyone is either retired or under 30.

Top:
11 Street NW in the Hillhurst district of central Calgary.

Bottom:
West Hillhurst Community Association.

Both of these are in the Ramsay neighbourhood, east of the Stampede rodeo grounds on the far side of Elbow River. The one below is bragging because to save water intake from the rivers the garden was mulched and non-irrigated, as if no one else was doing it.

FANAC FAN HISTORY PROJECT: UPDATE 11, 2020-01-22

by Joe Siclari
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The FANAC Fanhistory Project is a project of The Florida Association for Nucleation and Conventions (FANAC) Inc., a non-profit 501(c)(3) educational organization recognized by the IRS.

As of today, January 22, we have 9,827 issues, totaling 134,773 pages (up from about 8,959 issues and 117,000 pages in October). The newszine count is 3,149 (up from 3,130 in October). Thanks to David Ritter for the issues of Dick Wilson's SCIENCE FICTION NEWSLETTER from the late 1930s.

Also since the last report, we've completed the runs of Rob Jackson's MAYA, Terry Carr's INNUENDO, Jerry Kaufman and Suzle Tompkin's MAINSTREAM, Richard Labonte's LOWDOWN, Bob Studley's TIME SCANNER, Joseph Gilbert's SOUND OFF!, and Lee Eastman's LAST TESTAMENT. If we're close to a complete run of an important fanzine, we will importune you all for scans or copies to scan.

There's a new wealth of material related to British clubzines on the site. We have added 96 issues of VECTOR, the Critical Journal of the British Science Fiction Association and 288 issues of the Birmingham Science Fiction Group Newsletter. These are terrific additions, and we thank BSFA and BSFG for both their permission and the scans.

You might also be interested in newly uploaded issues of Ken Cheslin and Dave Hale's LES SPINGE (1960s), Jim Blish and Walter M. Miller's PLANETEER (1930s), Malcolm Willits' DESTINY (1950s), Bob Silverberg's SPACESHIP (1950s), Geis's SF REVIEW (1970s), and Dick and Pat Lupoff's XERO (1960s).

There are many more, as well as interesting bits of fannish history like the script for the musical version of THE ENCHANTED DUPLICATOR (Erwin Strauss, after Walt Willis and Bob Shaw), the Fan Tarot Deck (Bruce Pelz) and an explanation of fandom in 10 pages, the NEO-FANS GUIDE (Bob Tucker, 1955). To stroll through our update history, go to http://www.fanac.org/history.html

Comments by Dale Speirs.

Until the advent of the World Wide Web and in particular the Fanac project to archive free pdfs of fanzines, it was pretty much impossible for anyone to research the history of science fiction fandom in depth. A few libraries and universities had collections, generally still in the boxes they came in with no finding aids. Some big-name fans who were around in the early days had all the zines, ephemera, and I-was-there memories. Anyone out in the boondocks basically could not do any meaningful research.

Now, thanks to the people at www.fanac.org, there are thousand of zines from 1930 to yesterday available as free pdfs. A tip of the cowboy hat also to Bill Burns ,who operates www.efanzines.com, which compiles mostly modern zines. Those writing fandom history will have a much easier time of research. There are more steps to be taken, but I am certain they will come in the future as the databases mature.

It was said that all knowledge is found in fanzines, to which I always replied "Just try and find it". No doubt there are all kinds of useful data buried in those zines beyond the ken of researchers. The next step that serious fandom should work towards is a global subject index of fanzines.

In the past, assorted checklists and primitive bibliographies have been published. Many called themselves indexes, but they were not. They were lists of titles and tables of contents, sometimes with a bit of bibliographic detail. An index compiles the subject matter so that a researcher who, taking an example, wants to know how often UFOs were mentioned in zines, could find out by looking under headings such as UFO, extraterrestrial life, or aliens.

When I began my zine OPUNTIA three decades ago in 1991 March, I had several ideas as to how it would operate. One of them was a cumulative subject index from issue #1 to date. Originally it was on 3x5 index cards but is now on a WordPerfect document. After publishing each issue, I spend about a half-hour adding it in to the cumulative index. Every so often I convert it into a pdf and send it off to Fanac and Efanzines.

What serious fandom needs is a cumulative subject index encompassing all fanzines. In such an index, a researcher looking for fandom's views of UFOs could enter the term as a keyword search and bring up references from dozens or hundreds of zines.

LET MARS DIVIDE ETERNITY IN TWAIN: PART 14
by Dale Speirs

[Parts 1 to 13 appeared in OPUNTIAs #310, 321, 328, 332, 337, 354, 357, 369, 372, 384, 401, 429, and 437. Reviews of the WAR OF THE WORLDS movies appeared in #289.]

War In Heaven And Mars.

"Death From The Skies" by A. Hyatt Verrill (1929 October, AMAZING STORIES, available as a free pdf from www.archive.org) began with swarms of meteorites peppering Earth. There was something nasty in them as humans near the impacts died en masse from some sort of chemical or pathogen.

The story followed the traditional format of disaster stories, and would make a good movie even a century later. First the reports of puzzling events and disbelief by authorities.

Then the dawning realization, followed by mass panic. Half the populace fled south and the other half ran northward. The trick was to follow the hero, who seemed likely to make it to the end of the story.

Cities were wiped out. The mysterious deaths surrounding the craters seemed confined to the areas of each meteorite impact, so it wasn't biological. The man of the hour was Paul Henderson, who proved the deaths were caused by radiation.

Stop for a moment and remember that this story was published in 1929. Atomic physics was still being born, and quantum mechanics would not flower for several more years. Atomic radiation was cutting-edge physics, and no one could say for certain what the interior of an atom looked like. It made for a fertile field of speculation among science fiction writers.

Henderson's discovery pointed the way to medical treatment and reducing the casualty count. What he and others wondered about, and continued to investigate, was the fact that these meteorites were turning large cities into large craters at a high rate.

It could not be natural causes, since by random chance the meteorites would rarely hit a city but mostly be scattered across the planet into oceans or empty lands such as prairies, deserts, tundra, or mountains.

A succession of meteorites in a row would not hit the centres of cities like a rifle marksman. Back in those days, thanks to H.G. Wells, the standard villain in the Solar System was Mars. Sure enough, backtracking the trajectories of the meteorites converged them onto the red planet.

Henderson then invented a reverse-the-polarity machine that fired incoming meteors back to their points of origins. Astronomers watching Mars saw craters bloom, and not long afterwards the incoming flow dried up.

The Martians hadn't been expecting that, and their civilization was sent back into the stone age. Surprisingly, Henderson didn't quite make it to the final paragraph, but did survive long enough to win the war of the bolides.

Humans have never had a space war, but probably it will come a few centuries from now, assuming we do colonize space. The cheapest and most effective method of fighting in space will not be lasers or particle beams, it will be throwing rocks at each other. The conversion of velocity into energy will be the easiest method of combat.

"Missionaries From The Sky" by Stanton A. Coblentz (1930 November, AMAZING STORIES) was a different type of Martian invasion. They sent missionaries to show Earthlings the true way of life. Very dastardly, made worse by humans being unable to come up with a rebuttal because of their own history.

The Martians promised to sweep away all Earth laws and procedures and replace them with the more enlightened Martian utopia. H.G. Wells never horrified his readers as much as this idea. As Coblentz has correctly stated, when someone says they want a Utopia, they mean theirs, not yours.

"The Human Pets Of Mars" by Leslie F. Stone (1936 October, AMAZING STORIES) pretty much sums up the plot in the title. The Martians landed on Earth, went strolling about, and like any tourists, picked up a few souvenirs. Humans that is, taken back to Mars as pets.

The humans had their trials and tribulations, especially when the Martians used the same training techniques on them as we use on dogs. Some managed to escape in a Martian spaceship and make their way back to Earth. Happy endings.

Not so happy was "Annus Mirabilis" by Edward Carlisle (1938 April, AMAZING STORIES), which was set in the year 1975. The world was at war again, not a surprising subject since in 1938 most people could only watch helplessly as the Nazis began to move. It was a war fought with superscience machines and death rays, and a death toll just as bad as World War Two.

The Martians were watching and took advantage. They moved their satellites Phobos and Deimos into Earth orbit as fortresses. They laid waste to nations that hadn't already laid each other to waste, then proposed peace in their time. All they wanted was North America. The humans on them were to be evacuated and the continent to be made lebensraum for the Martians.

Unlike Chamberlain, the response was different. The Martians swept a ray across North America that scrambled human brains and turned people into raving lunatics fighting each other. The advance troops landed and the Martians began seizing women, who apparently were more edible than men.

The battle raged on with increasingly marvelous types of ray guns and machines. When that seemed dull, a runaway star came roaring through the Solar System, destroying Mars and the outer planets, then dragging Earth away from the Sun and adding it to its system.

That pretty much put the kibosh on the wars. As Earth orbited its new sun, civilization slowly rebuilt itself into a utopia. The star roared out into the universe and Earthlings could only guess at the outcome. This was one way to end a story after writing oneself into a corner.

There was an unintended epilogue. In the 1938 June issue letters department, Richard W. Rightmire of Buffalo, New York wrote:
Sirs:
I got my first copy of AMAZING STORIES way back in 1926. Since then I haven't missed an issue. Such things as size, binding, format, etc. I leave to others. The content is all that matters to me. So far in spite of a few relapses, it has been generally favorable.

There was a flaw, however, in the April number. Edward Carlisle's "Annus Mirabilis" reads: "On Friday February 12, Jack was visiting—"

According to my calculations there will be no Friday, February 12 in either 1974 or 1975. February 12 falls on Tuesday in 1974 and on Wednesday in 1975. The story would have to be moved up to 1971 to hit a Friday, February 12th.

For the information of .Author Carlisle, I will gladly furnish him with the day for any conceivable date under either the Julian or Gregorian system.

Mr Rightmire certainly deserved a prize for Nitpick of the Year.

<u>The</u> Invasion.

THE COMPLETE WAR OF THE WORLDS (2001) by Brian Holmsten and Alex Lubertozzi was a coffee-table book subtitled "Mars' Invasion Of Earth From H.G. Wells To Orson Welles". It included a CD disk of Welles' infamous 1938 radio broadcast. (The broadcast has since become available as a free mp3 from www.archive.org)

Despite the subtitle, the book began with Welles, not Wells, and emphasized what became the single most famous radio broadcast ever aired, often referred to as The Panic Broadcast. The 1-hour broadcast on October 30, 1938, was an episode of MERCURY THEATER ON THE AIR and made Welles' reputation as an international star.

To set the stage, if I may use that phrase, it is helpful to know what the world was like in 1938. Europe was drifting into a major war, and everyone knew it. Hitler was occupying countries without a shot being fired, and the past decade of the Great Depression had worn down the peoples of the world. News flashes of the latest political crises commonly interrupted radio shows.

The WOTW episode was designed by Welles to resemble an ordinary radio show in its beginning. It began as an orchestral music show, interrupted by increasingly urgent news flashes and, at the 40-minute mark, segueing into straightforward drama.

The show, broadcast from New York City, was announced as a dramatization of Wells' novel to the audience that tuned in at the start. Competing against the hit comedy series of Edgar Bergen, it had few listeners. Then Bergen brought on Nelson Eddy for a song. Eddy was long past his prime, and the song was an old chestnut, so listeners went channel hopping just as they do today with television.

By an incredible act of synchrony, just as millions of listeners stumbled across the Mercury show, they heard news flashes announcing an invasion. Having missed the opening announcement that this was a drama, they took the bulletins at face value. Many panicked.

The novel had set the Martian invasion in England, but the radio show moved it to nearby Grovers Mill, New Jersey. That provided a strong verisimilitude that made it plausible. The description of the Martian tripods was neither, but the listening public were not noted for their intellectual capacity.

The epitome of the panic was symbolized by citizens of Grovers Mill firing guns at a tripod looming over their village. It was actually their water tower, something they saw every day from the street.

The book examined the aftermath in detail. Welles was briefly vilified before the public realized they were even more to blame. The residents of Grovers Mill tried to bury the story once they realized how foolish they had looked. Decades later, after the original folk were dead and gone, the village began to accept that they would be a tourist attraction every Halloween.

A deadlier panic took place on February 12, 1949, in Ecuador. A group of radio actors staged the show at Radio Quito in the capital city, this time locating the invasion in a nearby village. They were far too successful. As they saw mobs head out into the countryside, they issued a disclaimer over the air that it was all a joke.

The panicked citizens had no sense of humour. They turned about and attacked the radio station, setting the building on fire and killing 20 people inside. It took police and army forces another day to calm the city. The producer fled the country, and the surviving actors and director blamed him at the court trial to save their own skins.

This book reprinted both the original novel and the radio script, an excellent idea when combined with the CD. There was also a discussion on the context of the novel. When it was published in 1898, the British were beginning to question how their empire operated. They were starting to feel guilty about how they treated the subjugated natives in the colonies.

The novel broached the idea that perhaps some day Britain would have done to it what it did to others. The genius of Welles was that he approached it from a different angle, how panic could build because listeners believed what they heard on radio. The Internet plays the same role today, often with similar results.

Other Invasions.

"The Radium Doom" by Milton R. Peril (1937 December, AMAZING STORIES) is a story that would be fun to publish today as a new story, just to put the chattering class into a frenzy and unleash the toxic tweeters. It was an account about how, in the late Pleistocene, Mars began drying out.

The dominant species were the eel men, who needed water and lots of it. The subordinate species were the yellow men, humanoids who tolerated dry conditions. As Mars became desert, the eels used their superior technology to enslave the yellow men and suck their blood for moisture.

Earth was seen to be a blue planet, so the eel men headed out, taking with them some of the yellow men. The initial invasion during the Ice Ages was not too successful as the eel men couldn't handle the microbes while the yellow men survived and became the Chinese race.

It took several millennia but the eel men came back, now circa 1937. They had solved the microbe problem but what the bloodsuckers didn't expect was that humans had developed artillery and anti-aircraft fire to stymie the invasion. Nor could the creatures withstand rifles and shotguns once they disembarked.

Friends Across The Skies.

"The First Martian" by Eando Binder (1932 October, AMAZING STORIES) was not an invasion plot. The Martians and Earthlings discovered each other at the same time, send spaceships to each other's planet, and in general came in peace. Not a particularly exciting story but it was an early change from the usual invasions and space battles.

"Roadways Of Mars" by Harl Vincent (pseudonym of Harold Vincent Schoepflin) (1932 December, AMAZING STORIES) was about an Earth engineer hired to build roads for the Martian civilization. The vast majority of alien stories, then and now, presume the aliens have a monolithic society, which presumption usually goes past the reader unnoticed.

This story was more realistic about alien sociology, as the urban Martians who hired Bob Coleman to design the roads neglected to tell him that the Martians out on the drylands weren't necessary in agreement with the idea. Think of your city council putting a 6-lane freeway through your residential neighbourhood without mentioning it to the homeowners.

Shots were fired, bandits roamed about, and the police were busy mopping up. Okay, a typical Chicago neighbourhood. Eventually the riff-raff were put in their place because you can't fight City Hall. The roads must roll, and the urban Martians got the construction begun.

Colonizing New Mars.

RETROGRADE (2016) by Peter Cawdron was a novel set on a Mars where an international colony was struggling to establish itself. It comprised American, Chinese, Russians, plus a few other nationalities, including a token Canadian. Everyone seemed to be getting along.

A nuclear war erupted on Earth, an exchange of atomic bombs between China and the USA, apparently triggered by the North Korean crisis. In the immediate aftermath, the Martian colony was left to fend for itself without resupply. They had to cooperate or die, and suppress their nationalistic feelings.

Much later it transpired that the war had been started by an artificial intelligence spawned on the Internet. All the nations united to beat it down. To me, this detracted from the larger theme of the story, how colonies survive and then become independent.

Not quite a zero-reset or deus ex machina story, the ending would have been better with the colony forced to get along regardless of what happened back home.

"Welcome To Your Machines" by David Ebenbach (2019 May/June, ANALOG) was entirely an infodump but an entertaining read nonetheless. It was cast in the form of a guide book for settlers newly arrived on Mars. The lethal environment demanded attention to maintenance and repair beyond anything experienced on Earth. A practical guide for you to take along on your trip to Mars.

"Martian Fever" by Julie Novakova (2019 Nov/Dec, ANALOG) took place in the early days of Martian colonization. All seemed to be going well until a member of the group fell ill. Not an Earth disease as it transpired, but a new form based on Martian microbes.

This was a standard spotweld-that-busbar story except that here it was to quickly run up a synthetic strand of protein. The story culminated with the discovery of Martian microbes living deep underground off hydrothermal vents and causing the disease. Easy to fix the problem. Just code a new protein that bound selenium and disrupted the microbes. John W. Campbell Jr would have bought the story on sight.

COZY MYSTERIES: PART 11

by Dale Speirs

[Parts 1 to 10 appeared in OPUNTIAs #361, 379, 395, 398, 400, 420, 423, 443, 445, and 449.]

For The Birds.

Donna Andrews wrote a long cozy series about Meg Langslow of Caerphilly, Virginia, sometimes a blacksmith but often far away from her forge. She had an extended family of cousins, aunts, and uncles, scattered about the village and the countryside. Her father and grandfather were animal lovers who constantly campaigned for four-legged critters and feathered friends.

MURDER WITH PEACOCKS (1999) was the first novel in the series. Meg Langslow was a busy woman and popular too, for she had agreed to be maid of honour at three weddings, one of which was her divorced mother remarrying.

One of the brides, her impending sister-in-law Samantha, wanted peacocks for the wedding ceremony. For their colour, she thought, not realizing how loud and noisy they are. (The Calgary Zoo has free-roaming peacocks on its grounds. When the wind is right, they can be heard on the opposite side of the downtown core.)

Nasty village biddy Jane Grover set the plot in motion when her body was found with her head bashed in by a blunt instrument. Langslow's father did most of the Marpleing. The alarums and death toll steadily increased. Sabotage, bombs, poisoned food, and none of it helped by the constant screeching of peacocks.

There were two sets of villains. Samantha was one, for past frauds and possible murders. The other was Langslow's future stepfather, who was exposed at the wedding as the murderer. He had been looting an estate and Grover found him out. That blew up two weddings before anyone could say "I do".

There was an occasional bit about blacksmithing. Langslow had strong arms from her hobby and successfully took down one of the villains. The only sad part of the denouement was that the peacocks were here to stay.

MURDER WITH PUFFINS (2000) was the sequel. Meg Langslow and her boyfriend Michael were visiting relatives on Monhegan Island, Maine. I've often wondered what it is about the coast of Maine that attracts so many Miss Marples to the villages and resorts that will be decimated (in the truest sense of the word, not as the incorrect synonym for annihilation).

Be that as it may, Langslow was headed for Aunt Phoebe's summer cottage to escape the notoriety incurred in the previous novel. Much to her surprise, she found her parents there ahead of her. They were now reconciled. To no one's surprise, Langslow found the body of Victor Resnick, a nasty grouch with few mourners.

The puffin season was underway and bird watchers abounded, annoying landowners to no end, including Resnick. A storm had isolated the island, so Langslow didn't have any equally annoying police officers getting in her way. Resnick had a lot of neat stuff on his computer, as Langslow learned while burgling his house. He also had a secret about his profession as an artist, that is to say, he had been faking his talent.

The murderer had his own problems, which he resolved to end by burning Langslow alive in the Resnick house. Hint: don't splash gasoline about while the intended victim was within reach of a flare gun. So it was that Langslow bid adieu to the island and the puffins, the back seat of her car filled with stuffed puffins. The population of coastal Maine continued to decline but alas, the state police would do nothing about all those Miss Marples.

REVENGE OF THE WROUGHT-IRON FLAMINGOS (2001) had Meg Langslow blacksmithing frantically in order to stock her booth at the Battle of Yorktown Re-enactment festival. Bayonets, buckles, and pot hooks, all done in period style.

The organizers were strict about modernity, disallowing anyone not in costume. They had Anachronism Police inspecting the dealer bourse. Langslow had a guilty conscience, for underneath the counter she had a stash of lawn flamingos, not a decorating item of the Revolutionary War. When a man was murdered with one of those wrought-iron birds, she was in trouble.

The defunct was Roger Benson, a sharp-practice man of ill repute who wasn't mourned. Motive was not a question. Langslow's boyfriend Michael might have seen something, a fact which she and the killer realized at the same time. Since Michael was a soldier in the re-enacted battle, the obvious and easy way to silence him was for the killer to dress up and go out on the field with live ammunition. Langslow got there in the nick of time.

After a brief pause for the anachronistic Deppit Dawgs to haul away the murderer, the re-enactment resumed, with Michael in its midst. The British lost.

OWLS WELL THAT ENDS WELL (2005) began with Meg Langslow and boyfriend Michael buying a farmstead from the estate of an elderly spinster who was a hoarder. Not only her house, but the barn and numerous sheds were crammed with junk. The heirs didn't want the cleanup job so they sold the farm as is. Langslow decided the only thing to do was have a gigantic yard sale, assisted by her extended family.

A family of owls was discovered in the barn, which got her father excited as he was the president of SPOOR (Stop Poisoning Our Owls And Raptors). More excitement followed when a trunk in the barn was opened to reveal the body of a local antiques dealer Gordon McCoy.

The yard sale hardly missed a step. As the yellow tape went up and Langslow dealt with the police, Michael was busy issuing receipts at the checkout. SPOOR entertained the crowd with their barbershop quartet.

McCoy had been a sharp-practice man who kept a lawyer on retainer to defend against frequent lawsuits. In his final moments at the yard sale, McCoy aggravated several people, one of them to murder. Many alarums and several

falsely accused later, the real killer was captured. He had been upset that McCoy had snagged a rare book at the yard sale that he wanted. For things like that, victims die.

NO NEST FOR THE WICKET (2006) opened with Langslow playing Extreme Croquet in a cow pasture. The field was replete with dairy cows who felt it was their land, and weren't about to yield to crazy bipeds knocking balls around the pasture. Another hazard was Morris dancers, a popular sport in the village for some reason.

With a hey-nonny-nonny, the plot began when Langslow lost a ball down a gully. While retrieving it, Langslow found a fresh corpse, that of Lindsay Tyler. Thus ended Chapter 1.

The deceased was a manipulative woman, had just been fired from the local college after being denied tenure, and was feuding with local high society. Of greatest concern to Langslow, Tyler once had an affair with Langslow's fiancé Michael.

Off to the Marpleing. The extended Langslow family was a rich source of gossip mongering, her version of research. There were feuds in the village which stretched back to the Civil War. A leading family had fallen for a hoax about non-existent ancestors. The dairy farmer was going to sell out to a developer. Tyler had been about to expose the sins of others, but one of those others struck back first.

The final confrontation took place in the cow pasture during another extreme croquet game. Much tying off of loose threads followed. Langslow's father bought the farm, as in real estate purchase, not death, and announced his intention to preserve it. The bad news was that Michael had taken up Morris dancing and wanted to do some at the wedding.

THE REAL MACAW (2011) began sometime later after Meg Langslow's marriage. She now had 4-month-old twins, plus a father and grandfather who were about the same intellectual age when it came to animals.

The local shelter had to repeal its no-kill policy due to financial problems, so the men organized a burglary to save the animals. One of their number, Parker Blair, was supposed to meet them with a truck and take the animals to safe havens.

Blair didn't make it past Chapter 1 and never got a speaking part. Dad and Grandpa took all the animals over to Langslow's house. They figured she already had two noisy, messy creatures, so a few more wouldn't matter. Cats, dogs, and a foul-mouthed macaw, plus the twins.

Langslow was, in addition to being a busy young mum, restarting her blacksmith career. Out in what used to be a barn, she set up a forge, and as it transpired, an animal refuge. Her sleuthing was tempered by the need to deal with all those, plus village versus county politics.

Blair had been a ladies man, which suggested either a woman scorned or an irate husband. Langslow did some traditional Marpleing into his life, such as breaking into his house, contaminating evidence, and all that. The politics were a distraction, to the point where county officials laid siege to the town hall, an actual bolt-the-doors siege.

The macaw, once Blair's pet, had excellent powers of mimicry. When people realized it was imitating a certain woman with a strong accent, the jig was up. The killer was a girlfriend of Blair who preferred not to have it bruited about. After the denouement, the bird was sent to a rehabilitation centre to teach it to speak proper.

SOME LIKE IT HAWK (2012) saw the village celebrating Caerphilly Days while simultaneously staggering under bankruptcy. The mayor had embezzled all the money, as a result of which the public buildings had been foreclosed upon.

Meg Langslow had a blacksmithing display at the festival, but her attention was diverted when a bank executive was murdered. Justifiable homicide, said the all the villagers, but nonetheless the police investigated. It appeared that the murderer knew about the stolen loot and/or the diversion of public funds, and preferred to keep the matter choked down.

One of Caerphilly's citizens holed up in the courthouse basement to stop the repossession, get supplies from an underground tunnel. The bank security guards thought he was getting help via carrier pigeons, so they brought in a falconer who used a hawk to take them out. This plot point seemed to have been brought in mainly to justify the title.

Langslow's detection work was hampered by the demands of motherhood and blacksmithing, but after many alarums the case was wrapped up. The bank executives and the mayor were penitentiary bound, always a satisfying sight in any municipality.

The village having recovered its buildings, THE GOOD, THE BAD, AND THE EMUS (2014) moved the venue to nearby Riverton, presumably to reduce the mortality rate in Caerphilly.

Meg Langslow's father was a foundling. Dr Montgomery Blake had been doing some genealogical research to find a lost love, Cordelia Lee. Long ago she had a child by him, then both disappeared.

Langslow looked a lot like Lee, and Blake determined his missing son was her father. Lee died in mysterious circumstances a year before Blake found the Langslow family. Cousin Annabel Lee thought it was murder but couldn't prove anything. We know who would.

Blake was involved in a roundup of feral emus near Riverton, which gave them all a cover story for their snooping. The Blakes, the Lees, and the Langslows formed a gang of Miss Marples out for justice. That the state of Virginia had feral emus was a new one on me.

The death toll increased, but that was on Riverton's ledger, not Caerphilly. The emu roundup was a success, not counting the murders. The motive was nasty bank transactions with the emu farm from which the birds had escaped. Someone thought they could make money mining the property for kaolin clay if only the bank would sell the foreclosed property.

DIE LIKE AN EAGLE (2016) took a sporting chance on murder at the baseball diamond. Meg Langslow's twin sons were playing for the Caerphilly Eagles, coached by their father Michael. Langslow had a run-in with nasty league official Biff Brown, so you might expect him to be the lead-off victim.

You would be wrong, for it was his lookalike brother Shep. He had the indignity of being murdered in a portable toilet at a baseball game, instead of someplace dignified and more traditional, such as Miss Marple's back yard or the village square. Langslow found the body, so that much held true.

The question was whether Biff or Shep was the intended target. The politics of Little League baseball are often just as nasty as anything at the federal level. The Brown family wasn't any better, what with corrupt business dealings, divorce proceedings, and behaviour that would embarrass the Jukes.

The murderer was an ex-wife who had enough of the Browns and decided to do a public service. Biff attended the gunpoint confrontation in the denouement as an accomplice. All the culprits were hauled away. For the others, it was off to the play fields of Caerphilly.

GONE GULL (2017) spread the death toll to the Biscuit Mountain Craft Center where Meg Langslow was teaching Blacksmithing 101. The facility was run by her grandmother. Someone was vandalizing the place, with serious damage. Grandfather, meanwhile, was trying to locate a rare species of gull, mostly, one suspects, because the book was written to fit the title.

Suspects included a rival arts-and-crafts school, a real estate developer who wanted the land, and warring factions in local politics. Edward Prine, an artist at the Center had the honour of being the murder victim. Langslow once again had the honour of finding the body.

Prine specialized in painting landscapes with endangered gulls in them. Yes, the gone one. As it transpired, he was not without sin, having been hired by the developer to help in ruining the Center and getting the land.

Honour among thieves being what it is, the killer wanted to tie up some loose threads, of which Prine was one. Biscuit Mountain returned to its idyllic state, marred only by the noise of a large flock of gulls.

TOUCAN KEEP A SECRET (2018) began with Meg Langslow finding a body in a church columbarium, rather unusual since cremains are buried there, not corpses. Someone had broken open a number of urns containing ashes of the dearly departed as if they were searching for something. Among the mess was a gold ring with a large red stone.

As to why Langslow was in the church in the first instance, she was looking after a toucan the preacher was fostering. Her husband Michael remarked: *Why do our local murderers always manage to commit their crimes when you're around?* So say us all.

The preacher asked Langslow to contact the families whose urns had been desecrated. This gave her an opportunity to go sleuthing, which raised many past histories hitherto undisturbed. The toucan, named Nimitz, made recurring appearances.

The main back story was a failed jewelry heist decades ago that was a mixture of robbery by thieves that ended in a fatal gunfight, and an insurance fraud by the owner. The ring might have been part of it, and if so, the loot could have been hidden in the columbarium.

Everything tied together, including the toucan, when one of the jewel thieves resurfaced. Shots were fired, alarums and excursions abounded, and Langslow survived the usual gunpoint ceremony that all Miss Marples go through. The book tried to read as if it were a slapstick comedy but it missed occasionally.

TERNS OF ENDEARMENT (2019) put Meg Langslow on board a cruise ship, the better to spread the death toll around. She and several family members were a guest of her grandfather, who was giving a series of lectures on board the ship about birds. To justify the title, they were nursing an injured tern back to health.

Desiree St Christophe jumped overboard, leaving behind a suicide note. Grandfather's assistant Trevor Ponsonby-West went missing. The ship's captain was rather casual about it, saying he'd leave it to the American authorities when they got back to port.

That cleared the field for Langslow, who was able to sleuth without any annoying Deppity Dawgs getting in her way. Her only competition was a writers group with a few wannabe detectives, but they mostly wrote "*meaningful, socially relevant fiction*" to quote Langslow, the kind that few readers are able to finish.

After the usual alarums, the denouement revealed that both St Christophe and Ponsonby-West were alive. She had faked her death with the idea of blaming the writers group, he had simply missed the ship's sailing. Assorted other villains were involved, all with elaborate plans. The good news was that the tern recovered.

The Blue Canadian Rockies.

A CASE OF BIER (2019) by Mary Daheim was a novel in a cozy series about Judith McMonigle Flynn, who operated a bed-and-breakfast in Seattle. As this was the 31st novel in the series, the death toll associated with her was high enough that, like Jessica Fletcher, she had to go traveling to spread the murders around. Seattle is a big place but even there the citizens would wonder about all those corpses associated with one woman.

Alas, Flynn chose to travel to Banff National Park. I'm sure there have been murders there during its 135-year history, but normally most deaths are climbers falling off mountains, hikers eaten by bears or cougars, traffic accidents on the Trans-Canada Highway, and perhaps the occasional heart attack just for normal.

Flynn, her cousin, and their husbands, booked for the palatial Banff Springs Hotel, a stately pile a century old and horrendously expensive (rooms start at $450 per night). They weren't paying attention to details however, and had instead booked themselves into the Banff Springs Motel, definitely not palatial although considerably cheaper.

It was there they met the Stokes family, cornhuskers whom the Nebraska governor would disavow if he had any knowledge of their actions. They had come up north with their wealthy relative Old Man Codger, who had only weeks to live. Someone impatient for the inheritance sped up the process by sticking a knife into him.

Codger's final wish was to have his body floated down the Bow River in a bier, which the Stokes had brought with them. Such a thing is no more legal in Canada than in the USA. Then again, not all the Stokes were clear on whether Canada was a foreign country or the 51st state.

Pause for digression. Banff National Park is essentially the Bow River valley in the mountains plus some tributary valleys. The river rises at the north end of the park at Bow Glacier, receives all the drainage of the mountains, and by the time it flows through Banff is a fair-sized river. Past the park boundaries, it runs the gauntlet of a half-dozen hydroelectric dams, and is siphoned half-dry by the cities of Canmore, Cochrane, and Calgary.

Floating a bier down the Bow River was a no-go. The RCMP were not prepared for either Miss Marple a la Flynn, nor the Stokes family. Not too

many attempts at Canadian humour fortunately but the Stokes were merciless parodies of farm folk. Any reader from Nebraska should take a blood pressure pill before reading. I never did get the plot sorted out completely. For that matter, neither did the author, as the novel trickled to an inconclusive finish.

Eventful Cozies.

ONE FETE IN THE GRAVE (2017) by Vickie Fee was a novel in a cozy series about Liv McKay of Dixie, Tennessee. She earned her living as an event planner and had put together the Fourth of July celebration and the Miss Dixie Beauty Pageant.

The novel got off to a sitting start when the body of councilman Bubba Rowland was discovered in a portable toilet, his pants down around his ankles and a bullet hole in his chest.

The Deppity Dawgs first thought was to hold McKay for questioning since she was the village Miss Marple. By way of returning the compliment, she went sleuthing. The sheriff wasn't a complete idiot, and asked McKay to prepare a timeline of events and people at the festival. Since she had dealt with everyone as the planner, it seemed logical.

Rowland got around in his life, and had his pants around his ankles quite often. He had trysts with many local women, who in their turn weren't naive about it. He made the classical mistake of scorning a woman.

McKay unearthed plenty of back stories, such as corrupt politics and financial shenanigans, but it was the traditional love triangle that did in Rowland. Mixed in were DNA tests to verify who was whose Daddy.

The appendix had advice sections on planning festivals and baby showers. Not entirely unrelated after reading through this novel.

Scrapbooking.

Gerry Schmitt has several cozy series, one of which was about Carmela Bertrand of New Orleans, Louisiana, who operated a scrapbook supply store called Memory Mine. This series was written under her pseudonym Laura Childs and in later years with the help of co-authors.

POSTCARDS FROM THE DEAD (2012) was by Laura Childs writing solo. Mardi Gras was underway in New Orleans. Newshen Kimber Breeze was broadcasting from a balcony overlooking the parade. Carmela Bertrand had been scheduled to be interviewed about scrapbooking. It never happened because a killer strangled Breeze and left her body dangling from the balcony.

Not long after, someone began leaving postcards in the Memory Mine shop, signed by Breeze. That justified the Marpleing. The television news stations soon found out and were on the case as well. Connections began to surface. Breeze's brother was being foreclosed on by Bertrand's ex-husband Shamus Meechum. Breeze's brother was named as the beneficiary of her life insurance policy.

Suspects abounded besides the brother. The finger of guilt wobbled as it pointed first to one, then to another. In the denouement, the murder was afraid Breeze was going to expose a fraud perpetuated by a friend which would lead back to him. As for the postcards, they were produced by another scrapbooking dealer as collectibles in a scheme that got out of hand.

GILT TRIP (2013) by Laura Childs and Diona Orgain began with sharp-practice man Jerry Earl Leland paroled way too early on a 5-year sentence for fraud due to political influence peddling and bribery. His wife Margo hosted a Get Out Of Jail Free Party. Carmela Bertrand was invited because her shop had made the invitations.

The party broke up when someone murdered Jerry and stuffed his body into a clothes dryer in the laundry room. I had trouble believing that. Not the murder part but an adult male body fitting inside an ordinary clothes dryer.

Just to double-check, I went and looked at my clothes dryer in the basement of my house. The only way an adult body could fit inside would require dismemberment with an saw. Not only that, this was done quickly and quietly while a party was going on in the next room. Carrying a body of a grown man and then stuffing it inside a washer would require exceptional physical strength.

However Jerry's corpse didn't stay inside the machine for long. Bertrand, who else?, found it. Margo asked her to investigate. As this was the 11th novel in the series, Bertrand's reputation as a Miss Marple had spread within New Orleans and probably the adjacent parishes as well.

Motive obviously wasn't worth pursuing since Jerry had cheated so many people. Bertrand had to concentrate on whittling down the list of suspects.

The shop was busy, as the New Orleans citizenry were really into scrapbooking. One assumes that every house there has a dehumidifier, for the Louisiana humidity is not conducive to long-term paper storage. Margo asked Bertrand to make a commemorative diorama box in Jerry's memory and gave her one of his notebooks to use for decoration.

In it was a hand-drawn map of Louisiana with Xs and code numbers, which Bertrand tore out and pasted onto the background of the box. Pausing only to find the second murder victim, a flunky who worked for Jerry, she continued Marpleing.

The grand finale took place at a cakewalk ball, where the killer tried to escape after Bertrand identified him, and where every third sentence ended with an exclamation mark! I'm guessing Orgain wrote this part as Childs doesn't normally go to such excess. Some editing should have been done here! Declarative sentences should not all end that way! They caught the killer though!

The map? Jerry was involved in a big oil deal, which another character said involved a field with 7 billion gallons. I have petroleum investments and know a fair bit about it, but have never heard anyone in the business refer to oil fields in gallons. Oil is measured either in metric tons or barrels. A barrel is 42 gallons, which would make Jerry's field 167 million barrels, a good sum once pumped out. The map marked out the field.

PARCHMENT AND OLD LACE (2015) by Laura Childs and Terrie Farley Moran started with Carmela Bertrand dining out with her boyfriend NOPD Detective Edgar Babcock. Afterwards they strolled past a cemetery where they found a body. A fresh one, not a permanent resident. The very recently deceased was Isabelle Black, an acquaintance of theirs. She had been strangled with antique lace.

The police investigated as they so often do, but Isabelle's sister Ellie asked Bertrand to help. Isabelle was to have been married. She was a lawyer in the District Attorney's office who had put away many criminals. There were back stories. In short, send out a call for Miss Marple.

Bertrand had to run her scrapbooking store, which seemed to do land-office business. Half the population of New Orleans wanted to immortalize their vacation or use a scrapbook to show off their business to potential clients. In lieu of infodumps, the pages were sprinkled with useful tips on how to use a rubber stamp or make decorative tags.

The murderer was a corrupt fixer in the D.A.'s office. Black was about to expose him, so he acted first. Not much more to be said.

GLITTER BOMB (2018) by Laura Childs and Terrie Farley Moran was another novel set during Mardi Gras. Carmela Bertrand was watching the parade when her ex-husband Shamus Meechum went past with the King Neptune krewe. It could never be as simple as that, so the float crashed and exploded.

After the mess was cleaned up, the body of Hughes Wilder was found. His hedge fund had recently crashed as well, leaving many investors out of the money, including Shamus Meechum. Just to add interest to the plot, the Meechum family owned the Crescent City Bank, which had been ensnared with the hedge fund.

Mardi Gras kept the scrapbooking shops busy, as customers created crafts and scrapbooks. Bertrand had extra business; she created the programme book for a posh event, then got a contract for a wedding remembrance book. When not applying glitter and colourful cutouts, she managed to do some sleuthing.

There were plenty of dissatisfied investors as suspects. The culprit had looted Wilder's fund and wanted him silenced. There was the usual confrontation. Since the locale was Louisiana, some alligators were added to the mix.

MUMBO GUMBO MURDER (2019) by Laura Childs and Terrie Farley Moran took place took place during the New Orleans Jazz Fest. Carmela Bertrand was watching the parade with friends when they heard a crash from inside an adjacent antiques shop.

Running inside, they found the owner Devon Dowling murdered by an ice pick through the left ear. Never watch a parade or even go near one in New Orleans where Carmela Bertrand is among the spectators. You might be the body she finds.

As the forensic team hauled away the corpse, the scene jumped to the following morning in the scrapbooking shop. Bertrand was perturbed not by the murder but by an ex-boyfriend opening a wine bar and crafts store adjacent to her shop. Sip a glass of vintage while painting a clay pot. He tried to rope her in as the manager.

The sleuthing was heavily intermixed with crafts advice. Then her ex-husband barged into the plot, just to pad out the word count and annoy her. A second murder sped up events. As the reader learns how to layer homemade greeting cards to create texture, red herrings were scattered about the city.

The killer was mixed up in big-time drug dealing. You will be shocked, shocked, to learn that evidence was found of corruption within the New Orleans Police Department. All ended well for law-abiding scrapbookers.

The Deadly Coast Of Maine.

MOTHER'S DAY MURDER (2009) by Leslie Meier was a novel in a cozy series about Lucy Stone of Tinker's Cove, Maine, who bid fair to challenge Jessica Fletcher as the reigning Miss Marple.

Stone was a housewife with grown children and worked part-time at the local newspaper. In keeping with cozies economics, while the big-city newspapers are dying on the vine, this village could keep going a newspaper with a large staff.

This novel began with Stone enjoying a Mother's Day brunch, marred only by a nasty spat nearby between Barbara Hume and Tina Nowak. They were competing stage mothers using their teenaged daughters as proxies in a war of oneupmanship.

The three women met later at a prom party they were chaperoning. Only two went home from the party. Nowak was shot dead out by the tennis court, which put Stone into Miss Marple mode. She uncovered some disturbing back stories.

Stone's daughter and other teenagers were kidnapped by classmates who were psychopaths. A last-minute rescue and explanations of who did what to whom were followed by an epilogue where rich parents were trying to get their daughters acquitted. Cozies don't often consider the court trials and how a good defence lawyer can negate proof.

ENGLISH TEA MURDER (2011) was the 19th book in the series. Like Jessica Fletcher just down the coast, Lucy Stone had to go traveling to spread the murders around and avoid depopulating Tinker's Cove completely. She joined a group tour to England, which had long ago adapted itself to Miss Marples.

The tour leader George Temple died in mid-flight from a supposed asthma attack which was really murder. With that, the plot took a flying start, you'll pardon the expression. The group carried on, having too much invested in the trip. From the Tower of London to the shores of Brighton, the tour persevered. Stone sleuthed en route, learning that Temple had a past that intersected unfavourably with many members of the group.

Revenge is a dish best served cold alongside watercress sandwiches. The second victim was the ice in the tea. The survivors returned to the USA for the extended denouement. The killer was caught but denied all.

The murderer had apparently read lots of cozies. He tried to muddy the waters by claiming others in the group were in on the conspiracy. The prosecutor was confident he could get a life sentence. On that semi-cheerful note, the novel concluded.

WHEN WORDS COLLIDE

The tenth annual When Words Collide will return to the Delta South Marriott Hotel on the weekend of August 14 to 16, 2020. It will incorporate the Aurora Awards and Canvention 40. WWC always sells out by June, as do the banquet and hotel. Details from www.whenwordscollide.org

MISCELLANEOUS SCIENCE FICTION REVIEWS
by Dale Speirs

DOUGHNUT (2012) by Tom Holt was a humourous novel that I was tempted to file under Food Cozies, but it was a science fiction farce. The protagonist was Theo Bernstein, a physicist who misplaced a decimal point in his calculations. He thereby blew up a hadron collider and Switzerland was shorted one of its mountains. His wife left him, he ran out of money, he couldn't get a fast-food job, and the accident made his right arm invisible up to his elbow.

The good news was that his friend Prof. Pieter van Goyen died, leaving him $5,000 and the contents of his safe deposit box. From there, Bernstein wound up working as a hotel clerk and reworking his equations. The hotel was a strange one, booked up solid with two guests, and a strange wine cellar. Mysterious events occurred but the first doughnut didn't appear until the penultimate page of Part One.

After that was the deluge, with virtual universes and travel between them by looking through doughnut holes. Any doughnut would do; just hold it up to eye level. Assorted scenes came and went as Bernstein sleepwalked through the plot in a perpetual state of confusion.

Resolution came eventually, something to do with YouSpace, which let users create up to five universes for $49.95 plus certain terms and conditions in the fine print. When Bernstein blew up the Hadron Collider, the explosion disrupted adjacent parallel universes. He went traveling between them with the aid of his trusty doughnut, although sometimes there wasn't one handy when he really needed it.

Doughnut go gentle into that good night. As Holt's novels often do, this one ran out of steam rather than ended.

Top right: Any excuse to show off my bad diet. These doughnuts from Safeway, with raspberry (left) and Black Forest.

REDSHIRTS (2012) by John Scalzi was an hilarious parody of the Star Trek universe. Ensign Andrew Dahl of the starship Intrepid, flagship of the Universal Union, worked on Away missions with the famous senior officers of the ship. Eventually he realized that on every mission the seniors survived but at least one junior officer died. Morale below decks was very bad.

The easiest potshots were the ones that every Trekkie knows. Bridge crew members, least of all the captain, should not be beaming down on Away missions. Fake jargon was used, such as the captain ordering his staff to come up with a counter-bacterial in six hours for a virus infection. Sloppy military protocol, where crew members and civilians wandered in and out of the bridge despite having no business there.

Dahl settled in to his new posting and tried to survive while other newcomers met their fates. Implausible coincidences piled up as fast as the bodies. Dahl got the feeling that he was in some sort of television series, or perhaps an alternative universe that ran like a television show.

The final quarter of the novel ran out of steam when the characters breached the fourth wall. The plot became recursive, going round and round in circles. Basically Scalzi wrote himself into a corner and then, like Tom Holt, typed up just any old nonsense to reach a finish of sorts.

RETRO PULP TALES (2006) was an anthology edited by Joe R. Lansdale. The authors were asked to write in the style of old-time pulps, where action-adventure and storytelling took precedence over pretentious literary drivel. I

won't review all the stories but pick out a couple here. In general, the authors succeeded, although a few stories were off the track, stylistically speaking.

The lead-off story was in the style of the aviation and war ace pulps. "Devil Wings Over France: A Dead-Stick Malloy Story" by James Reasoner was set on the front lines of World War One. Dave Malloy was a night fighter against a clutch of Fokkers and a Gotha heavy bomber when his plane collided with a flock of bats.

One of the bats brushed against his face and scratched his cheek, but he had cut himself worse shaving, so the cut was no big deal. Until the rabies epidemic began. The Gotha had not been dropping bombs. It was dumping rabid bats on the Allied front lines. Malloy realized he might be the next victim.

Then his mechanic grew pointed teeth and went mad with blood lust. The vampires had been helping the Huns. That subplot didn't go anywhere. The German bat plot was foiled and Malloy survived, presumably because he was wanted for the series. The story was well written in the pulp style but the ending was rushed.

"Clubland Heroes" by Kim Newman considered what London's posh clubs would be like in an era of the now-forgotten superheroes and pulp characters of Britain. A vexatious litigator Peeter Blame needed doing away with, and the Splendid Six obliged.

There were consequences though, wrought by quiet people having quiet words in London clubs, such as the Diogenes Club. Pulp action heroes never had to deal with real life. That is why marvelous caped heroes only exist in movies.

Seen At When Words Collide 2019.

I bought a stack of books from the dealer bourse at the readercon When Words Collide 2019. See OPUNTIA #452 for the photo of the stack on page 5, and more details about the convention. Some of the books are reviewed in thematic columns but I did have a few for this miscellany.

DREAMTIME (2019) was a collection of stories by Mark Le Dain. The stories were about the consequences of the unstoppable headlong rush into a cashless society, with facial recognition technology correlated with social media and government policies.

China is already there, and because the younger generation in North America doesn't have a long enough attention span to think things through, they will be faced with that in their time.

I'm a Boomer so fortunately I won't be around when people realize they gave away their freedom in exchange for the convenience of paying with taps at the cash register or using listening devices in their homes instead of light switches.

Just a few stories for review, but the others are worth considering in the forthcoming brave new world. "Environment" is about a near-future world where individual carbon footprints are monitored and people are severely punished for exceeding them. Not to protect the environment but to keep the population under control. In this story, using more energy than allocated got a family cut off from food and shelter, all for a good cause. Supposedly.

"Creo Cube" considered the possibilities of matter synthesizers that Star Trek overlooks. Such as what happened when someone was duplicated in the device and the original template left in the electronics and then forgotten. The question was what happens when the template didn't copy properly.

"Scorpio Motors" considered the future of autonomous vehicles, once wild-eyed science fiction, now driving past you on the street. One current problem with such vehicles is what decisions they make, specifically, in an accident do they protect the driver or others such as pedestrians. In this story, an abused wife realized how to game the vehicle and eliminate her husband.

"Ethics Score" is about a jury trial where, if the defendant refused to testify in his own behalf, the jury was instructed to decide based on his social media score. This is, incidently, one of the methods being used by the Chinese government right now to control dissidents. Those with low social media scores cannot buy bus tickets or hold jobs.

LETTERS TO THE EDITOR

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

FROM: Lloyd Penney 2020-01-26
Etobicoke, Ontario

OPUNTIA #461: [Re: Calgary Grey Cup] I remember last year's Grey Cup. The Hamilton Ti-Cats were supposed to be the favoured team going into the game, and their failure was classic. No money on it, but anyone who bet on the Ti-Cats were shocked.

[You're better off betting the Calgary Stampeders will choke in the semi-finals. The odds would be with you. They play almost undefeated all season long and then stumble when it really counts.]

I used to buy some Leafs merchandise, but these days, I buy as little as possible, and in many cases, none at all.

[I'm not a sports fan, so I've never bought jerseys or souvenirs. People make fun of science fiction fans for wearing Star Whatever t-shirts in public, but strangely it is quite acceptable to wear a team jersey with someone else's name.]

I was at the CBC's celebration of the 200th episode of MURDOCH MYSTERIES, and while I enjoyed myself at the free event, I have decided not to buy any resulting merchandise, as much as I might like it. Nice stuff, but gathers dust.

[I'm at the age where I'm trying to get rid of stuff, having realized that no one in my family is interested in taking it over.]

Getting hungry looking at the doughnuts on page 20. There's a Tim Horton's up the street from us, but they don't do doughnuts so much anymore. They seem to have forgotten their roots.

[And they're in financial trouble because of that. Shoemaker, stick to your last.]

My loc: Since that evening at Bakka-Phoenix Books, I have edited an anthology of early short stories by Nancy Kilpatrick, and just finished editing a YA book by Shirley Meier. There's still a lot to learn, but with some experience under my belt, and the opportunity to learn more.

We did eventually get the snow tires on the car, and it even had to deal with a little snow. Right now, though, the ground is bare.

OPUNTIA #462: We used to wait for the CPR Holiday Train, too, but there were too many people around to see clearly, and many people were rough in getting the best view, and a few turned violent. The lighting on the train is definitely spectacular, and based on your photos, it's better than ever.

The Toronto Transit Commission is getting rid of entry booths that are manned. Everything you might need, like fares, are sold through terminals, so more and more, the booth staff have little to do. The tokens are going away soon, and at the end of 2021, all that will be accepted will be our Presto cards.

[Calgary Transit has never had booths for its trains, which run on the honour system. Just to keep Calgarians honourable, there are roving patrols of special constables throughout the day and along all the lines who make checks at intervals, inspecting tickets of passengers and those standing on platforms. The first-time fine is $150, which means a cheater would have to ride about 45 times just to break even on the saved fares. The odds are against that. CT sells books of tickets and monthly passes at terminals, and in convenience stores on commission. I buy the monthly pass for $109 (cash fare $3.50, includes 90-minute transfers) which is good for unlimited rides on the trains and buses.]

OPUNTIA #463: The Christmas lights in residential areas were spectacular this past Christmas. I couldn't tell you what was happening downtown, for we rarely have a need to go downtown any more.

[Re: death of Calgary newspapers] The METRO magazine in the subway is gone here, too, so where there were two subway papers and two entertainment papers to read, now there are none in my end of town. One entertainment paper does still exist, but I do not think they are distributed out to the far west end of the city, Etobicoke.

Were we the only ones to actually send you a card? You might be surprised at how many people have asked to receive a Christmas card from someone. I think they might miss that part of Christmas they grew up with.

[I got a Christmas letter from my uncle in Regina and another from a cousin (his son) in Irvine, California. That was it.]

OPUNTIA #464: As always it seems, New Year's was spent at home. And, as always, I heard about other parties we had hopes of being invited to, but not to be.

[Calgary is a great party town. Any excuse to celebrate down at the Olympic Plaza and Stephen Avenue Pedestrian Mall. I think that's why we allow so many ethnic groups to immigrate here, as each of them has their own celebration to add.]

Sometimes, SpiderMan shows up on local transit, but that's only because there might be a comic con downtown. I still think they are demanding too much for entry, although the number of guests they bring in is amazing. I think we will give it a pass yet again.

[I've never been. I'm not interested in superheroes, and am too old to dress up without being considered a creepy old man. Paying $400 to stand in line for three hours to get autographs doesn't appeal to me. Much more fun at the Stampede ($40 for ten days) or When Words Collide ($45 for three days), which are the only two events I document in OPUNTIA that I pay money for. All the other Calgary celebrations I mention are free.]

OPUNTIA #465: It's just past the Chinese New Year, and just past Robbie Burns Day. I've seen the two events mixed into one celebration, and I was told they were amazing cross-cultural fun.

[I know there are a few haggis-eating events around Cowtown but they are expensive formal banquets. My father's ancestors were Lowland Scots who ate proper food, not haggis and neeps.]

[Re: food cozies] Coffee-based mysteries? How some of these stores actually sell their horrible coffee, and survive, that's the real mystery. I don't think coffee is doing much to me, although there are days it's the only thing that gets me moving in the mornings.

[I don't drink coffee at all, not liking the taste. My caffeine comes from Coke Zero.]

We have mostly crows around here, but when we were in England this past May and June, the magpies were everywhere, loud but friendly.

[Every morning when I come out of the house, there are one or two magpies perched on the eavestrough waiting for me to toss a few peanuts on the lawn. The snowshoe hares living under my spruce trees don't seem to care for them, and the squirrels are hibernating.]

I have read basically all there is about Nils Helmer Frome, probably the first fanzine fan from Canada.

[He was a lonely man in the wilds of British Columbia (he was a lumberjack). If not for Sam Moskowitz, he probably would be completely forgotten.]

SEEN IN THE LITERATURE

Schmieder, M., and D.A. Kring (2020) **Earth's impact events through geologic time: A list of recommended ages for terrestrial impact structures and deposits.** ASTROBIOLOGY 20:doi.org/10.1089/ast.2019.2085

Authors' abstract: *This article presents a current (as of September 2019) list of recommended ages for proven terrestrial impact structures (n = 200) and deposits (n = 46) sourced from the primary literature. High-precision impact ages can be used to;*

(1) reconstruct and quantify the impact flux in the inner Solar System and, in particular, the Earth-Moon system, thereby placing constraints on the delivery of extraterrestrial mass accreted on Earth through geologic time;
(2) utilize impact ejecta as event markers in the stratigraphic record and to refine bio- and magnetostratigraphy;
(3) test models and hypotheses of synchronous double or multiple impact events in the terrestrial record;
(4) assess the potential link between large impacts, mass extinctions, and diversification events in the biosphere; and

(5) constrain the duration of melt sheet crystallization in large impact basins and the lifetime of hydrothermal systems in cooling impact craters, which may have served as habitats for microbial life on the early Earth and, possibly, Mars.

Speirs: This is a free open-source pdf with lists and maps of Earth's impact craters. I think it is a valuable resource for science fiction writers, so if you are one, go to the Astrobiology journal Website and download a copy. Pasting the doi number into Google will probably be the easiest method.

Carter, P.J., et al (2020) **The energy budgets of giant impacts.** JOURNAL OF GEOPHYSICAL RESEARCH: PLANETS 125:doi.org/10.1029/2019JE006042

Authors' abstract: *Giant impacts dominate the final stages of terrestrial planet formation and set the configuration and compositions of the final system of planets. A giant impact is believed to be responsible for the formation of Earth's Moon, but the specific impact parameters are under debate.*

Because the canonical Moon-forming impact is the most intensely studied scenario, it is often considered the archetypal giant impact. However, a wide range of impacts with different outcomes are possible.

Here we examine the total energy budgets of giant impacts that form Earth-mass bodies and find that they differ substantially across the wide range of possible Moon-forming events. We show that gravitational potential energy exchange is important, and we determine the regime in which potential energy has a significant effect on the collision outcome.

Energy is deposited heterogeneously within the colliding planets, increasing their internal energies, and portions of each body attain sufficient entropy for vaporization. After gravitational re-equilibration, post-impact bodies are strongly thermally stratified, with varying amounts of vaporized and supercritical mantle.

The canonical Moon-forming impact is a relatively low-energy event and should not be considered the archetype of accretionary giant impacts that form Earth-mass planets.

After a giant impact, bodies are significantly inflated in size compared to condensed planets of the same mass, and there are substantial differences in the magnitudes of their potential, kinetic, and internal energy components. As a result, the conditions for metal-silicate equilibration and the subsequent evolution of the planet may vary widely between different impact scenarios.

In this work, we examine the total energies involved in giant impacts that form Earth-like planets and find that there are large differences across the wide range of possible impacts. The internal energy increases cause large portions of each body to vaporize as the result of impacts.

Giant impacts produce planetary bodies that are significantly inflated in size compared to condensed planets of the same mass, and there are substantial differences in their potential, kinetic, and internal energies.

Rendall, B.E., and L. Tapanila (2020) I**mpact resilience: Ecological recovery of a carbonate factory in the wake of the Late Devonian impact event.** PALAIOS 35:12-21

Authors' abstract: *Conformable limestone deposits bracketing the Alamo breccia (Late Devonian, Nevada) provide a robust dataset for comparisons of depositional environments and marine communities before and after a significant meteor impact. Rank abundances of more than 3,000 faunal identifications from 158 sampling localities cluster in three major faunal groups that are arranged in an onshore-offshore lithofacies gradient.*

Comparison of faunal clusters before and after the impact show little to no dissimilarity. The recovery of marine invertebrate communities following the Alamo impact event was geologically instantaneous. Broad geographic ranges of the fauna may have contributed to ecological resilience.

From a geologic perspective, marine communities appear to rebound quickly and fully following meteor impacts, leaving impact-related extinctions as outliers that correspond only to the largest impacts.

Speirs: Earth has been smacked many times by asteroids, but the impacts are not necessarily extinction level events. Particularly for small oceanic impacts, once the sizzling and bubbling have subsided, the fauna can re-colonize immediately.

Zuluaga, J.I., et al (2020) **Location, orbit, and energy of a meteoroid impacting the Moon during the lunar eclipse of 2019 January 21.** MONTHLY NOTICES OF THE ROYAL ASTRONOMICAL SOCIETY 492:1432-1449

Authors' abstract: *During lunar eclipse of 2019 January 21, a meteoroid impacted the Moon producing a visible light flash. The impact was witnessed by casual observers offering an opportunity to study the phenomenon from multiple geographical locations. We use images and videos collected by observers in seven countries to estimate the location, impact parameters (speed and incoming direction), and energy of the meteoroid.*

Using parallax, we achieve determining the impact location at lat. -29.43+0.30-0.21-29.43-0.21+0.30 , lon.-67.89+0.07-0.09-67.89-0.09+0.07 , and geocentric distance as 356 553 km. After devising and applying a photometric procedure for measuring flash standard magnitudes in multiple RGB images having different exposure times, we found that the flash, had an average G-magnitude <G> = 6.7 ± 0.3.

We use gravitational ray tracing (GRT) to estimate the orbital properties and likely radiant of the impactor. We find that the meteoroid impacted the moon with a speed of 14+7-6 14-6+7 km s-1 (70 per cent C.L.) and at a shallow angle, < 38.2 deg.

Assuming a normal error for our estimated flash brightness, educated priors for the luminous efficiency and object density, and using the GRT-computed probability distributions of impact speed and incoming directions, we calculate posterior probability distributions for the kinetic energy (median Kmed = 0.8 kton), body mass (Mmed = 27 kg) and diameter (dmed = 29 cm), and crater size (Dmed = 9 m).

If our assumptions are correct, the crater left by the impact could be detectable by prospecting lunar probes. These results arose from a timely collaboration between professional and amateur astronomers that highlight the potential importance of citizen science in astronomy.

Sieh, K., et al (2020) **Australasian impact crater buried under the Bolaven volcanic field, Southern Laos.** PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES USA 117:doi.org/10.1073/pnas.1904368116

Authors' abstract: *A field of black glassy blobs, strewn across about 20% of Earth's Eastern Hemisphere, resulted from the impact of a large meteorite about 790,000 years ago. The large crater from which these tektites originated has eluded discovery for over a century, although evidence has long pointed to a location somewhere within Indochina, near the northern limit of the strewn field.*

We present stratigraphic, geochemical, geophysical, and geochronological evidence that the ~15-km diameter crater lies buried beneath a large, young volcanic field in Southern Laos.

We present four lines of evidence that the 0.79-Ma impact crater of the Australasian tektites lies buried beneath lavas of a long-lived, 910-km^3 volcanic field in Southern Laos:
1) Tektite geochemistry implies the presence of young, weathered basalts at the site at the time of the impact.
2) Geologic mapping and ^{40}Ar-^{39}Ar dates confirm that both pre- and post-impact basaltic lavas exist at the proposed impact site and that post-impact basalts wholly cover it.
3) A gravity anomaly there may also reflect the presence of a buried ~17 × 13-km crater.
4) The nature of an outcrop of thick, crudely layered, bouldery sandstone and mudstone breccia 10 to 20 km from the center of the impact and fractured quartz grains within its boulder clasts support its being part of the proximal ejecta blanket.

Sandström, H., and M. Rahm (2020) **Can polarity-inverted membranes self-assemble on Titan?** SCIENCE ADVANCES 6:doi.org/10.1126/sciadv.aax0272

Authors' abstract: *Saturn's moon Titan features rich atmospheric chemistry and a dynamic surface morphology that is driven by seasonal rainfall and cycling of predominately methane and ethane. Hydrocarbon lakes and seas have been observed near the polar regions of Titan, drawing comparisons with the hydrologic cycle of Earth and its presumed relevance for the origin of life.*

However, the surface conditions of Titan are a frigid 90 to 94 K. Moreover, in contrast to Earth, Titan's outermost surface is covered by products of the atmospheric photochemistry that are likely to be essentially free of oxygen. A frozen water ice crust is suspected underneath the outermost organic layer.

Proposed as a strict test case for the limits of life, Titan offers a unique opportunity to explore just how far toward chemical complexity nature can proceed without liquid water, at low temperature, provided time scales nearing the age of the solar system.

The lipid bilayer membrane is one of the central prerequisites for life as we know it. Previous studies based on molecular dynamics simulations have suggested that polarity-inverted membranes, azotosomes, made up of small nitrogen-containing molecules, are kinetically persistent and may function on cryogenic liquid hydrocarbon worlds, such as Saturn's moon Titan.

We here take the next step and evaluate the thermodynamic viability of azotosome formation. Quantum mechanical calculations predict that azotosomes are not viable candidates for self-assembly akin to lipid bilayers in liquid water. We argue that cell membranes may be unnecessary for hypothetical astrobiology under stringent anhydrous and low-temperature conditions akin to those of Titan.

Lehmer, O.R., et al (2020) **Atmospheric CO_2 levels from 2.7 billion years ago inferred from micrometeorite oxidation.** SCIENCE ADVANCES 6:doi.org/10.1126/sciadv.aay4644

Authors' abstract: *The atmospheric CO_2 concentration of the Archean Earth is highly uncertain. In the Archean, the Sun was 20 to 30% less luminous and CO_2 levels would have needed to be much higher than modern to maintain a climate suitable for liquid water, perhaps by a factor of 102 to 103, depending on the concentration of other greenhouse gases, such as CH_4.*

In addition to atmospheric models, Archean paleosols [fossilized soil layers] *and other proxies have been examined to constrain atmospheric CO_2 levels. Estimates from these studies range between ~3 × 10-3 and ~0.75 bar of CO_2 during the Archean. Thus, the estimated atmospheric CO_2 level in the Archean spans ~3 orders of magnitude.*

Earth's atmospheric composition during the Archean eon of 4 to 2.5 billion years ago has few constraints. However, the geochemistry of recently discovered iron-rich micrometeorites from 2.7 billion-year-old limestones could serve as a proxy for ancient gas concentrations. When micrometeorites entered the atmosphere, they melted and preserved a record of atmospheric interaction.

We model the motion, evaporation, and kinetic oxidation by CO_2 of micrometeorites entering a CO_2-rich atmosphere. We consider a CO_2-rich rather than an O_2-rich atmosphere, as considered previously, because this better represents likely atmospheric conditions in the anoxic Archean.

Our model reproduces the observed oxidation state of micrometeorites at 2.7 Ga for an estimated atmospheric CO_2 concentration of >70% by volume. Even if the early atmosphere was thinner than today, the elevated CO_2 level indicated by our model result would help resolve how the Late Archean Earth remained warm when the young Sun was ~20% fainter.

Imachi, H., et al (2020) **Isolation of an archaeon at the prokaryote-eukaryote interface.** NATURE 577:doi.org/10.1038/s41586-019-1916-6

[Eukaryotes are cells with nuclei, prokaryotes are cells without.]

Authors' abstract: *The origin of eukaryotes remains unclear. Current data suggest that eukaryotes may have emerged from an archaeal lineage known as 'Asgard' archaea. Despite the eukaryote-like genomic features that are found in these archaea, the evolutionary transition from archaea to eukaryotes remains unclear, owing to the lack of cultured representatives and corresponding physiological insights.*

Here we report the decade long isolation of an Asgard archaeon related to Lokiarchaeota from deep marine sediment. The archaeon, 'Candidatus Prometheoarchaeum syntrophicum' strain MK-D1, is an anaerobic, extremely slow-growing, small coccus (around 550 nm in diameter) that degrades amino acids through syntrophy. Although eukaryote-like intracellular complexes have been proposed for Asgard archaea, the isolate has no visible organelle-like structure. Instead, Ca. P. syntrophicum is morphologically complex and has unique protrusions that are long and often branching.

On the basis of the available data obtained from cultivation and genomics, and reasoned interpretations of the existing literature, we propose a hypothetical model for eukaryogenesis, termed the entangle-engulf-endogenize (also known as E3) model.

Speirs: Prokaryotes are the most primitive single-celled organisms. It has long been thought that eukaryotes originated when prokaryotes engulfed symbiotic microcells that provide essential functions such as respiration and protection of genetic material inside membranes (the nucleus). This study suggests the idea is correct. All multicellular organisms, such as humans, are eukaryotes.

Bonneville, S., et al (2020) **Molecular identification of fungi microfossils in a Neoproterozoic shale rock.** SCIENCE ADVANCES 6:doi.org/10.1126/sciadv.aax7599

Authors' abstract: *Fungi are a eukaryotic kingdom that performs critical roles in the soil ecosystem. By forming vast microscopic filamentous networks (mycelium) in symbiosis with the roots of most plants (mycorrhiza), fungi can enhance rock weathering and help the nutrient supply of plants, particularly in young, poorly evolved soils. Because of these abilities, ancestral fungi were crucial partners of the first phototrophs that colonized land surfaces.*

Although these associations are acknowledged as a requirement of terrestrial invasion, the timing of this evolutionary transition is largely unknown. The Rhynie cherts [407 million years (Ma) old] with their superbly preserved fungi are considered a milestone of fungal fossil record and early colonization of land.
However, despite their Devonian age, fungal remains in the Rhynie chert display a remarkable diversity, including members of Chytridiomycota, Blastocladiomycota, Glomeromycota, Mucoromycotina, and Ascomycota. Accordingly, molecular clock studies have placed the divergence of the main groups of Fungi within the Meso-Neoproterozoic.

The terrestrialization of fungi dates from sometime between the Ordovician (443 to 485 Ma) to <800 Ma, while the earliest obligate biotrophic Glomeromycota fossils date from 455 to 460 Ma. The large uncertainty in the timing of fungal evolution and their transition to land essentially stems from the scarcity and the ambiguous nature of the Precambrian fungi that are notoriously difficult to distinguish from prokaryotic remains.

Precambrian fossils of fungi are sparse, and the knowledge of their early evolution and the role they played in the colonization of land surface are limited. Here, we report the discovery of fungi fossils in a 810 to 715 million year old dolomitic shale from the Mbuji-Mayi Supergroup, Democratic Republic of Congo.

Syngenetically preserved in a transitional, subaerially exposed paleoenvironment, these carbonaceous filaments of ~5 ?m in width exhibit low-frequency septation (pseudosepta) and high-angle branching that can form dense interconnected mycelium-like structures.

Using an array of microscopic (SEM, TEM, and confocal laser scanning fluorescence microscopy) and spectroscopic techniques (Raman, FTIR, and XANES), we demonstrated the presence of vestigial chitin in these fossil filaments and document the eukaryotic nature of their precursor.

Based on those combined evidences, these fossil filaments and mycelium-like structures are identified as remnants of fungal networks and represent the oldest, molecularly identified remains of Fungi.

Tang, Q., et al (2020) **A problematic animal fossil from the early Cambrian Hetang Formation, South China.** JOURNAL OF PALEONTOLOGY 93:1047-1057

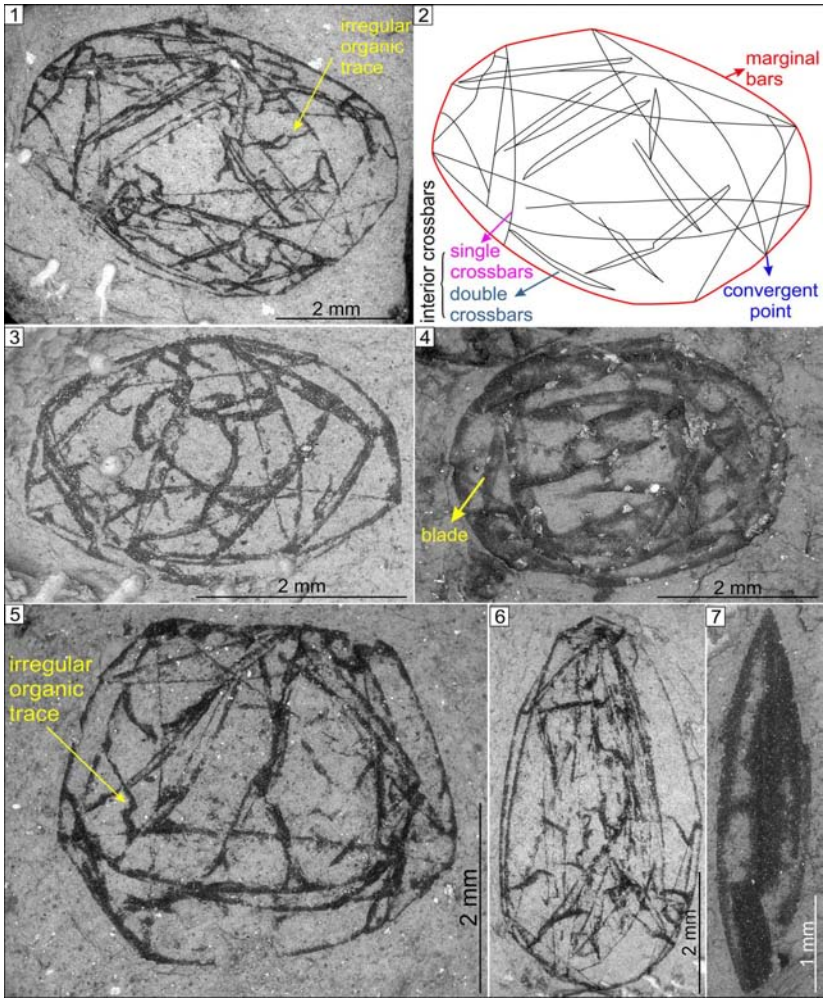
Authors' abstract: *The lower-middle Hetang Formation (Cambrian Stage 2–3) deposited in slope-basinal facies in South China is well known for its preservation of the earliest articulated sponge fossils, providing an important taphonomic window into the Cambrian Explosion.*

However, the Hetang Formation also hosts a number of problematic animal fossils that have not been systematically described. This omission results in an incomplete picture of the Hetang biota and limits its contribution to the understanding of the early evolution of animals.

Here we describe a new animal taxon, Cambrowania ovata Tang and Xiao, new genus new species, from the middle Hetang Formation in the Lantian area of southern Anhui Province, South China. Specimens are preserved as carbonaceous compressions, although some are secondarily mineralized.

A comprehensive analysis using reflected light microscopy, scanning electron microscopy, energy-dispersive X-ray spectroscopy, and micro-CT reveals that the new species is characterized by a spheroidal to fusoidal truss-like structure consisting of rafter-like crossbars, some of which are secondarily baritized and may have been internally hollow. Some specimens have aperture-like structures that are broadly similar to oscula of sponges, whereas others show evidence of amedial split reminiscent of gaping carapaces.

While the phylogenetic affinity of Cambrowania ovata Tang and Xiao, n. gen. n. sp. remains problematic, we propose that it may represent carapaces of bivalved arthropods or more likely sponges in early life stages. Along with other problematic metazoan fossils such as hyolithids and sphenothallids, Cambrowania ovata Tang and Xiao, n. gen. n. sp. adds to the diversity of the sponge-dominated Hetang biota in an early Cambrian deepwater slope-basinal environment.



Guo, J., et al (2020) **A fourteen-faced hexangulaconulariid from the early Cambrian (Stage 2) Yanjiahe Formation, South China.** JOURNAL OF PALEONTOLOGY 94:45-55

Authors' abstract: *Extant medusozoans (phylum Cnidaria)* [jellyfish] *are dominated by forms showing tetraradial symmetry, but stem-group medusozoans of early Cambrian age collectively exhibit tetra-, bi-, penta-, and hexaradial symmetry. Moreover, the developmental and evolutionary relationships between four-fold and other types of radial symmetry in medusozoans remain poorly understood.*

Here we describe a new hexangulaconulariid, Septuconularia yanjiaheensis new genus new species, from Bed 5 of the Yanjiahe Formation (Cambrian Stage 2) in the Three Gorges area of Hupei Province, China. The laterally compressed, biradially symmetrical periderm of this species possesses 14 gently tapered faces, the most of any hexangulaconulariid described thus far.

The faces are bordered by longitudinal ridges and crossed by short, irregularly spaced transverse ribs. Longitudinally, the periderm consists of three regions that probably correspond, respectively, to an embryonic stage, a transient juvenile stage, and a long adult stage. Septuconularia yanjiaheensis may have been derived from six-faced Hexaconularia (Fortunian Stage), which is morphologically intermediate between Septuconularia yanjiaheensis and Arthrochites.

Chery, J.G., et al (2020) **Modifications during early plant development promote the evolution of nature's most complex woods.** CURRENT BIOLOGY 30:237-244

[Vascular cambium is the inner bark that generates woody cells.]

Authors' abstract: *Woody vines have the most complex woods in nature as a result of the unique demand to twist without breaking.*

Secondary growth is the developmental process by which woody plants grow radially. The most complex presentations of secondary growth are found in lianas (woody vines) as a result of the unique demand to maintain stems that can twist without breaking.

The complex woody forms in lianas arise as non-circular stem outlines, aberrant tissue configurations, and/or shifts in the relative abundance of secondary tissues. Previous studies demonstrate that abnormal activity of the vascular cambium leads to variant secondary growth; however, the developmental and evolutionary basis for this shift is still largely unknown.

Here, we adopt an integrative approach, leveraging techniques from historically distinct disciplines, developmental anatomy and phylogenetic comparative methods, to elucidate the evolution of development of the complex woody forms in a large lineage of tropical lianas, Paullinia L. (Sapindaceae).

We find that all forms of variant secondary growth trace back to the same modification during early stem development, which results in young plants with lobed stem outlines and a discontinuous distribution of vascular bundles. By placing development in a phylogenetic context, we further show that the lobed primary plant bauplan is the evolutionary precursor to all complex woody forms.

Eddine, A., et al (2020) **Demographic expansion of an African opportunistic carnivore during the Neolithic revolution.** BIOLOGY LETTERS 16:doi.org/10.1098/rsbl.2019.0560

Authors' abstract: *The Neolithic innovations following the domestication of plants and animals have dramatically changed the Mediterranean landscape. The beginning of this impact dates back to approximately 12 000 years BP in the eastern Mediterranean, from where it expanded westwards during the following millennia. The advent of a productive economy, based on farming and the use of domesticated resources, provided the framework for an increase in food availability resulting in rapid human population growth.*

In North Africa, the diffusion of earlier Neolithic technology arrived approximately 9000 to 7000 years BP, during the Holocene Climatic Optimum, when a marked climatic shift changed arid desert conditions into savannah-like environments, fostering the establishment of human settlements and the regional development of pastoral activities.

The combination of human-induced changes and climate dynamics in North Africa had profound and enduring consequences for the distribution and dynamics of species, communities and landscapes. Notwithstanding negative impacts on biodiversity, the presence of humans may create advantages for species with the ability to exploit anthropogenic habitats.

Several mammal carnivores, for instance, tend to live at higher densities in humanized habitats than in natural ones. A variety of opportunities, particularly related to food availability, make human-dominated areas an attractive habitat for opportunistic carnivores. It is thus expected that the Neolithic human population growth had a positive impact on opportunistic wild carnivores that show a propensity for living in cultural landscapes.

The diffusion of Neolithic technology together with the Holocene Climatic Optimum fostered the spread of human settlements and pastoral activities in North Africa, resulting in profound and enduring consequences for the dynamics of species, communities and landscapes.

Here, we investigate the demographic history of the African wolf (Canis lupaster), a recently recognized canid species, to understand if demographic trends of this generalist and opportunistic carnivore reflect the increase in food availability that emerged after the arrival of the Neolithic economy in North Africa.

We screened nuclear and mitochondrial DNA in samples collected throughout Algeria and Tunisia, and implemented coalescent approaches to estimate the variation of effective population sizes from present to ancestral time.

We have found consistent evidence supporting the hypothesis that the African wolf population experienced a meaningful expansion concurring with a period of rapid population expansion of domesticates linked to the advent of agricultural practices.

Fernández-Crespo, T., et al (2020) **Multi-isotope evidence for the emergence of cultural alterity in Late Neolithic Europe.** SCIENCE ADVANCES 6:doi.org/10.1126/sciadv.aay2169

Authors' abstract: *Prehistoric populations are frequently assumed to be internally homogeneous and bounded entities defined by their cultural distinctiveness, especially at regional scales of analysis, recalling ideas of traditional culture-historical archaeology that are being increasingly critiqued.*

Even when diversity is explicitly sought within an archaeological culture, the results rarely show more than an "inconsistent commonality". One area that has long been of interest in this regard is variation in mortuary practices, an example of which is the nature of the relationship between funerary caves and megalithic graves in Neolithic Europe.

Early interpretations suggested that variability in burial location might reflect change over time and/or different regional mortuary practices. However, it is now becoming clear that the use of funerary caves and of megalithic graves overlap both chronologically and spatially in a number of regions (e.g., Britain, Ireland, France, and Iberia).

Petrone, P., et al (2020) **Heat-induced brain vitrification from the Vesuvius eruption in C.E.79.** NEW ENGLAND JOURNAL OF MEDICINE 382:383-384

Authors' abstract: *The rapid rise in extreme heat during the Vesuvius eruption in c.e. 79 resulted in the conversion of human tissue to glass (vitrification). Among the recent finds at Herculaneum was tissue residue that could be identified by chemical methods as vitrified brain tissue.*

Walker, T.W.N., et al (2020) **A systemic overreaction to years versus decades of warming in a subarctic grassland ecosystem.** NATURE ECOLOGY AND EVOLUTION 4101-108

Authors' abstract: *Temperature governs most biotic processes, yet we know little about how warming affects whole ecosystems. Here we examined the responses of 128 components of a subarctic grassland to either 5 to 8 or >50 years of soil warming.*

Warming of >50 years drove the ecosystem to a new steady state possessing a distinct biotic composition and reduced species richness, biomass and soil organic matter. However, the warmed state was preceded by an overreaction to warming, which was related to organism physiology and was evident after 5 to 8 years.

Ignoring this overreaction yielded errors of >100% for 83 variables when predicting their responses to a realistic warming scenario of 1 ˚C over 50 years, although some, including soil carbon content, remained stable after 5 to 8 years. This study challenges long-term ecosystem predictions made from short-term observations, and provides a framework for characterization of ecosystem responses to sustained climate change.

Barrington-Leigh, C., and A. Millard-Ball (2020) **Global trends toward urban street-network sprawl.** PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES USA 117:1941-1950

Authors' abstract: *The pattern of new urban and residential roads represents an essentially permanent backbone that shapes new urban form and land use in the world's cities. Thus, today's choices on the connectivity of streets may restrict future resilience and lock in pathways of energy use and CO_2 emissions for a century or more.*

In contrast to the corrective trend observed in the United States, where streets have become more connected since the late 20th century, we find that most of the world is building ever-more disconnected "street-network sprawl." A rapid policy response, including regulation and pricing tools, is needed to avoid further costly lock-in during this current, final phase of the urbanization process.

We present a global time series of street-network sprawl, that is, sprawl as measured through the local connectivity of the street network. Using high-resolution data from OpenStreetMap and a satellite-derived time series of urbanization, we compute and validate changes over time in multidimensional street connectivity measures based on graph-theoretic and geographic concepts.

We report on global, national, and city-level trends since 1975 in the street-network disconnectedness index (SNDi), based on every mapped node and edge in the world. Streets in new developments in 90% of the 134 most populous countries have become less connected since 1975, while just 29% show an improving trend since 2000. The same period saw a near doubling in the relative frequency of a street-network type characterized by high circuity, typical of gated communities. We identify persistence in street-network sprawl, indicative of path-dependent processes. Specifically, cities and countries with low connectivity in recent years also had relatively low preexisting connectivity in our earliest time period.