OPUNTIA 382

Canada Day 2017

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

About The Cover: This sign is located on Prince's Island, in the Bow River along the north side of the downtown core. The island is the traditional centre of Canada Day celebrations, although in recent years City authorities have been spreading events to other parks because the island is so crowded on the day.

THE BIG DAY 2017-07-01
photos by Dale Speirs

150 years ago, on July 1, 1867, the process of Confederation began. I say 'began' because not all the Dominions joined Confederation at once and became provinces. Some didn't join until the 1870s, and Newfoundland didn't join until 1949. But here we are now, the Great White North, the land of free universal health care, and the land of poutine and double-doubles that will require you to need it.

I was a 12-year-old boy in 1967 when Canada celebrated its centennial. Our family took the grand tour across the country. From our ranch just north of Red Deer, in west central Alberta, we towed a tent trailer behind a Volkswagen Beetle. The first night we stayed at my father's brothers' dairy farm at Calgary. Then across the flatlands of southern Alberta and Saskatchewan to Regina, where we stayed with another brother of my father. Then more flatlands to Winnipeg to overnight with my mother's brother.

After that, three days across the boreal forest and Precambrian Shield of Ontario, where we first put the tent trailer into use. My only memory of Toronto (I've never been east since) is the humidity; Alberta's climate is so dry that humidity is never mentioned in the weather forecast. Then to Montreal for Expo 67, where it was hot and sunny, and even hotter inside the pavilions.

Across Quebec and into the Maritimes after that, of which I have little memory. We took the ferry to Prince Edward Island and went swimming on one of its red sand beaches. I remember the shock when I got a mouthful of seawater; it was salty! Nothing like that on Alberta beaches. It was the only time I have ever swum in salt water in my life.

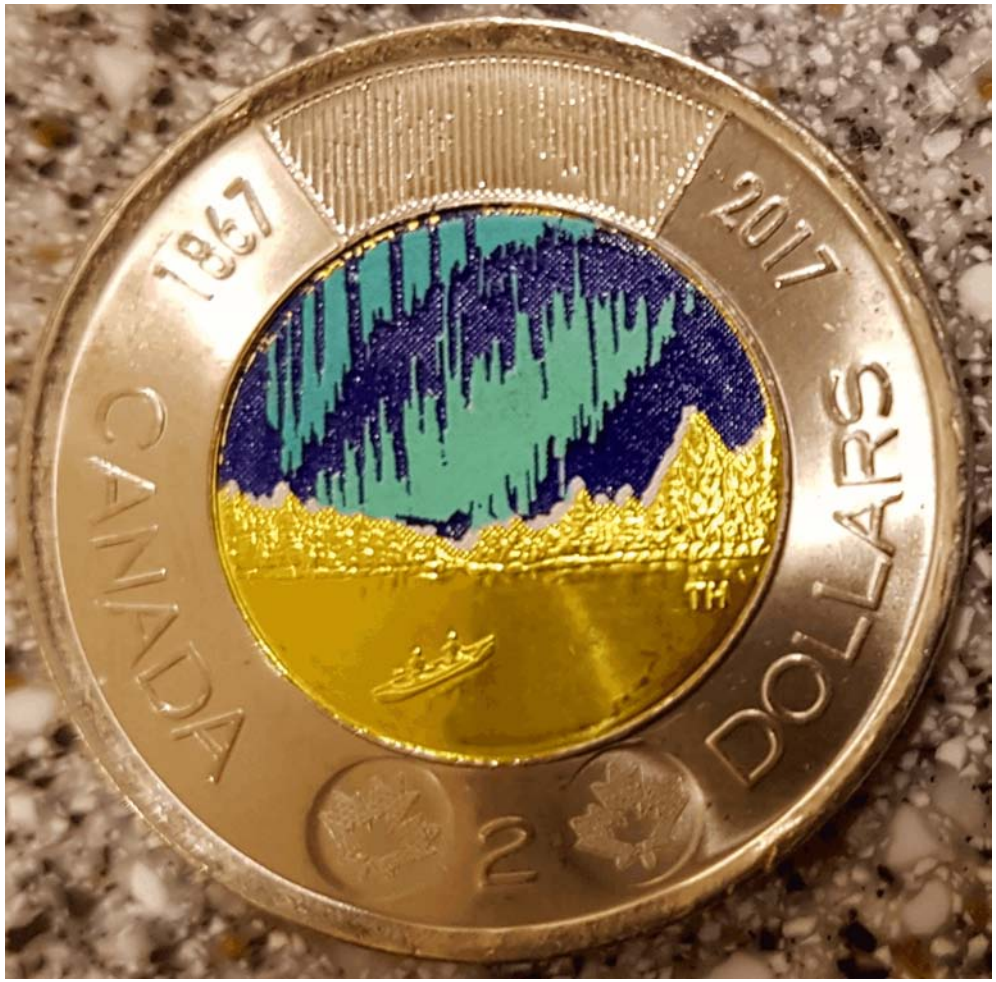
In 1992 for the 125th anniversary of Confederation, I can't recall doing anything patriotic. I was then 37 years old, settled into a career with Calgary Parks Dept. as a District Foreman, busy at work and busy paying down a mortgage. I was too poor to travel, putting every spare penny into the house, which I paid off in 1997 after fifteen years. I may have gone down to Prince's Island for Canada Day but never recorded it in the pages of this zine.

Canada 150 was like an SF Worldcon or the Calgary Stampede. There were too many events going on for me to be at all the ones I wanted to. I had to pick and choose, and tried to get to the events that would be unique to Canada 150.

Inglewood Burger Drive-In, which actually hasn't been a drive-in for decades but is still a take-out or eat-in. They make the best French fries in Calgary.

Lots of Calgarians have picnics on Canada Day. This helpful department store offered serviettes and paper plates at a price that can't be beat.

And when buying picnic supplies, why not use the 2017 toonie to pay for them? The colourized design works in the usual cliches about the Great White North. Few Canadians have paddled in a canoe, and 90% of us live too far south to see the aurora borealis. (Trick question: What percentage of Canadians live south of the 49th Parallel?)



(Answer: 70% of Canadians live south of the 49th Parallel.)

Confederation Park.

I worked 31 years for the Parks Dept. Maintenance. For about fifteen years in the middle I was a District Foreman. We were rotated every few years from one district to another so as to learn the city. In the middle 1980s I looked after the 16A Street District, which included Confederation Park, a huge coulee that meanders across north-central Calgary from 4 Street NW to 19 Street NW and beyond the grid street system another five blocks.

My supervisor had been a gardener when the park was built in 1967 and told me many stories about it. The park is 160 hectares in size. It includes four baseball diamonds, a soccer field, an 18-hole golf course, a wading pool, and various natural areas. Confederation Creek flows down the length of the coulee, with a large lagoon midway that attracts aquatic wildfowl. The Parks North Area administration building, the 16A Street District headquarters, and a maintenance field depot are also located in the park.

For Canada 150 there was to be a pancake breakfast and opening of a time capsule in the park. I got there early for the breakfast but the time capsule opening wasn't until two hours later, so I had to miss it in order to take in other events downtown. I was dressed in my Canada Day finery.

This flower bed was created when the park was completed in 1967. Every year I ordered two batches of petunias for it, one red and the other white. I don't know who the current foreman is but the tradition continues unbroken after fifty years. The flower bed is on a slope.

I hated it when someone important died on my shift because I then had to go and lower all these flags to half-mast. They were also lowered on Remembrance Day but because that was known in advance, I could schedule a Parks labourer to do the job.

The photo above shows the centre of the flag pavilion. The stem of the maple leaf is the time capsule, seen below.

This statue is directly across the street, still in Confederation Park. The official name is Transition ‘67, done by Enzo DiPalma, but we Parks workers always called it Sputnik.

Look closely at the bottom right of the Sputnik photo and you will see this little fellow hidden in the petunias. A Parks gardener’s little joke.

A typical view of Confederation Park.

And so downtown. By bus, as only the insanely optimistic would drive their car in the expectations of finding a parking spot.

The big highlight was a performance at Olympic Plaza by Ian Tyson of his song “Four Strong Winds”. Neil Young made that a #1 hit back in the day. In recent years it has become Alberta’s unofficial anthem. The audience was shoulder-to-shoulder. We sang along with Ian, then gave him a tremendous ovation.

I was stuck at the back of the crowd. My brother Neil and his wife Pam arrived even later and couldn't get a view of the stage, although they heard the song. Neil and I texted each other about where we were in the crowd, and he got a photo of me turning to look at him. I'm at left centre in the photo below.

Almost everyone had a bit of patriotic dress, but some people went all the way.

Almost completely unnoticed in the huge crowds were the attendees of Otafest, Calgary's annual anime convention. They got about 8,000 paid at the Glenbow Convention Centre, on the Stephen Avenue pedestrian mall a block west of Olympic Plaza. The cosplayers are accustomed to being the stars of the mall, but the huge crowds of red and white overwhelmed them.

After Ian Tyson's set was over, the crowd moved west along the mall. I have never seen it so crowded for any event since I moved to Calgary in 1978. Not the Flames winning the Stanley Cup in 1989, nor the Stampeders more regularly taking the Grey Cup. Not any previous Canada Day or Stampede rodeo. Normally I can walk the length of the mall in about ten minutes, but this time it took about fifteen minutes per block.

On one occasion, we came to a complete stop for about ten minutes, as pedestrian gridlock took hold. Upper right is the mall just before the gridlock. Below right, cosplayers look from the Glenbow balcony in awe at the crowds.

Mural painting contest at the Public Building next to Olympic Plaza.

All that walking makes a man hungry. I went grocery shopping at Co-op.

And to sum up a glorious Canada 150 ...

THE MAN FROM MONTENEGRO: PART 17
by Dale Speirs

[Parts 1 to 16 appeared in OPUNTIAs #252, 253, 275, 278, 279, 289, 304, 307, 319, 332, 335, 337, 344, 355, 364, and 365.]

The original Wolfe stories by Rex Stout are referred to as the corpus, while stories written by other authors are pastiches.

Pastiches: Novels.

MURDER, STAGE LEFT (2017) is Robert Goldsborough's latest Nero Wolfe pastiche. The novel begins with Wolfe being hired to find out why a new Broadway play has so many tensions backstage. Not just the usual opening night jitters or egotistical actors jousting against each other behind the scenes.

Archie Goodwin does the legwork for Wolfe by pretending to be a Canadian journalist. He interviews the actors and stage manager but doesn't get much. It does fill the first third of the novel and provides the background of the characters.

The plot gets going when someone spikes the director's Coke-Cola with arsenic. After that kerfluffle, a supporting cast member in the play also takes a dose of arsenic, but not enough to kill, just to put him on life support in the hospital. He may have been the murderer who repented and tried to commit suicide, or he may have been intended to be the traditional corpse #2. (In mysteries, the rule is that the obvious suspect becomes the second victim.) Inspector Cramer from Homicide doesn't believe it was suicide, but both he and Wolfe are flummoxed.

Wolfe calls in the cast members one by one to his office for interviews. Since they think Goodwin is a Canadian journalist, Wolfe uses another of his legmen, Saul Panzer, to help with the interrogations. All the suspects having been questioned three times, by the police, Goodwin, and Wolfe, there isn't much more rehashing that can be done to pad out the novel.

Wolfe therefore stages the usual J'accuse! meeting, with everyone gathered together in his office, along with Cramer and Sergeant Stebbins to make the arrest. The ending was fudged a bit, but let that pass. As usual, the culprit confesses instead of keeping quiet.

The last chapter, the epilogue, was unnecessary and could have been deleted to make a snappier ending. This novel is better than Goldsborough's last effort and reads well. He still has a tendency to rehash and pad, but is not so much as in the past.

Pastiches: Short Stories.

Arnold Haiman has written a batch of short stories available as free downloads from http://arnoldhaiman.com/index.html. In all but one story, he has updated the characters and venues to modern times, not always with success. Archie Goodwin uses a computer and Wolfe reads books from recent years. Goodwin mentions in passing an event said to have happened after the fall of the Twin Towers.

"Major Goodwin Returns" jumps back in time to the immediate post-war, when Goodwin is fresh out of uniform. Roger Strasser is an annoying millionaire who wants to hire Wolfe for a domestic matter, his wife's adultery. Since the big boy doesn't do such cases, Strasser is sent away.

A few months later Strasser's son Roger Jr, an Army private, is murdered, and the father hires Wolfe, this time successfully, to investigate. Strasser uses his influence to have Goodwin recalled to service from the Reserves so that Goodwin can investigate at his wartime rank of Major. It will make life a bit easier when Goodwin visits the base where Junior died.

Once on the base, Goodwin goes through all the witnesses and suspects in systematic fashion, filling in the background. Things go awry when his investigation offends the C.O., and only influence from Washington saves Goodwin from a court martial.

The case suddenly goes sideways when the investigation reveals that Mrs Strasser's adulterous affair had set off a chain reaction among both families. Young sons on both sides want to avenge the wrongs, and when two of them wound up in the same platoon, the result was inevitable.

Wolfe catches out the killer because he mis-described a movie he claimed to have seen at the base R&R building. The killer makes a run for it, determined to kill Mrs Strasser, and there is much excitement in and round the Army base. The plot has an ingenious setup in which many disparate elements suddenly come together in the last few pages.

The remaining stories are set in our modern times. "Murder At The Gazette" begins with a notice from Saul Panzer that he is retiring due to ill health. Panzer is a good friend as well as a legman, so his sudden announcement disturbs the peace at Wolfe's brownstone.

Goodwin visits Panzer, and finds him a changed man who is working on a mysterious case he won't say anything about. The background is also filled in about the NYPD characters. Lt Rowcliff, once an enemy of Wolfe and Goodwin, redeemed himself while rescuing victims just as the one of the towers fell on that dreadful September day. After he was released from hospital, Rowcliff was promoted to Captain for his heroism and because the ranks of the NYPD were so badly depleted in the disaster. Sgt. Purley Stebbins was also there but didn't make it out alive. Inspector Cramer has scarcely been seen at the brownstone since.

Meanwhile, Rowcliff, Panzer, and another legman named Fred Durkin are all investigating a murder at the GAZETTE newspaper, their gossip columnist Marty Baer having departed this life unexpectedly to all concerned, including himself. Goodwin becomes involved, otherwise there would be no story, and drags Wolfe into the case as well.

Lon Cohen, one of the newspaper's editors and a recurring character in the corpus, is a suspect in the murder and has been suspended by the newspaper. Amy Easton, cub reporter on the GAZETTE, shows up as a person of interest.

There are some strange items. Reference is made to NYPD checking typewriters of other suspects to verify a threatening note, but in the 2000s it seems improbable that any large office would still be using them. Assorted characters from the corpus are dragged almost at random, and the waters are thoroughly muddied. The author also works in fragments of plots from the corpus, spot-welding them together, or, as the younger generation would say, doing a mash-up or remix.

The guilty party is a character dragged out of the corpus from as far back as 1938. It is made logical as to why he should do it, since in previous stories he as a good man more sinned against than a sinner. The author was very good at tying up all the loose threads. The story was cleverly constructed.

"The Sickbed Solution" begins with the big guy in bed, ill with something or other. Since Wolfe seldom leaves his house, Goodwin has to find a doctor who

will make house calls, not an easy task in this age. Doc Vollmer, Wolfe's regular physician and who lives a few doors down, is away on vacation. Goodwin can only find a female doctor whose practice is failing and who needs the money. Wolfe is not pleased with the situation anymore than she is.

Wolfe had been investigating an insider trading case for two brokerages which had been embarrassed by the activities of two of their employees. On recovering, he realizes that the link between the two brokers was an elevator operator who spread information from one to the other while they were riding in her elevator.

I don't know Manhattan, so I'm not sure if any skyscrapers on Wall Street have manually operated elevators still. I would say they were obsolete, except that I know historical buildings in Calgary which have elevator operators even today.

Haiman seems determined to thin out the cast of characters in the corpus. "Death Of A Doctor" begins with the murder of Doc Vollmer, who regularly appeared in the corpus. The cause was a parcel bomb left for him; when he picked it up it detonated. Supposedly a pro-life group killed him, but there is no reason to explain why they would pick on him since he did not operate an abortion clinic.

Goodwin can't get Wolfe interested in investigating the murder, so he goes out on his own and manages to insert himself into the District Attorney's investigation. Police detective Lew Ross is working with him, and the story occasionally changes to his first-person narration.

Vollmer's daughter Anne, also a physician, was estranged from her father. She is interfering with the investigation in her capacity as heiress and executrix. The case becomes more complicated as other people with connections to Vollmer are entwined with the death. Goodwin and Ross are finding too much information, too many clues, and are unable to fit the pieces together. Wolfe solves the case with something learned at the start of the investigation; Vollmer often quoted from Shakespeare's play KING LEAR.

"Wolfe At The Door" occurs just after the Vollmer case. Fritz Brenner, Wolfe's longtime chef, has been extradited as a Nazi war criminal to Montenegro, Wolfe's birthplace. Goodwin is temporarily on the outs with Wolfe, but out of loyalty to Brenner he flies to Montenegro to see what he can do, not doubting that Wolfe was coming separately. Lew Ross has taken a leave of absence and is working for Wolfe. Everyone meets up in Montenegro, even Inspector Cramer, who was AWOL for all the other pastiches.

The plot is unbelievable. The two warring factions in Montenegro want Wolfe to act as an intermediary to negotiate a peace settlement. They brought Brenner in on trumped-up charges as a way to force Wolfe out of his brownstone and back to his homeland. One of the warlords opposes Montenegro joining NATO, and the other wants in.

The J'accuse! meeting between the two warlords turns into a gunfight, conveniently removing the bad guy while three Americans can testify to Montenegrins that the defunct drew his gun first. Brenner is absolved of the charges, and so back to the brownstone. Not a plausible story.

IF THE WIND COULD BLOW MY TROUBLES AWAY: PART 3
by Dale Speirs

[Parts 1 and 2 appeared in OPUNTIAs #326 and 355.]

First, We Take Manhattan.

There is an entire sub-genre of disaster films in which Manhattan is trashed by a dinosaur, UFO, earthquake, volcano, or asteroid. It does make a lovely target. NYC: TORNADO TERROR is a 2008 movie, written by T.S. Cook, which uses meteorological pseudoscience to trash the mean streets. The SFX are good, however, an important point since they traditionally support such movies better than the actors.

It follows the standard checklist of disaster movies. Ominous forebodings are troweled on like mortar. There is a subplot of young lovers, trapped underground when they sought refuge from a tornado. The scientist of the hour is Dr Cassandra Lawrence, who lives up to her name, when she issues warnings that no one believes. A wild and crazy guy with a plan that just might work and does, at the last second of course.

Lots of walk-ons die the hard way from tornados tearing up Gotham City. The black guy dies in the opening scene, surprising me because usually he makes it about halfway through the movie.

The movie begins after the black guy exits when turbulence rips apart his plane over the East River. In Central Park, mini-tornados that look like skinny dust devils suddenly drop down from the sky and trash a firefighters' charity picnic. The good news was that no one had to call 9-1-1; the first responders were already on location. Lawrence and her husband, a firefighter were there. She and everyone else keep repeating to each other: "*I've never seen anything like it!*" Considering that New York City is not known as a tornado town, we believe them.

Back in the day, natural disasters in movies were commonly attributed to radiation from too much atmospheric testing of atomic bombs. That was replaced by ozone depletion from Freon and underarm deodorants. This being the new millennium, the blame is now assigned to global warming.

The New York tornados are the result of handwaving science that says global warming caused the upper and lower atmosphere to separate. The two layers rubbing against each other produce static electricity, which in turn generates the tornados. Riiiiight, said this critic, who took several meteorology courses in university. This movie hits a new low in bad pseudoscience.

Be that as it may, the subplot dramas, intermixed with as many SFX as the budget would allow, get rolling. The news media blame the Mayor, and he blames his underlings. A giant vortex has stalled directly over the island, much like the Red Spot on Jupiter. In fact, Lawrence shows a photo of the Jovian storm in her slide show to the Mayor and his flunkies.

Assorted areas of Manhattan are whacked by tornados at intervals, whenever the subplots stall out and some action is needed to keep the audience awake. The Statue of Liberty has its arm ripped off. Street life in the Village is vacuumed up. It is remarkable though, how complacent the rest of New York City is, carrying on as usual. Traffic and pedestrians move normally. No one seems to be paying attention to broadcast news. No mobs of panicky citizens grabbing their 72-hour survival kits and making a rush for the bridges off the island.

Lawrence brings in a mad scientist from New Jersey who has his own private spaceport and weather modification laboratory. He's going to fire rockets up into the sky whose payloads are dry ice. Why more carbon dioxide would solve a problem popularly blamed on it is never satisfactorily explained. NASA, who are the bad guys in this movie, are going to launch silver iodide from a stealth fighter, which Lawrence declares will make the vortex worse.

She and her cohort set up a command post on the top floor of a skyscraper which is supposedly grounded and protected by a Faraday cage inside its structure. You will not be surprised, although Lawrence was, to subsequently learn that the contractor who built the skyscraper shaved the specifications here and there.

As a result, the heroine and her staff are no more protected from lightning than if they were standing out in the middle of a golf course waving aluminum golf clubs above their heads during a thunderstorm. Ball lightning invades the building, and the metal hand rails in the fire escape stairwells are energized. The supporting actors are thinned out one by one as they are electrocuted.

Out on the streets, the Mayor dies in traffic when a tornado comes roaring down the street between the skyscrapers. Pedestrians flee in a straight line, trying to outrun the tornado, instead of turning at the next corner and ducking into cover. This is further proof of natural selection.

The mad scientist's plan works, and all is well, at least for the survivors. Except, in the epilogue, another vortex forms directly over the Eiffel Tower in Paris. This illustrates a basic principle of surviving disasters; never go near famous landmarks. If you are an American, run for Ten Sleep, Wyoming, while Canadians should head for my birthplace, the rural village of Eckville, Alberta. Nothing ever happens there.

Dans La Tempete.

INTO THE STORM is a 2014 movie, written by John Swetnam, about an onslaught of tornados hitting Silverton, Oklahoma. The plot alternates between a group of professional storm chasers and the town folk, neither of whom are having a good day when a J-hook storm front brings one tornado after another through the burg.

The usual subplots are set up. Teen romances, adult romances, a single father having problems with his bratty teenagers, and various high school students getting in and out of trouble. (Played, as usual, by visibly 20-something actors.)

There are angst and remorse all over the place, and that's before the first tornado wanders into town. Although the plot is standard disaster film, the production values are good, with well-done SFX and no bad pseudoscience.

The leading lady is a meteorologist with the storm chasers who might be the scientist of the hour but for the fact that her weather predictions are often wrong. The storm chasers are an eye blink from bankruptcy as they roam around Oklahoma trying to find a tornado, and getting nothing on camera except beautiful sunsets. Their luck finally turns for the better when they arrive in Silverton, whose citizens are about to understand the true meaning of the word 'tribulations' the hard way.

After all the characters and subplots are introduced, the first tornado deigns to show itself. No trailer parks being handy, it goes after an outdoor high school commencement ceremony. From there, one tornado after another alternates with scenes of people trapped in the rubble, trying to get a signal on their cellphone. There are two rednecks who are wanna-be storm chasers, posing for selfies on their smartphones. You can guess what happens to them.

The professional storm chasers are having their own problems. They have a rookie who freezes at the first sign of big trouble, and thereafter constantly keeps babbling about the horror! the horror! If he were in the military, he would have been shot for cowardice in the face of the enemy.

The movie SFX have to keep ramping up because after the first few tornados, they become repetitious and boring. The next incident, therefore, is multiple tornados all around, too many to count. These suck up the rednecks, thin out the extras, and give the storm chasers some more last-second rescue scenes.

A semi tanker's load of gasoline explodes, is sucked up by a passing tornado, and provides the opportunity for SFX of a firenado. (I thought I was inventing that word, but when I double-checked on Google, it turns out that there really have been firenados, of which many photos and videos exist.) Next up is an F5 tornado, the big boy, with many extended alarums as it bears down on Silverton. This one is the diameter of the town and grinds it up.

Much to-ing and fro-ing ensues. Everyone runs to the rock but the rock will not hide them, all on that day. They, or at least the few who make it to the end credits, crawl into a storm drain instead, and wait it out to the epilogue.

The studio put a lot of money into the SFX and the quality showed. The plot was standard boilerplate, but no one watches disaster movies for the emoting. All told, a good movie for its genre.

ZINE LISTINGS

[I only list zines I receive from the Papernet. If the zine is posted on www.efanzines.com or www.fanac.org, then I don't mention it since you can read it directly.]

CHRISTIAN NEW AGE QUARTERLY v23#1 (US$5 from Catherine Groves, Box 276, Clifton, New Jersey 07015-0276) Thoughts from the editor on growing old and having to give up some skill sets. Also a short story that I didn't get past the first page. Letters of comment.

SEEN IN THE LITERATURE

Maxmen, Amy (2017) **A billion-year arms race against viruses shaped our evolution.** NATURE doi:10.1038/nature.2017.22191

Extracts: *Viruses and their hosts have been at war for more than a billion years. This battle has driven a dramatic diversification of viruses and of host immune responses. Although the earliest antiviral systems have long since vanished, researchers may now have recovered remnants of one of them embedded, like a fossil, in human cells.*

A protein called Drosha, which helps to control gene regulation in vertebrates, also tackles viruses, researchers report today in NATURE [see next abstract below]. *They suggest that Drosha and the family of enzymes, called RNAse III, it belongs to were the original virus fighters in a single-celled ancestor of animals and plants.*

Plants and invertebrates deploy RNAse III proteins in an immune response called RNA interference, or RNAi. When a virus infects a host, the proteins slice the invader's RNA into chunks that prevent it from spreading. But vertebrates take a different approach, warding off viruses with powerful interferon proteins, while Drosha and a related protein regulate genes in the nucleus.

But in 2010, [researcher] *tenOever witnessed an odd phenomenon: Drosha appeared to leave the nucleus of human cells whenever a virus invaded. "That was weird and made us curious," tenOever says. His team later confirmed the finding, and saw that Drosha demonstrates the same behaviour in cells from flies, fish and plants.*

tenOever speculates that RNAse III proteins originally helped bacteria to maintain their own RNA, and that bacteria later deployed the proteins against the genetic material of viruses.

Aguado, L.C., et al (2017) **RNase III nucleases from diverse kingdoms serve as antiviral effectors.** NATURE doi:10.1038/nature22990

[Prokaryotes are cells without nuclei, eukaryotes are cells that have nuclei.]

Authors' abstract: *In contrast to the DNA-based viruses in prokaryotes, the emergence of eukaryotes provided the necessary compartmentalization and membranous environment for RNA viruses to flourish, creating the need for an RNA-targeting antiviral system.*

Present day eukaryotes employ at least two main defence strategies that emerged as a result of this viral shift, namely antiviral RNA interference and the interferon system. Here we demonstrate that Drosha and related RNase III ribonucleases from all three domains of life also elicit a unique RNA-targeting antiviral activity. Systemic evolution of ligands by exponential enrichment of this class of proteins illustrates the recognition of unbranched RNA stem loops. Biochemical analyses reveal that, in this context, Drosha functions as an antiviral clamp, conferring steric hindrance on the RNA-dependent RNA polymerases of diverse positive-stranded RNA viruses.

We present evidence for cytoplasmic translocation of RNase III nucleases in response to virus in diverse eukaryotes including plants, arthropods, fish, and mammals. These data implicate RNase III recognition of viral RNA as an antiviral defence that is independent of, and possibly predates, other known eukaryotic antiviral systems.

Barbacka, M., et al (2017) **Changes in terrestrial floras at the Triassic-Jurassic boundary in Europe.** PALAEOGEOGRAPHY, PALAEOCLIMATOLOGY, PALAEOECOLOGY 480:80-93

Authors' abstract: *The mass extinction during the Triassic-Jurassic Boundary* [199.6 megayears ago] *is considered to be one of the five most significant extinction events; an estimated 80% of all marine animal genera were lost. It affected both marine and terrestrial ecosystems, and caused the disappearance of many animal taxa, mostly marine ones. Its influence on floral changes has been widely discussed, with arguments offered for the sudden mass extinction of plants over vast areas, or, alternatively, for slow, less extensive changes.*

The aim of this study was to statistically verify changes in terrestrial plant composition during the TJB in Europe, and to examine the type and extent of these changes. ... Our results, based on accurate data from Poland and the rest of Europe, confirm and visualize a scenario in which there were no significant changes in terrestrial plant composition at the TJB. Hierarchical clustering suggests that local habitat conditions are the key factor in the grouping of localities with similar floristic composition, and that differences between floras are not associated with the time dimension (stages).

Speirs: Whatever wiped out 80% of all marine life left the land alone; plants were not seriously affected.

Stoddard, M.C., et al (2017) **Avian egg shape: Form, function, and evolution.** SCIENCE 356:1249-1254

Authors' abstract: *Avian egg shape is generally explained as an adaptation to life history, yet we currently lack a global synthesis of how egg-shape differences arise and evolve. Here, we apply morphometric, mechanistic, and macroevolutionary analyses to the egg shapes of 1,400 bird species. We characterize egg-shape diversity in terms of two biologically relevant variables, asymmetry and ellipticity, allowing us to quantify the observed morphologies in a two-dimensional morphospace. We then propose a simple mechanical model that explains the observed egg-shape diversity based on geometric and material properties of the egg membrane. Finally, using phylogenetic models, we show that egg shape correlates with flight ability on broad taxonomic scales, suggesting that adaptations for flight may have been critical drivers of egg-shape variation in birds.*

Although birds' eggs are generally ovoid in shape, there is considerable variation in the degree to which they are symmetrical, round, or bottom-heavy. Many hypotheses have been put forward to explain what has driven this variation, with many accepting life history or nesting explanations. Stoddard et al. looked at nearly 50,000 eggs from more than 1,400 species from

morphological, biophysical, and evolutionary perspectives and found little support for previous hypotheses. Instead, their results suggest that selection for flight adaptations is most likely to be responsible for the variation.

Boisserie, J.R., et al (2017) **Basal hippopotamines from the upper Miocene of Chorora, Ethiopia.** JOURNAL OF VERTEBRATE PALEONTOLOGY doi10.1080/02724634.2017.1297718

Authors' abstract: *Afar Depression in Ethiopia spans most of the fossil-depleted time interval. Although fragmentary, these remains represent a new, mid-sized hippopotamid species dated to ca. 8 Ma, as well as a somewhat younger, larger form. A cladistic analysis of a large array of cetartiodactyls indicates that the Chorora taxa were basal to the latest Miocene hippopotamines. The new species displays a mosaic of dental characters that support the attribution of the new species to a new genus within Hippopotaminae.*

The new fossils also clarify the course of early hippopotamine dental evolution. The Chorora hippopotamids suggest that transition to a marked abundance of hippopotamines with their unique dental pattern in African ecosystems occurred within a relatively short time interval, most probably between 8 Ma and 7.5 Ma.

Speirs: Hippopotami evolved rather quickly, within less than 500,000 years, an eye blink in geological time. This study suggests that since grasses suitable for hot climates had evolved just prior, the hippo ancestors adapted to them as a new food source. Modern hippos lurk in water by day but come ashore to feed on grasses.

Ottoni, C., et al (2017) **The palaeogenetics of cat dispersal in the ancient world.** NATURE ECOLOGY AND EVOLUTION doi:10.1038/s41559-017-0139

Authors' abstract: *The cat has long been important to human societies as a pest control agent, object of symbolic value and companion animal, but little is known about its domestication process and early anthropogenic dispersal. Here we show, using ancient DNA analysis of geographically and temporally widespread archaeological cat remains, that both the Near Eastern and Egyptian populations of Felis silvestris lybica contributed to the gene pool of the domestic cat at different historical times.*

While the cat's worldwide conquest began during the Neolithic period in the Near East, its dispersal gained momentum during the Classical period, when the Egyptian cat successfully spread throughout the Old World. The expansion patterns and ranges suggest dispersal along human maritime and terrestrial routes of trade and connectivity.

A coat-colour variant was found at high frequency only after the Middle Ages, suggesting that directed breeding of cats occurred later than with most other domesticated animals. The domestic cat is present on all continents except Antarctica, and in the most remote regions of the world, and its evolutionary success is unquestioned. While it is nowadays one of the most cherished companion animals in the Western world, for ancient societies barn cats, village cats and ships' cats provided critical protection against vermin, especially rodent pests responsible for economic loss and disease.

Owing to a paucity of cat remains in the archaeological record, current hypotheses about early cat domestication rely on only a few zooarchaeological case studies. These studies suggest that ancient societies in both the Near East and Egypt could have played key roles in cat domestication. Wildcats (Felis silvestris) are distributed all over the Old World. Current taxonomy distinguishes five wild, geographically partitioned subspecies: Felis silvestris silvestris, Felis silvestris lybica, Felis silvestris ornata, Felis silvestris cafra and Felis silvestris bieti. Modern genetic data analyses of nuclear short tandem repeats (STR) and 16% of the mitochondrial DNA (mtDNA) genome in extant wild and domestic cats revealed that only one of them, the north African/southwest Asian F. s. lybica, was ultimately domesticated.

Wildcats are solitary, territorial hunters and lack a hierarchical social structure, features that make them poor candidates for domestication. Indeed, zooarchaeological evidence points to a commensal relationship between cats and humans lasting thousands of years before humans exerted substantial influence on their breeding. Throughout this period of commensal interaction, tamed and domestic cats became feral and/or intermixed with wild F. s. lybica or other wild subspecies as is common today. These regular genetic exchanges may have contributed to the low level of differentiation observed between modern wild and domestic cat genome sequences. Accordingly, the domestication process seemingly has not profoundly altered the morphological, physiological, behavioural and ecological features of cats, in contrast to what has been observed, for example, for dogs.

YEEHAW!
AND SO FORTH
photo by Dale Speirs

The Calgary Stampede rodeo begins July 7 with the big parade, so the next couple of issues will be obvious.

Skyscraper lobbies and shopping malls all have their displays set up, such as this one in Bankers Hall downtown.

The entire city dresses western, from secretaries to petro-executives to immigrants fresh off the boat and still learning English. Ability to explain the difference between a bull and a steer is not required, nor do you have to be able to ride a horse.

It is impossible to visit Calgary and not be aware of our biggest party of the year. Paid admissions are 1.2 million over ten days. I like to refer to the Stampede as the world's largest costume con.