OPUNTIA 482

Early September 2020

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

The cover photo shows a few of the hundreds of rafters along the river just upstream of the downtown core. Notice how they maintain social distancing.

Below: The Calgary Fire Dept is responsible for policing the river. The flag on the stern of the jet boat is Calgary's official flag. It doesn't show too well in the photo, so I append a better image. A cowboy hat in the letter C. The symbolism seems obvious.

AROUND COWTOWN: BOW RIVER

photos by Dale Speirs

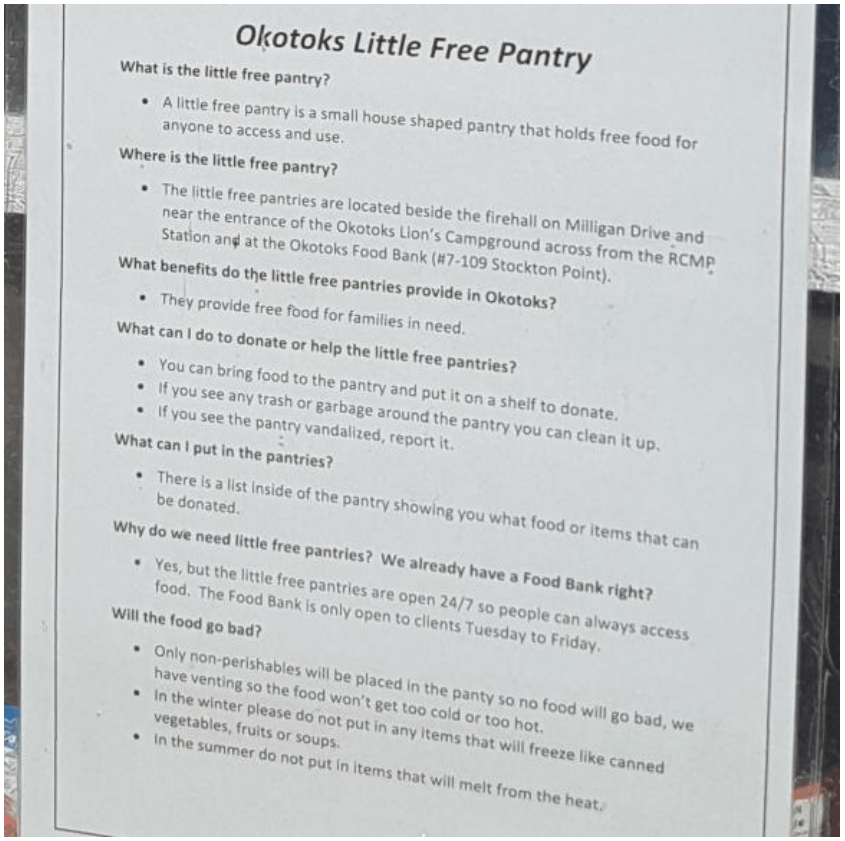
Calgary had a hot dry summer with temperatures in the high 20s and low 30s, which has given me an opportunity to do a lot of walking, particularly along the Bow River pathway system. These photos were taken August 19 from the north bank of the river looking east, between Crowchild Trail NW and 10 Street NW.

Looking south across the river. In the distance, an LRT train heads to the western suburbs on the elevated track.

LITTLE FREE LIBRARIES: PART 4
photos by Dale Speirs

[Parts 1 to 3 appeared in OPUNTIA #378, 427, and 466.]

I've been accumulating photos of Little Free Libraries, but this installment was triggered by the recent innovation of Little Free Pantries. I found my first LFP in Okotoks, a small city ten minutes drive south of Calgary. I went down on business and as I was leaving town I spotted it on Woodhaven Drive. Thinking it was a LFL, I stopped and found it to be something completely different.



Okotoks Little Free Pantry

What is the little free pantry?

- A little free pantry is a small house shaped pantry that holds free food for anyone to access and use.

Where is the little free pantry?

- The little free pantries are located beside the firehall on Milligan Drive and near the entrance of the Okotoks Lion's Campground across from the RCMP Station and at the Okotoks Food Bank (#7-109 Stockton Point).

What benefits do the little free pantries provide in Okotoks?

- They provide free food for families in need.

What can I do to donate or help the little free pantries?

- You can bring food to the pantry and put it on a shelf to donate.
- If you see any trash or garbage around the pantry you can clean it up.
- If you see the pantry vandalized, report it.

What can I put in the pantries?

- There is a list inside of the pantry showing you what food or items that can be donated.

Why do we need little free pantries? We already have a Food Bank right?

- Yes, but the little free pantries are open 24/7 so people can always access food. The Food Bank is only open to clients Tuesday to Friday.

Will the food go bad?

- Only non-perishables will be placed in the panty so no food will go bad, we have venting so the food won't get too cold or too hot.
- In the winter please do not put in any items that will freeze like canned vegetables, fruits or soups.
- In the summer do not put in items that will melt from the heat.

Meanwhile, back in Cowtown, here are some LFLs. This one was in the South Calgary district on 31 Avenue SW. Despite its name, South Calgary is in the central part of the city, although when it was developed in the 1930s it was an outermost suburb.

Not far away and closer in to the downtown core is the Mount Royal district, where $3,000,000 is considered a starter home. They have a tennis club, and this LFL was attached to the building.

These LFLs were in the Sunnyside district, on the north bank of the Bow River across from the downtown core.

Below: I wasn't aware of any cat. Probably sleeping in the shade somewhere; the temperature was in the high 20s.

At right: This LFL was on the stump of a dead boulevard tree.

Okay, this wasn't a LFL but it was a block away and I couldn't ignore it. Another use of a dead boulevard tree, this time for bird houses.

West of Sunnyside is the Hillhurst district, where this LFL was seen in the 1700 block of 7 Avenue NW.

LICENCED TO DRIVE: PART 2
photos by Dale Speirs

[Part 1 appeared in OPUNTIA #476. Previous licence plate photos were in OPUNTIAs #63.5A, 410, 421, 445, 452, 459, and 471.]

With all the walking I've been doing during our sunny summer, I've been finding lots of licence plates to photograph. I don't bother with plates that are obviously just personal names but record the more interesting ones.

These two below are Tesla owners who had the money to buy expensive electric vehicles and a little left over to spring for a vanity plate.

Sales agents probably deduct their plates as a business cost.

Alberta is far inside the continental interior, 600 km from the nearest ocean, so I don't know what these two plates signify.

Top: Someone after my own heart.
Middle: One of my mother's hobbies was rockhounding (lapidary).
Bottom: A sports enthusiast.

I wouldn't drive a car with plates like these but to each their own.

Some business plates. If I read the one at left correctly, it means "send electronic foreign exchange".

Some ancillary items. Most decals on vehicles are for sports teams or social clubs, but there were a few oddities.

COZY MYSTERIES: PART 12
by Dale Speirs

[Parts 1 to 11 appeared in OPUNTIAs #361, 379, 395, 398, 400, 420, 423, 443, 445, 449, and 466.]

Cozy mysteries are amateur detective stories, usually set in rural villages with a murder rate that would horrify Chicago gang members. The case is solved by a middle-aged woman ho more often than not found the first body. She usually has a small business, and at least once in the series a corpse will be found inside the shop or in the back alley behind it.

There's Always Room At The Inn For A Corpse.

JUST DESSERTS (1991) by Mary Daheim was a novel in a series about Judith McMonigle, who operated a bed-and-breakfast. It opened with the inn being swamped by the family of Otto Brodie, the carpet sweeper magnate. Their mansion was being fumigated for carpenter ants, which demonstrates that the rich have their problems same as you and I.

While the Brodie bunch were ensconced in the inn, they entertained themselves by bringing in Madame Gushenka to tell their fortunes. She wasn't a very good psychic as she died at the table from drinking poisoned tea. She should have seen it coming. The probability was that the tea had been intended for Otto by someone wanting to speed up an inheritance.

Some bizarre branches on the family tree were exposed. Gushenka was Otto's secret daughter from an illicit relationship. The family didn't pray together, as a nephew was trying to prune off other branches to line up his inheritance. No one was without sin. It was just a matter of who was faster and could do unto others before they did unto him.

MARDI GRAS MURDER (2018) by Ellen Bryon was a novel set in Pelican, Louisiana, where Maggie Crozat operated the Crozat Plantation bed-and-breakfast. In keeping with cozy tradition, a flood deposited a corpse behind her building, putting her in the Miss Marple business.

To keep village life spiced up with Mardi Gras excitement, there was a controversial exhibit about the Louisiana Orphan Train. That wasn't much of a subplot, so another body was injected into the novel, a judge at the Miss Pelican Mardi Gras Gumbo Queen. Fat Tuesday was never so bloody.

Crozat assumed the two deaths were connected. The beauty contest seemed a logical place for viciousness, although to be fair the gumbo competition was equally nasty at times. Genealogy played a large part, not so much from family pride but to provide clues as to possible buried treasure.

Crozat got herself kidnapped by a masked horseman during a Mardi Gras parade, certainly an unusual turn for a cozy. The murderer was someone hoping to speed up an inheritance, as explained at great length in the denouement. There were a lot of heirs in the family, hence the pages needed.

From there to the recipes appendix, with Oyster Soup, Banana Pancakes, two kinds of King Cake, and two types of gumbo. The Banana Cocktail proved that some people will drink anything.

Felines.

There is an entire subgenre of cozies with cats helping Miss Marple by sniffing out clues and meowing when danger threatened. I reviewed a bunch of them in OPUNTIA #443 and here are a few more.

I've always been puzzled at how helpful cozy cats are, compared to the cats I have known. We had all kinds of cats back on the ranch but they only meowed at us when their food bowls were empty. Between them, they never sniffed out a single corpse, just field mice.

Janet Cantrell has a cozy series that straddles food and cat. The protagonists were Charity Oliver and Anna Larson, who operated the Bar None bakery, adjacent to the University of Minnesota campus in Minneapolis. They had a butterscotch tabby named Quincy. He usually motivated the plot by finding a body. I'll therefore classify this series as a cat cozy.

FAT CAT SPREADS OUT (2015) began at the Bunyan County Harvest Festival where Oliver and Larson had a booth selling dessert bars. Quincy was to be entered into the Fancy Cat Contest, which is why he was there. He roamed about and sniffed out the body of Larry Oake.

The deceased was a top contender in the butter sculpting contest. The police suspected Dr Mike Ramos DVM, who happened to be Quincy's veterinarian and the object of Oliver's fantasies. Naturally she had to go Marpleing.

The real world intruded though. One of her employees Inger Uhlgren was pregnant. The father was a soldier KIA overseas, so she was alone. Quincy was an escape artist and poked his nose in whenever a boost to the plot was needed.

Oake had quarreled with two other butter sculptors. His marriage was in trouble, and for motive his wife Elsa would be the beneficiary of a large life insurance policy. Quincy sniffed out a second murder at the festival, just before the denouement. Several twists in the plot, including two different murderers operating independently for different reasons.

The good news was that Quincy won the contest, dressed as Babe the Blue Ox. The appendix had two recipes. The one for humans was Harvest Bars (pumpkin). The Fish Balls were presumably for cats, since dried catnip was one of the ingredients.

FAT CAT TAKES THE CAKE (2016) was the next novel in the series. Richard 'Dickie' Byrd, mayoral candidate, staged a high school reunion as part of his campaign. Charity Oliver and Julie Larson, granddaughter of Anna, made re-connections they'd rather they hadn't. Julie was attacked by drunken boor Ron North, the creepy boy back in school. That set the stage for the plot.

The next day, Oliver and Quincy were walking in the park when the cat sniffed out North's body. Julie was suspected, so that triggered the Marpleing. What with all the baking to be done as well, Oliver was a busy woman. North turned out to have been a busy man with a blackmail operation.

Not as deadly but certainly vicious from time to time was a bake-off called the Minny Batter Battle. Recipe thefts and rumour mongering belied the notion that cozies are cozy. Quincy made himself useful by finding North's blackmail documents.

The ending was a standard trapped-with-the-killer fight but all concluded well with a wedding after the culprit was hauled off to jail. The appendix had only one recipe, for Blueberry Muffin Bars, plus a section on leash training for cats. Practical advice was given in the latter: *Be sure to do all the fasteners securely so your cat doesn't escape and find dead bodies.*

Claire Donally (pseudonym of Bill McCay) has a series of cat cozies set in yet another blood-soaked Maine seaside village, cutely called Kittery Harbor. Sunny Coolidge was the resident equivalent of Jessica Fletcher, accompanied by her grey tabby Shadow. She had lost her job as a New York City newspaper reporter and came crawling back to Kittery Harbor to work a menial job and care for her father.

The series began with THE BIG KITTY (2012) when elderly cat lady Ada Spruance took a bad fall down the stairs and never got up again. She had won $6 million in the lottery but her ticket was missing. Spruance was involved in not a few neighbourhood feuds and civic politics, although none of them seemed to warrant murder. Her son soon joined her in the next world.

The background was ugly, including drug dealing. Really ugly, as in gunfire and severe beatings. In the final confrontation with the drug dealer who started it all, Shadow did his part by clamping his teeth into the dealer's ear and hanging on tightly. That would distract the strongest of men.

CAT NAP (2013) was the sequel. Sunny Coolidge did a stupid thing and tried to intervene in a marital breakup between two veterinarians, Jane and Martin Rigsdale. Money disputes and infidelity were at the heart of the divorce, as they usually are. When Martin was murdered, Jane was the obvious suspect, so Coolidge went Marpleing.

Shadow had his own problems. A sore paw and a neighbour's puppy vexed him. That would explain why he wasn't the one who found the body. He went missing for much of the novel, while Coolidge tangled herself up with evidence of blackmailing and loan sharking. The murderer, however, was a woman who didn't like the way Martin had overcharged her for treating her cat, which died anyway. The ending was a cheat that came out of the blue, thereby making most of the novel just padding.

LAST LICKS (2014) was the third novel in the series. Sunny Coolidge's boss Oliver Barnstable had broken his leg and was sent to a rehabilitation clinic to recuperate. His roommate Gardner Scatterwell soon departed our vale of tears. Barnstable was convinced it was murder. By this time Coolidge had a reputation around the village as another Jessica Fletcher, so he asked her to investigate.

The rehab centre had a calico cat named Portia, who would cozy up to patients just before they died. This is. incidently, based on real-world observations at terminal care facilities which allow resident cats. It has been noted that cats can sense imminent death of chronically-ill patients.

Scatterwell had a past history, but by now the reader will suspect, correctly so, that this was a distraction. The murderer was a nurse who liked to play at being an angel of death. Shadow had a few contacts with Portia but since he had been neutered long ago, his interest in Portia was purely platonic.

HISS AND TELL (2015) had Sunny Coolidge working again as a reporter, albeit freelance for one assignment. Society heiress Priscilla Kingsbury was about to marry Carson de Kruk, son of the wealthy Augustus. The pre-wedding party was marred by the body of a young woman found floating off the beach adjacent to the family compound. Not long before, she had been a guest.

Coolidge had a big story on her hands. Nevermind the state police, she was going to solve the case. Shadow got underfoot, not just figuratively, to remind the reader this was a cat cozy. The second victim was a candidate in the election for a new sheriff, an annoyance to the Kingsbury faction.

The murderer was a blackmailer who wanted to set up his future in-law with a sex scandal, using the young woman. It didn't work, and since she was an inconvenient fact he tossed her off a cliff into the water. Coolidge had the traditional conflict with the killer. She was rescued by Shadow, who had claws and wasn't afraid to use them.

CATCH AS CAT CAN (2016) opened with a new seafood store in town, run by Neil Garret and of great interest to Shadow. This brought up a common question about cats: why do they like fish so much if they hate swimming and never preyed on them before domestication?

The seafood shop struggled financially and went from bad to worse when a man's corpse was discovered in the shop's walk-in freezer. There was more. Someone identified Garret as an underworld character named Nick Gatto. Yes, I know what 'gatto' means in Italian. Cozy authors like to be cute that way.

Garret/Gatto was in the Witness Protection programme. The dead man was a shady operator trying to put the make on him. No one was without sin. The centre of the sinning was the wholesale fish market. There was a struggle for power along the docks, and the devil took the hindmost.

Coolidge got herself trapped in a room. Shadow, an accomplished escape artist, jiggled a door handle and freed his mistress. Well, it was a cat cozy.

CARELESS WHISKERS (2020) by Miranda James (pseudonym of Dean James) was the latest novel of the Cat In The Stacks series (see OPUNTIA #468 for previous books). Librarian Charlie Harris and his cat Diesel were watching his daughter rehearse for a play at Athena College titled "Careless Whispers".

The play was written by local playwright Finnegan Zwake (his pseudonym obviously) and directed by Laura's husband Frank Salisbury. The murder victim was Luke Lombardi, an imported actor from C-list Hollywood. He was the best the college drama department could afford. It was the usual setup. Lombardi had a towering ego, no manners, and thought he was always the smartest person in the room.

Lombardi got his on stage in front of an audience when Laura, in character, handed him a drink that wasn't supposed to be poisoned. As it was the first performance of a new play, the audience assumed his death throes were part of the act.

Zwake was a nice guy but someone was impersonating him. That man had a past connection to Lombardi that might have caused him to serve revenge as a cold dish, or in this case, a drinking glass. A third man appeared claiming to be Zwake. Further, there were competing claims as to who wrote the play.

Harris did his snooping, although he had to evade the Deppity Dawgs, who understandably resented anyone barging into their territory. Diesel mewed every so often to remind everyone he was still in the novel.

The murderer had hoped to cash in on Lombardi's $500,000 life insurance policy, unaware that such policies do not pay off for murders. The final line of the book was: *Diesel meowed loudly and enthusiastically*. A happy ending.

Scrapbooking.

CUT, PASTE, KILL (2010) by Marshall Karp was a novel in a series about LAPD detectives Mike Lomax and Terry Biggs. These books were police procedurals, not cozies, but since scrapbooking is a sub-genre of cozies, and the topic is seldom met with elsewhere in fiction, I'll add it in here.

This novel had a fair bit of morbid humour as the detectives worked their way through the scrapbooking community. A serial killer, a vigilante, was killing off people who got away with serious crimes. At each murder, the perpetrator left a scrapbook documenting the motive.

Any suspense about who the murderer was had been dispelled by the opening chapter, which detailed her thought processes, how she operated, and left out only her identity.

The first victim in Los Angeles was a diplomat's wife who had killed a 10-year-old while she was driving drunk. The scrapbook at the scene had been very well crafted. It was not a beginner who put it together but someone who knew how to tell a story with photographs, clippings, and good design.

Then it was learned the murder was actually #3 in the series, the first two being in other cities but always with a scrapbook. Police procedures took up the middle part of the novel. Forensics determined the scrapbooks were sold by one company only online. A list of purchasers was obtained, then narrowed down to those who purchased several scrapbooks at once.

It wasn't as simple as that. Much slogging and dull footwork followed, with false leads aplenty. There were multiple twists in the denouement, including the murderer having a split personality and dressing up as his own sister, who died aged 5.

A few loose threads left over were dispensed with by declaring that justice did not always need the courts to be rendered. The black humour of the novel leavened what might otherwise have been a dreary story.

FUTURES OF THE PAST
by Dale Speirs

I check Project Gutenberg regularly (www.gutenberg.org). They have a What's New tab, wherein I found a number for novels set in the future from the much more distant past. Many are utopian novels, occasionally action adventure, and always a study of the author's psychology.

All of the titles mentioned below are from Project Gutenberg. I have sorted them in order of the futures they predicted, not publication date. What was surprising was not the misses but the hits. Some of the authors managed to score direct hits from a distance of fifty years.

THE GREAT WAR OF 189-: A FORECAST (1892) was a compilation of scenarios by Rear-Admiral P. Colomb, Colonel J. F. Maurice, R.A., Captain F. N. Maude, Archibald Forbes, Charles Lowe, D. Christie Murray, and F. Scudamore.

Interestingly they were often not far off as far as events were concerned, just premature by two decades in predicting World War One. I'm sure historians have written as to why the great war was so long in coming even though many people predicted it and most of Europe expected it.

The book began with the attempted assassination of Prince Ferdinand of Bulgaria in the town of Samakoff. The Balkan nations were to fight assorted wars in the early 1910s that were basically a prelude to 1914. That a real assassination took place nearby was not a failing in the prediction. Close enough for horseshoes, as we used to say back on the ranch.

We have long familiarised ourselves with the thought that the Great War of which the world has been in constant dread for some years back, and which is to re-adjust the balance of the Continent, is much more likely to break out in the region of the Danube than on the banks of the Rhine, and the incident at Samakoff may well precipitate the catastrophe.

Anarchists were the bogeymen of that era, more so than Communists, and no one had heard of fascists. The radicals burrowed away into Europe while the great powers huffed and puffed at each other.

The Triple Alliance will no more succeed in terrorising the souls of all these secret plotters and designers, and in giving them pause, than three interlocked mountain oaks or firs could stay the downward course of an extended series of separate avalanches, which rend away with them pines, and oaks, and all, in their resistless rush. But has the avalanche, which we thus dread, really and truly at last begun to move?

The Serbians mobilized their army. The Turkish Empire mobilized. The Russians mobilized. Just as with the real World War One, there was a slow-motion cascade as nations readied to fight. There were too many interlocking treaties that compelled a peaceable nation to come to the aid of another even if the citizenry preferred to stay behind their ploughs or in their shops.

The Russians attacked Austria. Germany came to the aid of their fellow Germanic people. The French, not having forgotten the results of the 1870 war, were with Russia. German citizens in Paris had to flee for their lives. Italy invaded France. Eventually they were all invading each other.

The War of 189- spread to the colonies in Africa and Asia. Britain sent troops to India via the Canadian Pacific Railway after the Suez Canal was cut off. Afghanistan was another battleground as the British tried to prevent Russia from reaching its goal of a warm-water port.

The book goes into detail about how such a war would be fought. Obviously it could not be accurate as the reality but it is surprising how many generalizations became actual history twenty years later. There were enough variations that any novelist looking for ideas for alternative history would profit from reading this book.

1931: A GLANCE AT THE TWENTIETH CENTURY by Henry Hartshorne was published in 1881. The novel was formatted as a diary written in the far-off future of 1931, fifty years hence.

The diary began with a mention of the republic of Britain, the ex-king having been so unpopular that the monarchy was abolished. Not too far off, for in 1936 the royal family almost fell because their king insisted on marrying a divorced woman, and American at that. The Duke of Windsor, as Edward became, didn't live long enough to see his nephew marry a divorced woman, and a grandnephew marry an American actress.

Next was a petition by Mexico to become the 52nd American state. There has always been a delusion by many American politicians that Canadians were yearning to be free, viz:

It is remarkable how entirely mistaken, also, those croaking prophets were, who formerly supposed that much addition to the old United States would make a cumbrous and impracticable political aggregate.

Since the principle that only honest men shall be placed in public offices has been adopted throughout the nation, local administration of local affairs harmonizes so well with a central national government controlling general interests, that all works smoothly yet; even with the addition of the three great States which once formed the Dominion of Canada, and the outlying territories of Greenland, Labrador, Hawaii, Cuba, and St. Domingo.

Even more delusional was that bit about only honest men placed in office. By now, the reader will have guessed that Hartshorne was not entirely serious. There followed several more pages of ridiculous turns of events around the world in politics and religion.

The technology was mostly a straight-line extrapolation of existing technologies, a common failure of prophecy. Trains ran extremely fast, telephone cables stretched everywhere, and colour photography was nigh. For the eleven perzine publishers left in North America, there was this prediction for mimeographs:

Printing one's own books has become almost too easy, by using the type-writer, with sheets of celluloid, warmed to 300˚, instead of paper. The celluloid hardens at once sufficiently for stereotyping; so that any number of thousands of copies can be taken from such off-hand plates. Truly, "of making many books there is no end". Pencils, moreover, whose marks are permanent, have so improved as to render that intolerably nasty fluid, ink, unnecessary, and confined in its use entirely to a few old-fashioned people.

Sadly, the flying machine never came to be. Hartshorne was writing two decades before the Wright brothers flew. In his day, a flying machine was a dirigible or balloon. He did get the idea of large screens, as cities had them on the sides of buildings, upon which were projected the news and sports.

Funnily enough, one prediction seems to be coming true today as physicists burrow deeper and deeper into the Higgs field:

Proof seems to be accumulating that the suggestion made by Lockyer in 1879, that all the supposed chemical elements are really modifications of the same substance, and that soon after made by others, that this common substance is only condensed universal ether, the medium of luminous, electrical, and other vibrations, is going to be accepted as correct. The opinion that the panæther, as it is best called, is not atomic in its constitution, while all the combinable elements are so, is also gaining ground.

And for astronomers, who keep changing their minds about what a planet is:

Among the leading discoveries of the year is that of the long-looked-for third moon of the extra-Neptunian planet. The name of that planet itself, although it has been known since 1885, is not yet finally settled. Some call it Pluto; others Terminus; it being almost certainly the outermost body of our solar system.

Hartshorne was bang on, since Pluto was discovered in 1930.

The rest of the book was more of the same, with lots of wishful thinking about the triumph of Christianity and the suppression of Islam. One suspects that Hartshorne was actually serious there. An interesting psychological study.

MEMORIES OF THE FUTURE was published in 1923 by Ronald A. Knox, as if it were written by Opal, Lady Porstock. The subtitle was "Being Memoirs Of The Years 1915-1972 Written In The Year Of Grace 1988 ". In the Preface, Knox wrote:

One day you were young, and you too wanted to write forecasts; and you too found that to envisage the future was arduous, that old ways of thinking and status quo ante judgments of value imposed themselves upon your mind, and made you despair of the true estimate and the adequate phrase.

Lady Porstock began with her birth in 1915. Since the novel was published in 1923, there was no divergence until after that date, so her account of life in London as a child was not out of the ordinary. She grew up in a well-to-do family, and attended Oxford in due course.

At this point, the story shifted into the distant future of 1934 when she began her undergraduate studies. Her major was Byzantine archaeology, a useless subject, but then she was not expected to have a career.

The university kept up with the times: *By half-past one we were whizzing along the moving pavement in the middle of St. Giles' (one of the first to be started, I believe, in the United Kingdom. The then Principal of Pusey House would never travel on it: "these young ladies are too fast for me," he said waggishly, more than once) and en route for our luncheon.*

Most of her student reminiscences were nothing unusual, but she threw out casual remarks about events such as India becoming independent in the 1930s. After graduation she went on a Grand Tour through middle Europe. After the Austro-Hungarian Empire broke up at the end of the war, many of the fragmented states eventually united into a confederation much like the European Union. Lady Porstock traveled about with no need for a passport.

She stayed in Nuremberg at Christmas 1939. No sign of brown-shirted men. In Bayreuth she attended a gramophone playing of Wagner's entire Ring Cycle on one record, saying: *It was wonderful to watch how the devotees sat there silent, hour after hour*. The record took up the entire backstage and she mentioned she could have stood upright in the mouth of the sound horn.

And so she percolated around the world. While in America, Lord and Lady Massachusetts introduced her to her future husband. (Yes, the USA had titles.) The race problem was to be settled by deporting all negroes to Nigeria and sending the Chinese and Japanese to whence they or their ancestors came. The police had inquisition machines to encourage criminals to confess. Nothing was said about waterboarding.

Finally back to England where she and her American husband settled into society life, as pretentious in that world as in ours. There were fads such as coloured teeth and tattoos. Lady Porlock became involved in politics and was elected to the House of Commons.

The book concludes with a passing mention of World War Two, which began in 1972 but only lasted three years. She skipped all the details and wrapped up the book with regrets about the good old days being gone forever. Remember that when this book came out in 1923, the good old days were yet to be.

SEEN IN THE LITERATURE

Kraus, S., et al (2020) **A triple-star system with a misaligned and warped circumstellar disk shaped by disk tearing.** SCIENCE 369:1233-1238

Authors' abstract: *During the process of star formation, a disk of gas and dust forms around the young star, controlling the accretion of more material. Once the star has formed, any leftover material in this circumstellar disk can form planets. If a binary or triple star forms at the center of the disk, theoretical models predict that tidal torques caused by their orbits can rip the disk apart, in a process known as disk tearing.*

We observed the nearby young triple-star system GW Orionis with multiple near-infrared and submillimeter telescopes, using the techniques of interferometry and polarimetry. We found evidence for multiple rings with different orientations and warping of part of the disk, both produced by disk tearing.

Young stars are surrounded by a circumstellar disk of gas and dust, within which planet formation can occur. Gravitational forces in multiple star systems can disrupt the disk. Theoretical models predict that if the disk is misaligned with the orbital plane of the stars, the disk should warp and break into precessing rings, a phenomenon known as disk tearing.

We present observations of the triple-star system GW Orionis, finding evidence for disk tearing. Our images show an eccentric ring that is misaligned with the orbital planes and the outer disk. The ring casts shadows on a strongly warped intermediate region of the disk. If planets can form within the warped disk, disk tearing could provide a mechanism for forming wide-separation planets on oblique orbits.

Siraj, A., and A. Loeb (2020) **The case for an early Solar binary companion.** ASTROPHYSICAL JOURNAL LETTERS 899:doi.org/10.3847/2041-8213/abac66

Authors' abstract: *We show that an equal-mass, temporary binary companion to the Sun in the solar birth cluster at a separation of ~103 AU would have increased the likelihood of forming the observed population of outer Oort Cloud objects and of capturing Planet Nine.*

In particular, the discovery of a captured origin for Planet Nine would favor our binary model by an order of magnitude relative to a lone stellar history. Our model predicts an overabundance of dwarf planets, discoverable by Legacy Survey of Space and Time, with similar orbits to Planet Nine, which would result from capture by the stellar binary.

Piani, L., et al (2020) **Earth's water may have been inherited from material similar to enstatite chondrite meteorites.** SCIENCE 369:1110-1113

Authors' abstract: *The abundances of Earth's chemical elements and their isotopic ratios can indicate which materials formed Earth. Enstatite chondrite (EC) meteorites provide a good isotopic match for many elements but are expected to contain no water because they formed in the hot inner Solar System. This would require Earth's water to be from a different source, such as comets.*

We measured hydrogen contents and deuterium/hydrogen ratios (D/H) in 13 EC meteorites and found far more hydrogen than is commonly assumed, with D/H close to that of Earth's mantle. Combining these data with cosmo-chemical models, most of Earth's water could have formed from hydrogen delivered by EC meteorites.

The origin of Earth's water remains unknown. Enstatite chondrite meteorites have similar isotopic composition to terrestrial rocks and thus may be representative of the material that formed Earth. ECs are presumed to be devoid of water because they formed in the inner Solar System.

Earth's water is therefore generally attributed to the late addition of a small fraction of hydrated materials, such as carbonaceous chondrite meteorites, which originated in the outer Solar System where water was more abundant.

We show that EC meteorites contain sufficient hydrogen to have delivered to Earth at least three times the mass of water in its oceans. EC hydrogen and nitrogen isotopic compositions match those of Earth's mantle, so EC-like asteroids might have contributed these volatile elements to Earth's crust and mantle.

Speirs: Enstatite meteorites are rare, less than 200 known. The largest one is a 107 kg stone that cratered a farmer's field in 1952 near the hamlet of Abee (named after pioneer A.B. Donley), in east central Alberta.

Li, S., et al (2020) **Widespread hematite at high latitudes of the Moon.** SCIENCE ADVANCES 6:doi.org/10.1126/sciadv.aba1940 (available as a free pdf)

Authors' abstract: *Hematite (Fe_2O_3) is a common oxidization product on Earth, Mars, and some asteroids. Although oxidizing processes have been speculated to operate on the lunar surface and form ferric iron-bearing minerals, unambiguous detections of ferric minerals forming under highly reducing conditions on the Moon have remained elusive.*

Our analyses of the Moon Mineralogy Mapper data show that hematite, a ferric mineral, is present at high latitudes on the Moon, mostly associated with east- and equator-facing sides of topographic highs, and is more prevalent on the nearside than the farside.

Oxygen delivered from Earth's upper atmosphere could be the major oxidant that forms lunar hematite. Hematite at craters of different ages may have preserved the oxygen isotopes of Earth's atmosphere in the past billions of years. Future oxygen isotope measurements can test our hypothesis and may help reveal the evolution of Earth's atmosphere.

De Visscher, Alex (2020) **Artificial versus biological intelligence in the Cosmos: clues from a stochastic analysis of the Drake equation.** INTERNATIONAL JOURNAL OF ASTROBIOLOGY 19:353-359

Author's abstract: *The Drake equation has been used many times to estimate the number of observable civilizations in the galaxy. However, the uncertainty of the outcome is so great that any individual result is of limited use, as predictions can range from a handful of observable civilizations in the observable universe to tens of millions per Milky Way-sized galaxy.*

A statistical investigation shows that the Drake equation, despite its uncertainties, delivers robust predictions of the likelihood that the prevalent form of intelligence in the universe is artificial rather than biological. The likelihood of artificial intelligence far exceeds the likelihood of biological intelligence in all cases investigated.

This conclusion is contingent upon a limited number of plausible assumptions. The significance of this outcome for the Fermi paradox is discussed.

Miskin, M.Z., et al (2020) **Electronically integrated, mass-manufactured, microscopic robots.** NATURE 584:557-561

Authors' abstract: *Fifty years of Moore's law scaling in microelectronics have brought remarkable opportunities for the rapidly evolving field of microscopic robotics. Electronic, magnetic and optical systems now offer an unprecedented combination of complexity, small size and low cost, and could be readily appropriated for robots that are smaller than the resolution limit of human vision (less than a hundred micrometres).*

However, a major roadblock exists: there is no micrometre-scale actuator system that seamlessly integrates with semiconductor processing and responds to standard electronic control signals. Here we overcome this barrier by developing a new class of voltage-controllable electrochemical actuators that operate at low voltages (200 microvolts), low power (10 nanowatts) and are completely compatible with silicon processing.

To demonstrate their potential, we develop lithographic fabrication-and-release protocols to prototype sub-hundred-micrometre walking robots. Every step in this process is performed in parallel, allowing us to produce over one million robots per four-inch wafer. These results are an important advance towards mass-manufactured, silicon-based, functional robots that are too small to be resolved by the naked eye.

Speirs: Now go back and re-read the previous abstract. Think about it.

Longo, S., et al (2020) **Anomalous fluctuations and selective extinction in primordial replicators: a 'struggle for life' at the origin of biological homochirality.** INTERNATIONAL JOURNAL OF ASTROBIOLOGY 19:386-392

[Chirality refers to mirror image versions of a molecule which has the identical chemical formula but exists in two versions, left-handed and right-handed. Why life chose one version but not the other is unknown and a subject of debate among biologists.]

Authors' abstract: *The prevalent presence of a single chiral variant of molecules in live organisms is one of the most distinctive signs of life as a global phenomenon. One of the greatest ambitions of biochemistry and*

astrobiology is to provide an explanation of this predominance. Several mechanisms were proposed in the past, from the propagation of chirality from a homo-chiral substrate to the amplification of effects associated with electro-weak interactions.

Here, a different scenario is proposed: anomalous fluctuations associated with a self-replication scenario can lead to the selective extinction of primordial organisms using one of two enantiomers as an enzyme. These fluctuations arise spontaneously under very general conditions.

The idea is based on three key points:
(a) the simulation of early biological processes as a 'board game';
(b) the presence of large fluctuations during an autocatalytic process;
(c) the presence of a limited source of chemical energy, inducing a form of competition in a primordial replicator population.

In order to demonstrate this mechanism, a computational model is developed, describing the 'struggle for life' of two different kinds of primordial replicators on a 'chessboard' with periodic boundary conditions; each replicator employs enzymes of different chirality on a non-chiral substrate, thereby with no selective advantage. The replication occurs randomly and with a fixed probability, providing that a sufficient amount of chemical energy is locally available.

For the first time, our model includes the local balance of chemical energy in a molecular form on the substrate. The correlation between the chemical energy and the local populations is shown.

Results clearly show that strong fluctuations in the number of individuals of each species and subsequent selective extinction events of one of the two species are observed. These studies may contribute to shed light on the most mysterious phase transition that occurred during the biochemical evolution of our planet.

Fields, B.D., et al (2020) **Supernova triggers for end-Devonian extinctions.** PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES USA 117:21008-21010 (available as a free pdf)

Authors' abstract: *The Late Devonian was a protracted period of low speciation resulting in biodiversity decline, culminating in extinction events near the Devonian-Carboniferous boundary. Recent evidence indicates that the final extinction event may have coincided with a dramatic drop in stratospheric ozone, possibly due to a global temperature rise.*

Here we study an alternative possible cause for the postulated ozone drop: a nearby supernova explosion that could inflict damage by accelerating cosmic rays that can deliver ionizing radiation for up to 100 ky. We therefore propose that the end-Devonian extinctions were triggered by supernova explosions at 20 pc, somewhat beyond the "kill distance" that would have precipitated a full mass extinction.

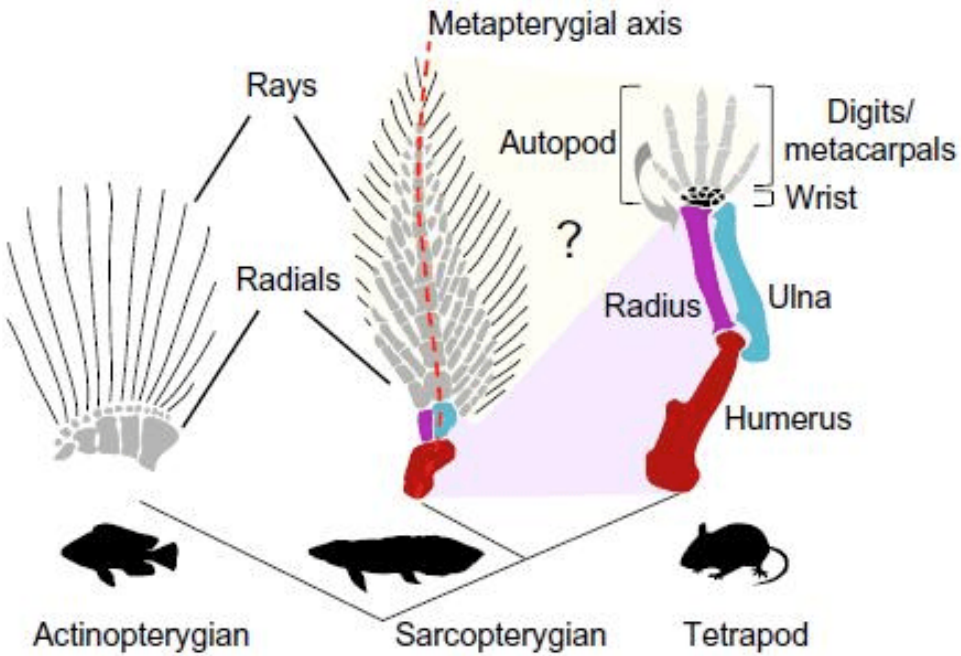
Such nearby supernovae are likely due to core collapses of massive stars; these are concentrated in the thin Galactic disk where the Sun resides. Detecting either of the long-lived radioisotopes ^{146}Sm or ^{244}Pu in one or more end-Devonian extinction strata would confirm a supernova origin, point to the core-collapse explosion of a massive star, and probe supernova nucleosynthesis.

Woltering, J.M., et al (2020) **Sarcopterygian fin ontogeny elucidates the origin of hands with digits.** SCIENCE ADVANCES 6:doi.org/10.1126/sciadv.abc3510 (available as a free pdf)

Authors' abstract: *How the hand and digits originated from fish fins during the Devonian fin-to-limb transition remains unsolved. Controversy in this conundrum stems from the scarcity of ontogenetic data from extant lobe-finned fishes. We report the patterning of an autopod-like domain by hoxa13 during fin development of the Australian lungfish, the most closely related extant fish relative of tetrapods. Differences from tetrapod limbs include the absence of digit-specific expansion of hoxd13 and hand2 and distal limitation of alx4 and pax9, which potentially evolved through an enhanced response to shh signaling in limbs.*

These developmental patterns indicate that the digit program originated in postaxial fin radials and later expanded anteriorly inside of a preexisting autopod-like domain during the evolution of limbs. Our findings provide a genetic framework for the transition of fins into limbs that supports the significance of classical models proposing a bending of the tetrapod metapterygial axis.

[Image is from this paper. Actinopterygians are the bony fish, sarcopterygians are lungfish which breathe air directly and not through gills, and tetrapods are amphibians, reptiles, mammals, and birds.]



Augustin, F.J. (2020) **The smallest eating the largest: the oldest mammalian feeding traces on dinosaur bone from the Late Jurassic of the Junggar Basin (northwestern China).** SCIENCE OF NATURE (2020) 107:doi.org/10.1007/s00114-020-01688-9 (available as a free pdf)

Authors' abstract: *Reconstructing trophic interactions in ancient ecosystems is an important and fascinating branch of palaeontological research. Here we describe small bioerosional traces that are preserved on sauropod bone from the early Late Jurassic Qigu Formation (Oxfordian) of Liuhuanggou gorge in the southern Junggar Basin (Xinjiang Province, northwestern China).*

The most likely producers of these traces are tiny Mesozoic mammals as evinced by the small size of the traces as well as by their paired and opposed arrangement. The feeding traces are only superficially preserved on the bone surface and most likely were inflicted unintentionally during feeding.

The occurrence of the bite marks along small ridges and the "gnawed" appearance of the bone surface points to selective feeding on the remaining soft tissues of the dinosaur carcass.

The traces represent the oldest direct evidence for mammalian feeding behaviour in the fossil record. Additionally, these traces expand the known range of the early mammalian feeding repertoire significantly and shed light on the palaeobiology and palaeoecology of early mammals, a field that has remained evasive for a long time.

Smet, A.F., and R.W. Byrne (2020) **African elephants interpret a trunk gesture as a clue to direction of interest.** CURRENT BIOLOGY 30:doi.org/10.1016/j.cub.2020.06.070

Authors' abstract: *Orienting to gaze-direction is widespread among animal species, but evidence for spontaneous use of gesture for direction is limited. Remarkably, African elephants (Loxodonta africana) have been found able to follow human pointing, including subtle actions in which the contralateral hand is used, and in which the body silhouette is not broken.*

The natural origin of this ability is puzzling, as the species is not reported to use trunk- or limb-gesture for showing directions. One natural gesture, the 'periscope sniff' presumed to be used to enhance olfactory sampling by an elephant in circumstances of alarm or curiosity might also betray the elephant's direction of focal attention.

Here we investigate what information elephants gain from seeing periscope-sniff. When one elephant in a group gave a periscope-sniff, we recorded the location and orientation of the next periscope-sniff given. Elephants that could not see the first gesturer only gestured themselves if immediately adjacent to the first or closer to the presumed stimulus of interest.

In contrast, elephants able to see the first signaler's periscope-sniff were often a considerable distance behind it, further from the stimulus. Focusing on these cases, where making the periscope-sniff was apparently caused by seeing the first gesture, we found its orientation significantly matched the first, suggesting that direction information was gained from seeing the periscope-sniff.

Elephants' ability to use a conspecific's periscope-sniff as if it were an ostensive pointing gesture enables them to react to the presence and location of potential dangers.

Brinkworth, J.F., and A.S. Alvarado (2020) **Cell-autonomous immunity and the pathogen-mediated evolution of humans: or how our prokaryotic and single-celled origins affect the human evolutionary story.** QUARTERLY REVIEW OF BIOLOGY 95:215-246 (available as a free pdf)

Authors' abstract: *Host immune tactics at the level of the single cell have a very large effect on disease progression and host survival. These cell-level defense mechanisms, known as cell-autonomous immunity, are among the most important determinants of human survival, yet are millions to billions of years old, inherited from our prokaryotic and single-celled ancestors.*

An understanding of how cell-autonomous immunity has evolved in primates is crucial to understanding the human evolutionary story, not only because multiple infectious agents thought to have strongly affected human genomic evolution are excellent manipulators of cell-autonomous immunity, but because these defenses are found in every cell in every physiological system.

The ubiquity of cell-autonomous immunity highlights a biological reality not commonly addressed in human evolutionary studies, that pathogens can mediate the evolution of all body cells and, therefore, all body systems, affecting human evolution in a cell-type-specific fashion.

Here we explore these very ancient tactics in light of evolutionarily important human pathogens and illustrate inter-primate differences in the potential of such defenses.

Often considered an independent physiological system in human evolutionary biology, the immune system is ubiquitous, integrated into every other aspect of human physiology. It is, effectively, the entire organism.

We argue, therefore, that immunity and pathogen-mediated natural selection are considerations in the examination of the evolution and function of any human physiological system or trait.

Zhang, Lei, and J. Gläscher (2020) **A brain network supporting social influences in human decision-making.** SCIENCE ADVANCES 6:doi.org/10.1126/sciadv.abb4159 (available as a free pdf)

Authors' abstract: *Humans learn from their own trial-and-error experience and observing others. However, it remains unknown how brain circuits compute expected values when direct learning and social learning coexist in uncertain environments.*

Using a multiplayer reward learning paradigm with 185 participants (39 being scanned) in real time, we observed that individuals succumbed to the group when confronted with dissenting information but observing confirming information increased their confidence.

Leveraging computational modeling and functional magnetic resonance imaging, we tracked direct valuation through experience and vicarious valuation through observation and their dissociable, but interacting neural representations in the ventromedial prefrontal cortex and the anterior cingulate cortex, respectively.

Their functional coupling with the right temporoparietal junction representing instantaneous social information instantiated a hitherto uncharacterized social prediction error, rather than a reward prediction error, in the putamen. These findings suggest that an integrated network involving the brain's reward hub and social hub supports social influence in human decision-making.

Halffman, C.M., et al (2020) **Ancient Beringian paleodiets revealed through multiproxy stable isotope analyses.** SCIENCE ADVANCES 6:doi.org/10.1126/sciadv.abc1968 (available as a free pdf)

Authors' abstract: *The earliest Native Americans have often been portrayed as either megafaunal specialists or generalist foragers, but this debate cannot be resolved by studying the faunal record alone. Stable isotope analysis directly reveals the foods consumed by individuals.*

We present multi-tissue isotope analyses of two Ancient Beringian infants from the Upward Sun River site (USR), Alaska (~11,500 years ago). Models of fetal bone turnover combined with seasonally-sensitive taxa show that the carbon and nitrogen isotope composition of USR infant bone collagen reflects maternal

diets over the summer. Using comparative faunal isotope data, we demonstrate that although terrestrial sources dominated maternal diets, salmon was also important, supported by carbon isotope analysis of essential amino acids and bone bioapatite.

Tooth enamel samples indicate increased salmon use between spring and summer. Our results do not support either strictly megafaunal specialists or generalized foragers but indicate that Ancient Beringian diets were complex and seasonally structured.

Leplat, J., et al (2020) **Aerobiological behavior of Paleolithic rock art sites in Dordogne (France): a comparative study in protected sites ranging from rock shelters to caves, with and without public access.** AEROBIOLOGIA 36:355-374

Authors' abstract: *Microbial organisms can cause huge crises in decorated caves, as seen in emblematic sites such as Lascaux cave. The preservation of such sites involves understanding the healthy microbial behavior of caves before the damage occurs. Indeed, knowledge of normal cave behavior is a prerequisite to identifying potential imbalance.*

This study seeks to determine whether models of aerobiological behavior could be identified in several caves of different sizes, ranging from rock shelters to large caves that are open or closed to the public. Aerial rates of fungi and bacteria were monitored over 3 years in nine sites in Dordogne (France). This study revealed that in a context of caves where public visits were carefully managed, fungal and bacterial rates were more affected by the size of the caves than by the opening of sites to the visitors.

The study confirmed that large caves can generally be described as "self-purifying caves" as they were strongly affected by the exterior environment at their entry but much less so at locations further inside the cave, while small caves can be described as "non-self-purifying caves" since they were strongly affected by the exterior environment throughout their whole length.

The results also highlighted the difficulty to determine a limit value of microbial rates valid for all caves because of the specificities of each one.

Moreira, F.A. (2020) **The crab as cosmic yux: A symbol of power and creation in Cotzumalhuapa.** ANCIENT MESOAMERICA 31:308-318

Author's abstract: *Crab iconography in Mesoamerica is a novelty, often ignored academically while its meaning remains a mystery. In Cotzumalhuapa, the crab appears as either a base or a headdress in monumental art, but why? Why is the crab singled out in the creation portion of the Popol Vuh, establishing an unexplained precedent?*

The following work attempts to answer these questions. The decapod itself was not arbitrarily chosen for its role as paxil, or as a feminine symbol of creation, with links to the moon and rain. Rather, its biology and behavior mirrored the existing Mesoamerican world view.

Unfortunately, the linguistic and cultural affinities of Cotzumalhuapa are unknown. Thus, I analyze other objects from other regions/cultures and compares zoological, linguistical, and ethnohistorical data to conclude that the crab was conceptually feminine, a cognate to the moon goddess and the surface of the earth, representing creation.

Furthermore, rulers of Cotzumalhuapa wore regalia that include crab imagery, which provided them the power of creation and propagated belief in the legitimacy of their rule.

Jillings, S., et al (2020) **Macro- and microstructural changes in cosmonauts' brains after long-duration spaceflight.** SCIENCE ADVANCES 6:doi.org/10.1126/sciadv.aaz9488 (available as a free pdf)

Authors' abstract: *Long-duration spaceflight causes widespread physiological changes, although its effect on brain structure remains poorly understood. In this work, we acquired diffusion magnetic resonance imaging to investigate alterations of white matter (WM), gray matter (GM), and cerebrospinal fluid (CSF) compositions in each voxel, before, shortly after, and 7 months after long-duration spaceflight.*

We found increased WM in the cerebellum after spaceflight, providing the first clear evidence of sensorimotor neuroplasticity. At the region of interest level, this increase persisted 7 months after return to Earth.

We also observe a widespread redistribution of CSF, with concomitant changes in the voxel fractions of adjacent GM.

We show that these GM changes are the result of morphological changes rather than net tissue loss, which remained unclear from previous studies. Our study provides evidence of spaceflight-induced neuroplasticity to adapt motor strategies in space and evidence of fluid shift-induced mechanical changes in the brain.

Hamer. M., et al (2020) **Overweight, obesity, and risk of hospitalization for COVID-19: A community-based cohort study of adults in the United Kingdom.** PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES USA 117:21011-21013 (available as a free pdf)

Authors' abstract: *The role of obesity and overweight in occurrence of COVID-19 is unknown. We conducted a large-scale general population study using data from a community-dwelling sample in England (n = 334,329; 56.4 ±8.1 y; 54.5% women) with prospective linkage to national registry on hospitalization for COVID-19. Body mass index (BMI, from measured height and weight) was used as an indicator of overall obesity, and waist-hip ratio for central obesity.*

Main outcome was cases of COVID-19 serious enough to warrant a hospital admission from 16 March 2020 to 26 April 2020. Around 0.2% (n = 640) of the sample were hospitalized for COVID-19.

There was an upward linear trend in the likelihood of COVID-19 hospitalization with increasing BMI, that was evident in the overweight (odds ratio, 1.39; 95% CI 1.13 to 1.71; crude incidence 19.1 per 10,000) and obese stage I (1.70;1.34 to 2.16; 23.3 per 10,000) and stage II (3.38; 2.60 to 4.40; 42.7 per 10,000) compared to normal weight (12.5 per 10,000).

This gradient was little affected after adjustment for a wide range of covariates; however, controlling for biomarkers, particularly high-density lipoprotein cholesterol and glycated hemoglobin, led to a greater degree of attenuation. A similar pattern of association emerged for waist-hip ratio. In summary, overall and central obesity are risk factors for COVID-19 hospital admission. Elevated risk was apparent even at modest weight gain. The mechanisms may involve impaired glucose and lipid metabolism.

A space filler from STARTLING STORIES, 1955 Winter