

# OPUNTIA 473





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**About The Cover:** There was a time within living memory when we had freedom of assembly and freedom of travel, but enough about the coronavirus pandemic. I'm still taking smartphone photos in my walks about the suburbs, but anything related to the pandemic is just variations on a theme I've already expounded in previous issues.

The Ministry of Health have extended the ban on public gatherings until August 31. That means no Canada Day celebrations, no Calgary Stampede, and the mountain parks remain closed. Calgary's annual readercon When Words Collide has been cancelled, although the Aurora Awards will still be announced.

Instead, let me look back to a happier time. The cover photo and the one below were taken at the New Central Library in downtown Calgary in January 2019 during a chess tournament. I held these over until I had enough reviews for my column on chess fiction, beginning on the next page.



# CHECKMATE: PART 2

by Dale Speirs

[Part 1 appeared in OPUNTIA #412.]

## Live Action Chess.

The game of chess has often been fictionalized, an example being ALICE’S ADVENTURES IN WONDERLAND (1865) by Lewis Carroll, which, as few of its readers realize, is a chess game with living characters.

“The Haunted Chessmen” by E.R. Punshon (1930 March, WEIRD TALES, available as a free pdf from [www.archive.org](http://www.archive.org)). The ominous forebodings began immediately when the narrator visited a friend Fred Kerr who had inherited a chess set carved of human bones. The previous owner had been found slumped over the set with his throat cut.

The coroner’s jury said it was suicide but of course the reader will know better. The narrator thought that the chess pieces were moving of their own accord, if only their facial expressions and eyes. They didn’t look friendly.

Kerr didn’t last much longer, this time slumped over the chess board with a bullet through his head. The estate sold off the assets, including the chess pieces, which a friend Mark Norand bought. He drowned himself in a garden pond. Before going, he mentioned that sometimes the chess pieces cheated and moved themselves to a different square in order to defeat him. Who his opponent was, no one could ever say.

It was the narrator’s turn next. He found himself playing against the spirit of the original owner, an Indian prince. Whenever success seemed inevitable, the pieces would move. With cheating like that, there was only one thing the narrator could do. He stood up and began shouting “*I appeal!*”.

Every tournament game has an umpire, and the ghostly player lost against them. The chess pieces were buried in consecrated ground in a nearby church cemetery. Presumably there was no sequel where someone came along and dug them up for a rematch.

Another living chess game was “Death Across The Board”, written by Robert Newman. This was an episode of the old-time radio series MURDER AT

MIDNIGHT, which aired in 1946. The entire series is well written and worth listening to. It can be downloaded as free mp3s from [www.otrrlibrary.org](http://www.otrrlibrary.org)

Dr John Strand wandered into a pawn shop where he saw an interesting chess board, set up with a game in progress. The proprietor of the shop, Raphael Norbett, said it wasn’t for sale but told him of another set available from a man who lived two blocks down the street and one block to the right.

With that, Strand suddenly found himself in a live-action chess game where someone had to die for the next move. Norbett was a demented chess player who had formerly played professionally. He got bored with winning tournaments and branched out into something more exciting.

Norbett marked out a grid of city blocks on a map as a chessboard and then began maneuvering victims into unknowingly becoming live pieces. They had to kill or be killed, and the result determined which piece moved on the board in the pawn shop.

Each victim died on a different city block on Norbett’s chess grid. In the first ten minutes of the episode there were four dead, after which I lost count. Strand was struggling to survive as Norbett manipulated the situation. The plot was very clever and well thought out as far as the moves were concerned.

Norbett was the black king and Strand figured out he was a white knight from his own movements. During the final struggle between the two men, Norbett was pushed out a window and fell to his death. He had tried to claim victory by castling, but Strand rebutted him by pointing out that a king cannot castle with a rook when in check.

“Chess And Double Chess” by John and Dorothy de Courcy (1947 March, AMAZING STORIES) was a rewrite of the old idea that Olympian gods use humans like chess pieces. The story alternated between the Normandy invasion of 1944 and two men playing chess.

The invasion vignettes depicted both the Allied and German soldiers, young men alike trapped in a war they didn’t start but had to die in. The two chess players discussed military history as a demonstration of the gods playing an endless round of games. Not fantasy but just a mashup of a war story and ersatz philosophy. The war was still fresh in everyone’s memory back then, so the readers would have interpreted it differently back then when it wasn’t history.

**Deadly Chess.**

GET SMART was a spy spoof on television that aired between 1965 and 1970. The comedy series featured inept agent Maxwell Smart, who did a lot of slapstick comedy. His partner was the beautiful Agent 99, whom he eventually married and had twins by. Their boss was only referred to as Chief. They were all with CONTROL, which was a counterspy agency working mainly against Communists and the fictional KAOS freelance spy network.

“Smart, The Assassin” (1966) was a Season 1 episode written by Budd Grossman. It opened with Smart and the Chief at their club, the Regency. They had been playing chess against each other for years. Smart always lost to the Chief.

The club’s majordomo Devonshire foiled an attempt on the Chief’s life while he was playing chess. It was a setup to establish Devonshire’s credibility, for he was a KAOS infiltrator. His next step was to kidnap Smart and brainwash him with a chemical whose effects only lasted 12 hours. Smart was programmed to kill anyone who said the word ‘checkmate’ to him.

The plan was obvious, based on Devonshire’s observation that the only person who would say ‘checkmate’ to him would be the Chief at the Regency Club. Smart always was a wild card, however, and decided to use a chess instructional manual to improve his game.

In doing so, he lengthened the game endlessly, trying the nerves of both the Chief and Devonshire, who was hovering nervously nearby. The time ticked past until only a few minutes were left before the chemical’s effects expired. By then, Devonshire was a quivering wreck.

As the Chief made his final movement to win the game, Devonshire was so relieved that he forgot himself and said ‘checkmate’ out loud before the Chief could say it. Smart pulled out his gun and shot Devonshire dead.

In the epilogue, Smart had been exonerated of the murder once the investigation was completed. He sat in the Chief’s office, discussing the details. Although it had been stated that the chemical had worn off, when the Chief accidentally used the word ‘checkmate’, Smart pulled out his gun. The Chief ducked under his desk and survived. A plot flaw that was probably added to get a last laugh when Smart said: *“Sorry about that, Chief”*.

“The Chess Room” by Elizabeth Elwood (2019 Nov/Dec, ELLERY QUEEN) was a locked room mystery about the death of a reclusive millionaire by gunshot in his study. He was killed while sitting at a chess table. The investigating constable noticed an odd detail, that the black queen had been set up on a white square. The game had not yet been started, and a basic rule of chess is that queens start on their own colour.

From there was laboratory analysis of ridiculous details. The dead man’s son was tired of waiting for his inheritance and concocted an elaborate plan to make the death look like suicide. Way too elaborate, involving modifying a door lock, sending fake text messages, and bringing a girlfriend into the plot.

The reason for the out-of-place queen was barely acceptable, given that all the other shenanigans were taken at face value. The locked room mystery, like the manor house murders, became a cliché decades ago. This story, while almost adequate, is one reason why mystery fiction moved on to other tropes.

**Mechanical Chess.**

“The 64-Square Madhouse” by Fritz Leiber (1962 May, WORLDS OF IF, available as a free pdf from [www.gutenberg.org](http://www.gutenberg.org)) addressed an issue that has since been made passé by modern computers. A chess tournament was set up with one entry being an electronic computer. There was some fussing among the players, but the computer was allowed to compete.

The machine was invincible, calculating eight moves ahead. The players eventually realized they had to adjust their strategy against the programming, not the device. The machine was defeated when it bobbled one move.

An astute player recognized why. The programming of the machine was not algorithmic. Rather, books on chess moves had been downloaded into its data banks. The computer searched through the moves until it found one that matched the game. Unfortunately for it, one of the books had a misprint and the computer made a nonsense move that cost it the game.



**AROUND COWTOWN**  
photos by Dale Speirs

I've been doing a lot of walking. This viewpoint, looking north to the downtown core, was new to me in the Mount Royal district of central Calgary. A starter home in this area is about \$1 million, and there are many palatial mansions in the \$3 to \$5 million range. This district is actually part of a long ridge that separates the Bow River valley, where the downtown is, from the Elbow River valley, out of sight to the right of the camera.

This particular slope is Evamy Ridge, part of the Elbow River park system. The Calgary Tower, the one that looks like a matchstick with a red top, was completed in 1968 and at the time was the tallest building in western Canada. Nowadays it isn't even the tallest building on the street.







At left: Seen on 17 Street SW in the middle-class district of South Calgary, which despite its name is part of the central city.

Below: Seen in Rutland Park at the intersection of 34 Avenue SW and 33 Street. Merle must have friends at City Hall.





[Parts 1 to 3 appeared in OPUNTIA #335 409, and 446.]

Substitution Codes.

The simplest type of cipher is the substitution code, where letters are replaced by other letters or symbols. It is also the easiest type to break.

From the 1935 October issue of AMAZING STORIES (available as a free pdf from www.archive.org) comes “The Chemistry Murder Case” by Miles J. Breuer.

This was a straightforward murder mystery where the body of handsome young chemist Dr Seeley lay on the floor, apparently the victim of an accidental poisoning.

The other chemists saw that it was murder because there was no way the apparatus could have malfunctioned.

The police inspector soon elucidated the facts. A love triangle it was, between Seeley, his wife, and his mistress Ada Shane. The question was which woman did it. The wife was uneducated while Shane was a chemist.

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It's as simple as sliding one piece of wood against another—and that's exactly what you do with this highly ingenious code-making slide-rule. It's so simple that a child can master it in a short time, yet so baffling as to challenge the experts. It's educational, develops your unused brain cells, and it does all this in such a pleasant and natural way that you are unaware of it.

The Lawrence Secret Code Outfit provides endless hours of useful, constructive entertainment. The usual games, such as Treasure Hunts, Scavenger Hunts, G-men, Spies, etc., can be considerably "pepped-up" by the use of this coding and decoding outfit. Just imagine getting the following note:

**PERHM RK74G  
LMRIW IXSHE C**



This of course is a coded message, which after a few minutes spent with the Jiffy Secret Code Outfit can be deciphered to read:

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In August 1914 from a German wireless station came the innocent-sounding message, "A SON IS BORN!" WAK! came the electrifying cry from thousands of amateur and professional cryptographers who hastily decoded the terse message. Today history is repeating itself. Be among the thousands of amateur cryptographers who, glued to their short-wave receivers, are daily thrilled by the secret radio messages of war movements, etc., flashing through the ether.

Start the fun going. Order your outfit NOW, or better still, get two of them, one for your friend. Then, with the aid of a code-practice set you can both send and receive secretly coded messages and help each other to decode them. You will be surprised how efficient you can become after practicing only a short time.

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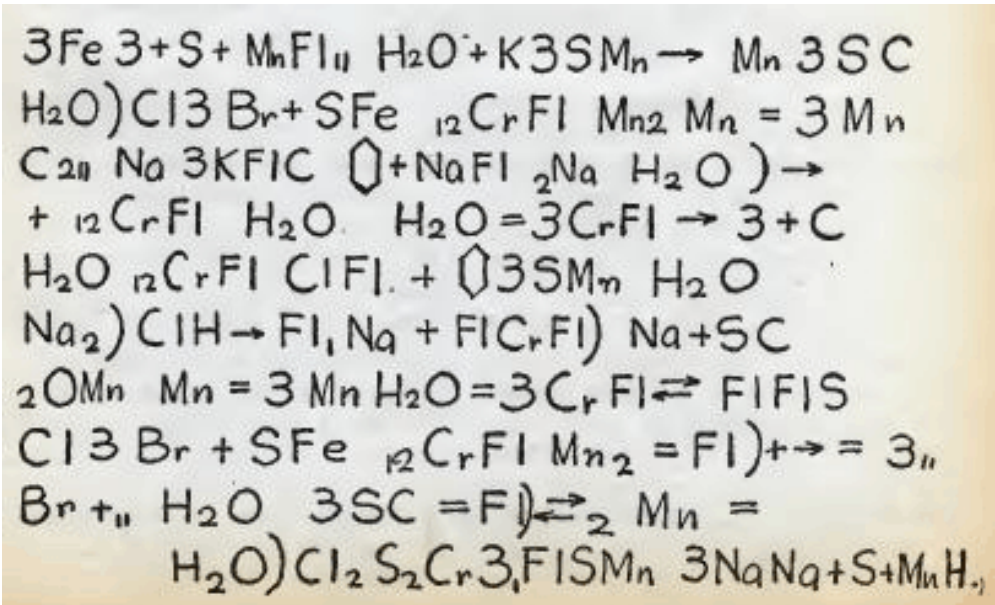
Lawrence Code "Slide Rule" and  
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1940 Summer, SCIENCE FICTION QUARTERLY

Found at the scene of the crime was a cryptic note, illustrated in the story as below.



Anyone who knows chemistry will immediately recognize this as gibberish from a chemical point of view. The police were baffled but the chemists quickly identified it as a substitution code. They used frequency analysis to decrypt it (‘e’ is the most common letter in English, and so forth), and the code was identified as below.

A 3	G	Fe	M Cl	S ->	
B =	H	=	N S	T Mn	X
C K	I	+	O 2	U o	Y H
D C	J		P	V G	Z
E FI	K	Br	Q	W ( )	
F Na	L	,	R )		

From there it was a simple step to decode the message and identify the murderer. *Again I tell you that I cant stand your making love to that doll faced wife of yours. I love you. You have said you love me. I want you for myself. If I ever find out that you have been making love to her I shall kill you and her both. [signed] Your monovalent affinity.*

# THE MAN FROM MONTENEGRO: PART 20

by Dale Speirs

[Parts 1 to 19 appeared in OPUNTIA's #252, 253, 275, 278, 279, 289, 304, 307, 319, 332, 335, 337, 344, 355, 364, 365, 382, 415, and 445.]

## Homages.

NEARLY NERO (2017) by Loren D. Estleman is subtitled “The Adventures Of Claudius Lyon, The Man Who Would Be Wolfe”. This is a collection of humorous short stories about an uberfan of Nero Wolfe (who existed in this oeuvre) who set himself up as a duplicate, or as near as he could manage.

Claudius Lyon was a short portly man with an independent income such that he did not have to work for a living. He set himself up in a Brooklyn brownstone decorated according to descriptions from the Wolfe corpus. Hiring an equivalent to Archie Goodwin wasn't quite as easy, so he settled for an ex-con Arnie Woodbine.

The cook was Gus, who kept a kosher kitchen and fed the household on a monotonous diet of gefilte fish, lox, and bagels. Woodbine ate out when he wanted barbecue. He and Gus fiddled the household accounts to earn a little extra on the side. Wolfe downed several bottles of beer daily outside meals, but Lyon got giddy on even a half-beer, so instead he drank cream sodas.

NYPD Capt. Stoddard of the Brooklyn bunco squad was their nemesis. Unlike Wolfe and Goodwin, who were licenced investigators, Lyon and Woodbine were not. The latter could only operate pro bono since if they took fees they would be committing an offense as unlicensed detectives. Stoddard wanted to put them away and often tried to entrap them but never succeeded.

The stories are funny, even more so if you know the originals. They were initially published separately in magazines and have been collated in this book without removing the repetitious texts explaining who everyone was. Notwithstanding that, they make good reading.

The stories are puzzle cases, not murder mysteries. Lyon was frightened of Stoddard for good reason but also had to keep a wary eye on the real Wolfe, who resented the imitator.

In one story, this led to a hilarious ending when Wolfe arrived with a statement of claim. The ending was even funnier for readers who know the most famous line in Wolfedom: *The doorbell rang*.

## Old-Time Radio.

Various series of Nero Wolfe stories, almost all of them pastiches, aired between 1943 and 1951. Rex Stout had nothing to do with them but collect royalty cheques.

Stout sneered at the radio shows but it would have been better had he at least exerted a minimum of editorial control. Many of the episodes were good or at least average, but some of them were written by hacks who didn't care or know about the characters, and had them behaving badly.

The final series in 1950-51 starred Sydney Greenstreet as Wolfe, and it is generally agreed that he did the best job. It so happens that only a few of the previous episodes were preserved, while the majority of the Greenstreet episodes are available as free mp3s from [www.otrrlibrary.org](http://www.otrrlibrary.org) or [www.archive.org](http://www.archive.org).

“The Girl Who Cried Wolf” aired on 1950-12-15, written by Charles O'Neil, who wasn't very good at it. He made Goodwin into a lecherous boor with no manners, leering at every woman and arguing unnecessarily with Wolfe.

The case began with Mary Dunning of the Toliver Ecological Foundation approaching Wolfe to investigate the disappearance of her boss Donald Stevens. He had supposedly vanished into thin air three days previous.

Dunning told Wolfe that before Stevens went missing, he had argued in his office with someone she didn't know and asked her to go outside and find a policeman. As she was going out the door, he called her back and cancelled the request. Wolfe didn't believe her, because anyone needing the police would pick up the telephone, not ask his secretary to wander the streets trying to find a foot patrolman.

Stevens returned the day after Dunning visited Wolfe, having been upstate to make a surprise inspection of the foundation's experimental farm. Why an ecological research unit should be growing vegetables was never properly explained.



Dunning then disappeared but was later found, claiming to have been kidnapped. It was staged by her partner in crime, the farm manager Schwartz, who had been selling the crops at market and pocketing some of the cash. There was some double-crossing with a consequent falling out between thieves that allowed Wolfe to break the case.

This was why Stout should have been asserting himself as to how his characters were portrayed. In the novels, Goodwin was a ladies man but a cultured one. In this episode, he behaved like a drunk in a tavern trying to grab a last-call woman.

There is an old saying that before you go out seeking revenge against an enemy, first dig two graves. “The Calculated Risk” aired on 1951-02-05, written by Maurice Zimm. The brownstone was visited by a man who refused to give his real name. Late in the episode it was revealed as Colby, so I’ll call him that from the start.

Colby told Wolfe and Goodwin that he was going to kill a man named Carl within the next day or so for revenge. He was prepared to take his chances, but was concerned that Carl would get him first. Therefore if Colby was found dead, he would leave \$500 in an envelope to be used to investigate.

The story was that decades ago when Colby and Carl were young men down South, they had gotten mixed up in a bad deal which got another man murdered. Carl told the police Colby did it, who then had to take it on the lam. Carl changed his name and moved about in fear of retribution, eventually settling in Manhattan.

Colby tracked him there but wouldn’t tell Wolfe what Carl’s assumed name was. He angrily remarked that Carl couldn’t hide in his 37<sup>th</sup>-floor office, and he was going to get his revenge. As Wolfe and Goodwin learned the next day, Carl proved to be the faster draw and killed Colby.

This episode described how to find an unknown man in a big city with only scant clues. Since Carl had a 37<sup>th</sup>-floor office, that immediately narrowed down the number of skyscrapers he could be in. Offices operated by national corporations could be safely deleted from the list, since almost certainly Carl was operating as a sole proprietorship. As Wolfe remarked, there was no point in looking for a man with a Southern accent, since he would have had plenty of time to lose it.

Then the list was further narrowed by hiring a credit agency to verify which businesses on 37<sup>th</sup> floors had started up within the last two decades. That brought the list down to three names. Much simpler to call those three in for a J’accuse! meeting.

Wolfe made a mistake though. Carl had a gun and wasn’t afraid to use it. However Goodwin and Wolfe also had guns, leading to a Mexican standoff in the brownstone office. They finally talked Carl into dropping his gun after making him realize the uselessness of his position.

A good episode in that it showed how tiresome details could be sorted through to get at the truth. The data were sorted logically and eliminated without any wild cards or random coincidences. This was one of the best episodes of the series.

## **WORLD WIDE PARTY ON JUNE 21**

Founded by Benoit Girard (Quebec) and Franz Miklis (Austria) in 1994, the World Wide Party is held on June 21st every year. 2020 will be the 27th year of the WWP. Mark your calendars now!

At 21h00 local time, everyone is invited to raise a glass and toast fellow members of zinedom around the world. It is important to have it exactly at 21h00 your time. The idea is to get a wave of fellowship circling the planet. Rescheduling it to a club meeting or more convenient time negates the idea of a wave of celebration by SF fans and zinesters circling the globe.

At 21h00, face to the east and salute those who have already celebrated. Then face north, then south, and toast those in your time zone who are celebrating as you do. Finally, face west and raise a glass to those who will celebrate WWP in the next hour.

Raise a glass, publish a one-shot zine, or do a mail art project for the WWP. Let me know how you celebrated the day. Now more than ever, it is a reminder that although you may be socially isolated because of the coronavirus, you are not alone.



# RADIO FICTION: PART 12

by Dale Speirs

[Parts 1 to 11 appeared in OPUNTIA's #301, 302, 310, 319, 330, 353, 370, 377, 394, 411, and 443.]

Radio technology was cutting edge stuff into the early 1930s, the domain of hobbyists, military men, and telegraph companies. The fiction up until then was skiffy. As with personal computers in the late 1970s, anything seemed possible.

## Action Adventure.

TRACKED BY WIRELESS (1922) by William Le Queux is available as a free download from [www.gutenberg.org](http://www.gutenberg.org). It is an interesting novel about the interwar period, not for the Tom Swiftian adventures but the social background that existed back then.

Radio of any kind was still being born. Ham operators were widespread, government and military used radios, but broadcasts to the general public had not yet begun in 1922. Geoffrey Falconer was the hero of this novel, a bright young English radio engineer with the latest and greatest equipment. The book is a fix-up novel of serialized adventures. Each chapter is a separate incident.

Falconer was always detecting and tracking down spies and enemy radio stations. Germany and Russia were the main enemies in those days. The Huns hadn't accepted their defeat, and there was a full-blown Red Scare. The Russians were fighting a civil war and the Bolsheviks relied heavily on radio propaganda.

The British government was plagued by the Irish rebels. Indeed, one of the chapters was about tracking down a wireless station used to transmit news of Irish events to American newspapers who wouldn't see reason, that is, the British government's side of the story.

Falconer had his own identity hacked, or in radio terms, spoofed. An Italian used his good name over the airwaves for nefarious purposes. Italy had been onside in the last war, but even as early as 1922 the British had their doubts about its reliability.

A Hungarian friend of mine was fond of remarking that anytime there was trouble in central Europe there was a Hungarian at the bottom of it. Falconer

had that problem when he was hired by Hungarians to set up a radio station for them. He barely escaped with his life in that adventure.

Eavesdropping on the evil baron who had hired him: *The Baron replied. "At the wireless station tomorrow he will accept a drink from my flask and then, well, the forest will an hour later hold its secret."* he remarked meaningly. *Geoffrey held his breath. Could it be possible that their plan was to poison him and bury him in the forest, now that he had completed his work?*

In a word, yes. He made a run for it on foot and got to the police, who rounded up the culprits. All was well at the end of the chapter, and once more the Empire was saved by radio.

It was quite obvious throughout the novel that God was still an Englishman. The colonials, Canadians among them, were there to be spear carriers. The Americans were boors but kind-hearted, although they had a distressing inability to understand that Britain, not them, was the world power. Anyone who didn't speak English was an untrustworthy greaser.

This book is not to be read in one sitting. Each chapter is a self-contained story about Falconer's adventures. The modern reader will definitely interpret the stories differently than the original readers did a century ago.

## Skiffy Radio.

"Baby On Neptune" by Clare Winger Harris and Miles J. Breuer (1929 December, AMAZING STORIES, available as a free pdf from [www.archive.org](http://www.archive.org)) began with a brief precis of radio, then went on to assert that as the technology improved, radio telescopes would be possible by 1967.

The story then continued with the discovery of messages from Mars, Venus, Saturn, and Jupiter. The first decrypts weren't until 2099, and by 2300 interplanetary conversations were routine.

What wasn't routine was space travel. The first attempt for the Moon was in 2310 and failed, as a result of which no one attempted space travel again until 2345, when explorers reached the steaming jungles of Venus and its intelligent giant worms.



There was one unsolved puzzle. Radio messages came from Neptune but could not be decoded until much later. The thing was finally done, and in the conversations that followed, the Neptunians invited Earthlings to come on out and set a spell.

Thus the 2347 flight, which found nothing on the planet. The crew could communicate with the Neptunians by radio and vice versa, but neither side could see the other. The Neptunians were gaseous beings, thin as the air on top of Mount Everest, but eventually a workaround was discovered. All thanks to radio.

The interesting aspect of this story was how timid the authors were in imagining the advance of radio and spacecraft technology. Far too timid. Other science fiction writers were being ridiculed for writing about space travel in 1950, but they were only slightly optimistic.

Broadcast radio began in the late 1920s. By the early 1930s it had begun to spread into average homes and was no longer confined to technonerd. On that premise, “The Radio Detective” by Lincoln S. Colby (1931 May, AMAZING STORIES) was based.

A retired judge had just got a radio set but had problems with heavy static interference in the evening. He also began suffering hallucinations while attempting to sleep. His daughter asked Neil Perrin, the radio detective, to investigate.

He had her swap bedrooms with her father, and when she began suffering the same delusions, that proved they were caused by external forces, and not just the old man becoming senile.

The judge lived in a townhouse, and Perrin suspected the neighbour. Perrin brought in his radio interference testing kit, explained at length to the reader, and narrowed down the possibilities. With the assistance of police, they rushed the neighbour’s house while the culprit was beaming high-powered X-rays into the judge’s bedroom.

The madman was an ex-con who had done 28 years hard time because of the judge and sought revenge. He didn’t get it but did save the State the cost of another trial when he committed suicide by grabbing on to the X-ray power supply terminals.

“Death By Radio” by Edward Podolsky (1932 December, AMAZING STORIES) had a mad scientist done in by his own invention. He had perfected a radio that could transmit scents, which would be received at the other end and recreated for the listener. What he didn’t consider was that someone might be able to transmit to him the scent of cyanogen. By itself that was bad enough, but he had built an amplifier to get stronger scents. The rest was obvious.

### **Weird Radio.**

QUIET PLEASE was an old-time radio series that aired from 1947 to 1949, created, written, and directed by Wyllis Cooper. The episodes included a lot of weird fiction. Well worth downloading as free mp3s from [www.archive.org](http://www.archive.org)

“Twelve To Five” was a 1948 episode about a radio host on the graveyard shift who played music and took telephone calls from listeners. The conversations of his callers demonstrated there has been no increase in the intelligence of talk shows over the past seven decades.

A new announcer came in to the studio, a man the host had never seen before. The hourly news report began with the statement that there was nothing new on the international scene, as everybody hated everybody else just as much as they did yesterday. Then the local news, which began with a report about a murder, a car crash, and finally that it was raining.

The weirdness was that none of those local events had occurred yet, but a half hour later they did. The murder victim called in, highly indignant because he had been named falsely. The call was interrupted when a prowler got him while he was on the telephone.

The teletype began pounding out more news, this time about the announcer as the casualty of the aforementioned car accident. The ghost of the announcer then arrived to tell the host that he was next, and would die of a stroke at the end of his shift. The host challenged him on that, to which the ghost replied “*Go ahead, open the studio door.*”

### **Mysterious Radio.**

“Feliz Navidead” by Bonnie Hearn Hill (2020 Jan/Feb, ELLERY QUEEN) was about Big Bob Runyon, a radio disk jockey working the Christmas Eve shift. A woman burst into his studio and gibbered about her unhappy marriage.



Runyon allowed as how he had the same sort of trouble, although an unknown intruder had killed his wife while he was playing music at the station.

The woman may have been a private detective. Runyon may have left a tape playing at the station to provide an alibi while he rushed home to do the killing. Perhaps. Maybe. It was Christmas Eve. The woman left. Runyon played “Feliz Navidad” and dedicated it to her.

**SUGGESTED YOUTUBE VIEWING**

The coronavirus has us all depressed. It is easy to say “Think cheerful thoughts!” but not so easy in practice. I like to watch the happier YouTube videos and recommend the following. Just type the title into the search engine.

“Haflinger foal goes nuts” will bring a smile to city slickers and farm folk alike as a young colt shows off for a rodeo audience with lots of zoom-zoom.

“Acrobatic Hereford calf” is a newborn calf that obviously doesn’t need a vitamin shot.

“Dog and cat: Obstacle challenge” The cat threads its way through standing dominoes without tipping one. As for the dog, well, we all know cats are smarter than dogs.

“Kitten’s reaction to me playing the violin” by Esther Abrahmi, a concert violinist.

“Corgi puppy can’t deal with mini pumpkin” The title says it all.

“Cookie the little penguin at the Cincinnati Zoo” An older video but still heartwarming. Who knew penguins liked to be scratched behind the ears?

“Prince Harry’s popcorn swiped by a toddler” was oh so cute.

Sunflower Farm Creamery is the YouTube channel of a Maine goat dairy with lots of baby goats hippity hopping about. It is impossible to stay grumpy while watching the kids bouncing around like pogo sticks. They are the happiest animals on the planet, excited about just being alive. We could learn from them.

**FAR SPEAKING STORIES: PART 9**  
by Dale Speirs

[Parts 1 to 8 appeared in OPUNTIA’s #313, 327, 337, 361, 372, 389, 410, and 444.]

**Far Listening.**

The telephone could be a listening device under certain circumstances, as many mystery writers soon realized and utilized in their plots. For instance, the old-time radio anthology mystery series THE WHISTLER utilized it in a 1945 episode “Let George Do It”, no writer credited. Not to be confused with a private detective series that began on radio a year later about George Valentine, titled LET GEORGE DO IT. This and other old-time radio shows are available as free mp3s from [www.archive.org](http://www.archive.org) or [www.otrrlibrary.org](http://www.otrrlibrary.org)

The vixen of the plot was Cathy, a beautiful young woman used to getting her own way with any man she wanted and then discarding him for a fresher catch. She let her emotions get in the way when she fell in love with an artist named Alan, who spurned her. That got her angry enough to decide to murder him but through a proxy so she could continue to enjoy a carefree life.

The elaborate plan seemed unlikely for a flighty woman like her, but then there wouldn’t be a story otherwise. She married George, an older man who had a comfortable position of authority down at City Hall. She convinced him to have a portrait of her painted by Alan, whom he did not know. Eventually the time came to pick it up so she sent George.

In her own car, she rushed ahead and confronted Alan just as he answered the telephone. He put the handset on the table when she pointed a gun at him, and called her by name not to shoot him. Bang! Bang! She left the gun for George to find and rushed home.

The police came to her house. She acted shocked, shocked!, that George would do a thing like that in jealousy. The police officer told her that George was not a suspect. The person at the other end of the telephone call had heard everything, including Alan begging Cathy by name not to kill him.

A different variation on the idea was a 1950 episode of THE WHISTLER titled “Five Cent Call”, written by Adrian Gendot. It began with private detective Scott Howell calling in from a phone booth to his client, attorney Rick Parker.

Howell had been hired to find a discrete hideaway for a witness for a couple of months until the trial and had just done so. He gave the address to Parker over the telephone and told him he would stop by later with the key to the place.

As they were talking, Howell heard the door of Parker's office open and then an angry woman's voice. Shots rang out, and as Parker fell mortally wounded, he gasped into the telephone "Ann, Ann". Howell called the police. When the lieutenant debriefed him, Howell didn't mention Parker's last words.

It didn't take long for Howell to determine that Ann was Parker's ex-wife and they were still angry at each other. He visited her and over the next few weeks had soaked her for three installments of \$5,000 each. She didn't want her current husband, a wealthy doctor to know.

The table was turned when police announced they were seeking a woman named Nora who had been seen fleeing Parker's office. That brought Ann back to Howell, demanding the return of her money or she would tell the police about the blackmail, since she was no longer the exclusive suspect.

\$15,000 in 1950 currency would be worth at least \$150,000 in today's depreciated dollars, and Howell didn't want to return it. He tracked down Nora and put the bite on her for more blackmail. She got difficult about it, so he took her to the hideaway with intent to shoot her and make it look like suicide. Just before he could do so, the police walked in.

Howell was baffled as to how they knew he was there. The lieutenant pointed out a universal habit of people receiving information over the telephone. If someone calls you with an address, what do you do? You write it down on a pad or piece of paper by the telephone. The police saw the address and knew it was significant, so they put a watch on the house. Case closed.

### **Voices From The Grave.**

MURDER AT MIDNIGHT was an excellent but short-lived old-time radio anthology series. The episodes ranged from mystery to fantasy to weird fiction.

"The Line Is Dead" was a 1946 episode written by Rafe Blau. It began at a graveside service as the body of archaeologist Albert Lockridge was lowered into the hole. A loud hammering from within terrified everyone. The coffin was lifted back up and opened. Lockridge had revived from catatonia after his

heart began pumping again. It was a close call, for had he not revived for another ten minutes, no one would have known.

Afterwards at the hospital he quizzed his wife Lenora if she had yet opened a sealed envelope he had left behind with his will. She hadn't gotten around to it, much to his relief. The internment had scared him, so he hired a telephone technician to install a private line between his coffin and his grave the next time.

Some back stories were then elucidated. Lenora had been engaged to Oliver Wentworth, a colleague of Albert. They went on an expedition where Albert deliberately trapped Wentworth in an underground site and left him for dead. Returning home, Albert convinced Lenora to marry him.

Fast-forward to the present day again when Albert once more died. This time his physician had two heart specialists back him up. Once more to the grave, but this time with a telephone line to the house for Lenora to answer.

She got another shock when Wentworth appeared at the house. He explained that he had gotten free of Albert's trap but by the time he made it back to civilization, she had married Albert. He decided not to interfere and made a new life elsewhere. When he heard of Albert's death he came out of hiding.

Lenora didn't accept his story and sent him away, then sat down to open the sealed envelope. The letter inside was Albert's confession of murdering Wentworth. She ran from the house to track down Wentworth. A moment after she left, the telephone from the grave began ringing. No one was there to answer it. No one would.

The premise of the story is not far-fetched. Until about a century ago, there were stories of coffins being exhumed with evidence that the occupants had mistakenly been buried alive while in a catatonic condition, then revived after burial and tried unsuccessfully to claw their way out of the coffin.

Edgar Allan Poe's stories resonated with the readers of his time more than modern readers realize, precisely because they were based on true events. It was not unknown to disinter the deceased and find they had scratched the inside of their coffin trying to escape or had rolled over. Today if the autopsy doesn't kill the defunct, the formaldehyde or the cremation will. I reviewed a similar story to this one, from 1964, in Part 5 of this column in OPUNTIA #372.



**Death Makes A Telephone Call.**

“Whispering Death” by John Impola (1929 November, WEIRD TALES, available as a free pdf from [www.archive.org](http://www.archive.org)) was a mad scientist story about using sound to kill over the telephone. Professor Lathrop was a specialist in sound who discovered how to transmit ultrasounds over telephones and kill the listener.

Because he could and because he was insane. The hero found out why so many people were dying at their desks and went investigating. He stopped the evil genius in part with assistance from Lathrop’s daughter, beautiful of course, but also working for an M.Sc. in physics.

**THE OTHER INVISIBLE MEN: PART 5**

by Dale Speirs

[Parts 1 to 4 appeared in OPUNTIA #262, 360, 379, and 449.]

**Real Invisibles.**

“The Pellucid Horror” by B.F. Ruby (1933 August-September, AMAZING STORIES, available as a free pdf from [www.archive.org](http://www.archive.org)) began with a series of reports of an invisible man up to no good. Snatching money from a bank, murdering someone by strangulation, in short, the usual rubbish that invisible men get up to.

The hero was a newspaper reporter, who soon identified the mad scientist in question as Pierre Lamont. The secret was in the pineal gland this time. Lamont’s fatal mistake was wearing a suit of clothes, for the weather was chilly. The final struggle ended when someone bashed him where his head would be and killed him with a blunt instrument. The secret died with Lamont.

*Illustration from that story.*



*... a figure so absurd I could have burst out laughing, fraught with danger as the situation was. An animated suit of clothes, to our eyes unoccupied by any human being, perambulated toward us with a comically deliberate stride.*

“The Thing In The House” by H.F. Scotten (1929 May, WEIRD TALES, available as a free pdf from [www.archive.org](http://www.archive.org)) was about a mad scientist who bwah-ha!-ha!-ed once too often. Seeking to create life de novo, he relied on the then current theories of physics to create a thing which, as near as I could understand the double talk, was made of only electrons and therefore invisible. The fallacy was obvious.

The laboratory was located in an isolated country manor house, which was just as well after the invisible creature got loose and killed the professor. The hero and police officers fired the house and presumably the monster died in the flames. A predictable plot. The handwaving explanation about how invisibility worked was definitely a new one.

“The Invisible Bomber” by John Pease (1938 June, AMAZING STORIES) was about an inventor who could make himself or his machinery invisible with a gadget that shifted him and/or it slightly into the future. If a bomber were equipped with such a device, such that it could pop in and out of visibility, then its value in a world drifting into war was inestimable.

There was a catch. If too much electric current was applied, then the device would shift ahead too far into the future to ever be seen, in fact into another dimension. When the inventor crossed paths with a pacifist who abhorred the idea, the latter sabotaged him by arranging for the current to be quadrupled when the inventor took off. That was the last of him and his device, gone into some other dimension unperceivable by our world.

“The Invisible Vandals” by Charles Stoddard (1944 Autumn, STARTLING STORIES, available as a free pdf from [www.archive.org](http://www.archive.org)) was about space pirates yo-ho-ho-ing about the vacuum.

One of their number developed a method of invisibility, something about a chemical smeared upon themselves which had the same refractive index as air, which therefore (much handwaving here) deflected light around them and made them invisible.

For their first raid, they decided to pick a sanatorium planet. The patients were allowed to bring money in and establish businesses, so there was enough of an economy to justify raiding them. The pirate band was, however, swarmed by the patients, who were blind and therefore used to detecting people by sounds and air movements. Invisibility was meaningless to them.

## **Fake Invisibles.**

GET SMART was a trashy spy spoof that aired on television between 1965 and 1970. It is readily available on DVD. The protagonist was Agent 86, Maxwell Smart, and the beautiful Agent 99, her name never given. She played the straight role to Smart’s slapstick comedy. Their boss was simply The Chief. Their spy agency was CONTROL, fighting mainly against an international group called KAOS.

“Now You See Him, Now You Don’t” was a Season 1 episode aired in 1965, written by Arne Sultan and Marvin Worth. KAOS, knowing of Smart’s gullibility and stupidity, set up a hoax in his apartment purporting to demonstrate they had an invisibility ray. Their price for the secret was \$10 million, say about \$100 million in today’s depreciated currency.

Smart made it into the enemy headquarters, where they pulled off several demonstrations of invisibility. It was all done with wires and hidden speakers. Smart fell for the hoax completely, until Agent 99 broke the secret. The humour was definitely slapstick, basically vaudeville on camera. At that point, with a few minor alarms, the whole thing wrapped up and the KAOS agents arrested.

The prop men did a good job of moving objects through the air as if carried by an invisible man. Some of the effects had to be passed off with some handwaving explanations. Given the state of technology in 1965, which is how the episode must be judged, the SFX were reasonable. Today, of course, the effects would all be done as CGI.



LETTERS TO THE EDITOR

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

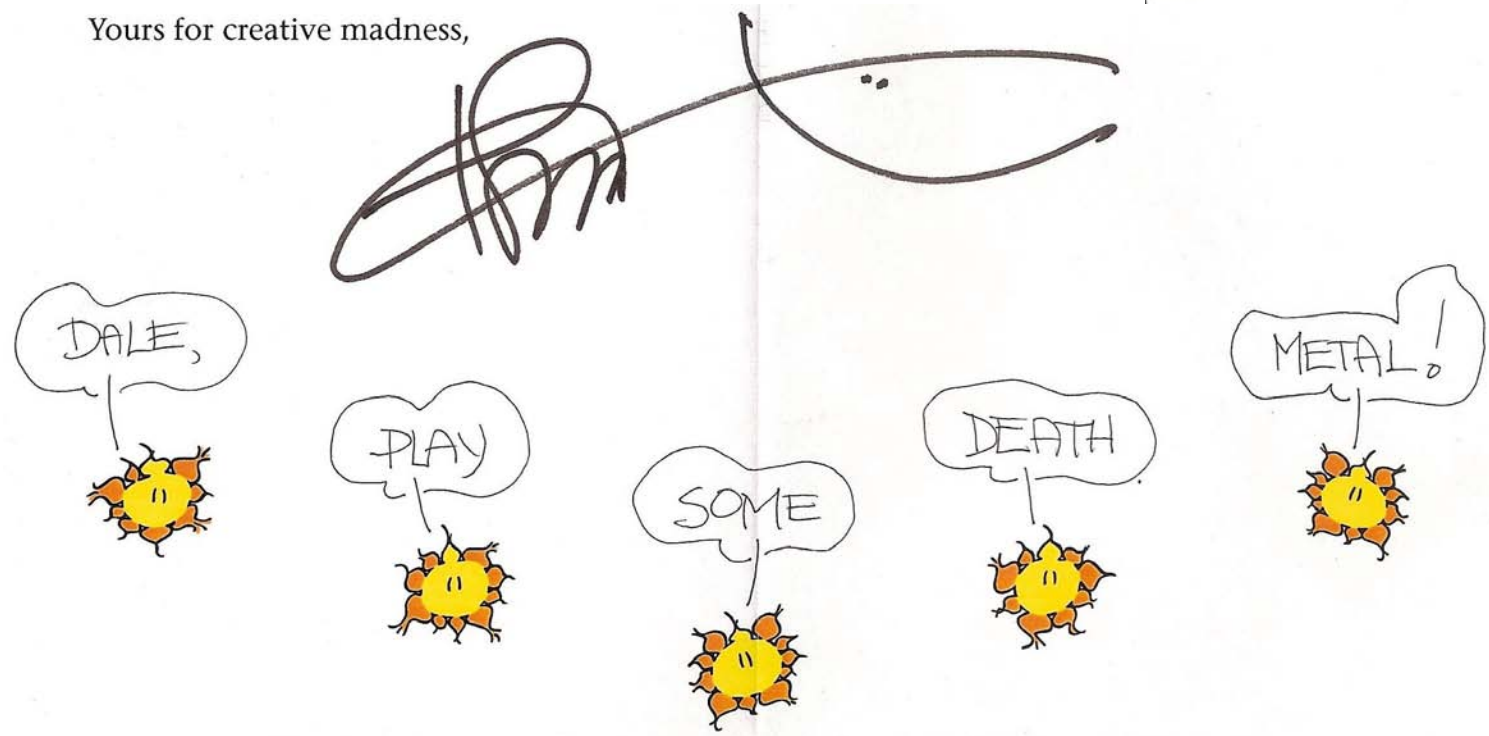
FROM: Theo Nelson  
Calgary, Alberta

2020-04-16

I hope you and yours are managing to stay in good spirits in these times, as well as safe. I know I am finding it difficult and am thankful my art helps to keep the wolf of depression from my door.

These Books of Stuff [mail art booklets, one of which Theo enclosed with his letter] have become my main mail art focus these days. I started them because I needed to find something else besides Add & Passes to deal with all the stuff mail artists send me. Plus, my own bits and pieces from sending Ryosuke Cohen [see OPUNTIA #350] stickers every ten days were adding to the pile.

Yours for creative madness,



The Quizzies, my radio character theo's former radio show co-hosts, have to appear in everything I do now. It's in their contract.

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<https://www.facebook.com/theo.nelson.980>



DALE SPEIRS

P.O. BOX 6830  
CALGARY, AB  
T2P 2E7

[At left is the bottom half of Theo's letter. Above is the envelope in which it was mailed. (Not to the same scale) I don't like death metal, so haven't any to play. I'm a Pink Floyd man myself.]

FROM: Lloyd Penney  
Etobicoke, Ontario

2020-04-27

OPUNTIA #471: I guess I shouldn't be too surprised, but with the pandemic still ongoing, and people staying home as they should, the streets have been looking deserted, and the nearby highway is quite quiet.

You mention four major telecoms. I would add Videotron in Québec to make five, but I am not sure if they rent capacity from the other four.

Many businesses are already shutting down. Yvonne and I will go for a small drive just to get out of the apartment, and some of the nearby strip malls have sudden vacancies. I expect by the time the pandemic is finally done, close to 40% of businesses will close down, and you'll have your pick of empty stores to choose from should you have the money to start your own business.

[Predictions in Calgary are that 25% to 50% of closed restaurants and small shops will not re-open. The unemployment rate is currently about 30%, compared to 4% six weeks ago. Alberta has been hit by a double whammy because our economy runs on oil production, which was devastated by both a price war between Russia and Saudi Arabia and also demand destruction as the pandemic killed the transportation industry.]

I have applied to the emergency benefit fund, and have received some money. I believe I qualify, for I have long ago exhausted my EI, and I am still looking for work, but after this experimental phase of this fund, all of the applications will be looked at, and some people will be asked to repay the funds. I've tucked mine away just in case. I am drawing a meagre pension from the government as well. I will abide by their decision.

[For my non-Canadian readers, the federal government established the Canada Emergency Response Benefit for those who used up or were not eligible for unemployment benefits. It pays \$2,000 per four weeks, flat rate. No one knows how many tens of billions of dollars it will cost. At a time like this, the idea of balancing the books goes out the window.]

OPUNTIA #472: Another bit of sidewalk art I've seen says Let's Get Together! (but stay 6 feet apart). A Shoppers Drug Mart we went to for some groceries yesterday. They had signs that few others here do, an advertised limit of 25 shoppers in the store at any one time. One friendly employee was keeping track.

I weigh myself every morning, and I can honestly say I haven't gained any weight. I think it's mostly because we do go out for walks as often as our schedules will allow.

[I'm struggling to keep my weight down because we had blustery weather not conducive to walking every day.]

The local stores are having a difficult time keeping their shelves stocked, especially for chocolate and snacks. The only coffee shop open in the area is the Tim's up the street; the Java Joe's to the north and the Starbucks to the south are both closed, and we fear they may stay that way for good.

[Calgary supermarkets are now having trouble keeping frozen pizzas in stock. I see most of their freezers half empty.]

The local library is indeed closed, though I think it may be being used as a pop-up food bank. We've been fortunate that the wifi has been up and (for the most part, six interruptions so far!) running, so online research is still good.

I continue to check on local events, not to see if they have been affected, which they have, but to see if they are postponed to the second half of the year, or cancelled, to be rescheduled to the same weekend in 2021.

[The Calgary Stampede was cancelled. As our mayor Naheed Nenshi said, it was a punch in the gut. The Stampede is bigger than Canada Day and Christmas combined. The entire city participates and it was the biggest tourist attraction in Alberta after the mountain parks, which are also closed.]

The toilet paper aisle at our supermarket is still mostly empty. If people gave their brains as much consideration as their bottoms...

[Calgary supermarkets now have a plentiful supply of toilet paper and paper towels. The panic buyers are satiated and normal production is keeping up with regular demand.]



**SEEN IN THE LITERATURE**

Hickson, C., et al (2020) **Discovery of a significant cave entrance in stripe karst, Horsethief Creek Group, Wells Gray Provincial Park, British Columbia, Canada.** CANADIAN JOURNAL OF EARTH SCIENCES 57: 662-670 (available as a free pdf)

Authors' abstract: *In April 2018, a significant cave entrance was recognized during an aerial survey in Wells Gray Provincial Park, British Columbia. A September 2018 assessment of the site confirmed one of the largest known, and previously undocumented, cave entrances in Canada.*

*The feature is a large vertically walled sink swallowing a small river, likely leading to a spring 2.16 km horizontally from, and 460 metres below, the sink. The entrance shaft was partially descended, surveyed, and found to have a volume of over 450,000 m<sup>3</sup>.*

*Formed in a carbonate unit of the upper Proterozoic Horsethief Creek Group, the cave entrance occurs in stripe karst extending well beyond the known cave drainage. The disappearing river drains an area of 6.3 km<sup>2</sup> in a valley containing two small glaciers. The river has a low flow (September) rate estimated at 0.3–0.5 m<sup>3</sup>/s, comparable with some of the largest sinks in Canada.*

*Historic aerial photographs of the area show the entrance was hidden by perennial snowfields until regional climatic warming caused the snow plug to collapse sometime within the past decade.*



[The image is from this paper. For size comparison, the two red circles mark humans standing near the cave.]

Wilczynska, M.R., et al (2020) **Four direct measurements of the fine-structure constant 13 billion years ago.** SCIENCE ADVANCES 6:doi.org/10.1126/sciadv.aay9672 (available as a free pdf)

Authors’ extracts: *What fundamental aspects of the universe give rise to the laws of Nature? Are the laws finely tuned from the outset, immutable in time and space, or do they vary in space or time such that our local patch of the universe is particularly suited to our own existence?*

*We characterize the laws of Nature using the numerical values of the fundamental constants, for which increasingly precise and ever-distant measurements are accessible using quasar absorption spectra.*

*The quantity that we focus on here is the fine-structure constant, ... The quest to determine whether the bare fine-structure constant, is a constant in space and time has received impetus from the recognition that there might be additional dimensions of space or that our constants are partly or wholly determined by symmetry breaking at ultrahigh energies in the very early universe.*

*Observations of the redshift  $z = 7.085$  quasar J1120+0641 are used to search for variations of the fine structure constant, over the redshift range 5:5 to 7:1. Observations at  $z = 7:1$  probe the physics of the universe at only 0.8 billion years old. These are the most distant direct measurements of the constant to date and the first measurements using a near-IR spectrograph.*

*... The weighted mean electromagnetic force in this location in the universe deviates from the terrestrial value ... consistent with no temporal change. Combining these measurements with existing data, we find a spatial variation is preferred over a no-variation model at the 3:9s level.*

Ehrenreich, D., et al (2020) **Nightside condensation of iron in an ultrahot giant exoplanet.** NATURE 580:597-601

Authors’ abstract: *Ultrahot giant exoplanets receive thousands of times Earth’s insolation. Their high-temperature atmospheres (greater than 2,000 Kelvin) are ideal laboratories for studying extreme planetary climates and chemistry. Daysides are predicted to be cloud-free, dominated by atomic species and much hotter than nightsides. Atoms are expected to recombine into molecules over the nightside, resulting in different day and night chemistries.*

*Although metallic elements and a large temperature contrast have been observed, no chemical gradient has been measured across the surface of such an exoplanet. Different atmospheric chemistry between the day-to-night (‘evening’) and night-to-day (‘morning’) terminators could, however, be revealed as an asymmetric absorption signature during transit.*

*Here we report the detection of an asymmetric atmospheric signature in the ultrahot exoplanet WASP-76b. We spectrally and temporally resolve this signature using a combination of high-dispersion spectroscopy with a large photon-collecting area. The absorption signal, attributed to neutral iron, is blueshifted by  $-11 \pm 0.7$  kilometres per second on the trailing limb, which can be explained by a combination of planetary rotation and wind blowing from the hot dayside.*

*In contrast, no signal arises from the nightside close to the morning terminator, showing that atomic iron is not absorbing starlight there. We conclude that iron must therefore condense during its journey across the nightside.*

Speirs: In other words, it rains iron droplets every night.

Jopek, T.J., et al (2020) **The orbital clusters among the near-Earth asteroids.** MONTHLY NOTICES OF THE ROYAL ASTRONOMICAL SOCIETY 494:680-693

Author’s abstract: *Fifteen orbital clusters (associations) were identified among ~20,000 near-Earth asteroids (NEAs). All associations were found with a high statistical reliability using a single linkage cluster analysis algorithm and three orbital similarity functions. The identified groups constitute a small fraction (4.74 per cent) of the entire sample. Notwithstanding, they may be hazardous to Earth and its inhabitants.*

*As with meteoroid streams, every year Earth comes very close to the orbits of each association. In two cases (2008TC3 and 2017FU102), the distance between the asteroid’s orbit and Earth’s orbit was shorter than Earth’s radius.*

*Among the members of the identified associations, we found 331 objects larger than the Chelyabinsk asteroid and all of them approach Earth’s orbit at a distance smaller than 0.05 au.*



Two of the identified groups, (4179) Toutatis and (251430) Itokawa, support the hypothesis regarding the catastrophic origins of the asteroids Toutatis and Itokawa through violent collisions. This study does not focus on the origin of the NEA associations, but rather focuses on tracing the associations.

Regardless of their origin, the identified groups pose a serious threat to Earth. Hence, to facilitate their monitoring of we calculated coordinates of the theoretical radiants and the calendar dates of their potential activity.

de la Fuente Marcos, C., and de la Fuente Marcos, R. (2020) **On the orbital evolution of meteoroid 2020 CD3, a temporarily captured orbiter of the Earth-Moon system.** MONTHLY NOTICES OF THE ROYAL ASTRONOMICAL SOCIETY 494:1089-1094

Authors' abstract: Any near-Earth object (NEO) following an Earth-like orbit may eventually be captured by Earth's gravity during low-velocity encounters. This theoretical possibility was first attested during the fly-by of 1991 VG in 1991-1992 with the confirmation of a brief capture episode, for about a month in February 1992.

Further evidence was obtained when 2006 RH120 was temporarily captured into a geocentric orbit from July 2006 to July 2007. Here, we perform a numerical assessment of the orbital evolution of 2020 CD3, a small NEO found recently that could be the third instance of a meteoroid temporarily captured by Earth's gravity.

We confirm that 2020 CD3 is currently following a geocentric trajectory although it will escape into a heliocentric path by early May 2020. Our calculations indicate that it was captured by the Earth in 2016 +2 or -4, median and 16th and 84th percentiles.

This episode is longer (4+4-2 yr) than that of 2006 RH120. Prior to its capture as a minimoon, 2020 CD3 was probably a NEO of the Aten type, but an Apollo type cannot be excluded; in both cases, the orbit was very Earth-like, with low eccentricity and low inclination, typical of an Arjuna-type meteoroid.

A few clone orbits remained geocentric for nearly a century, opening the door to the existence of yet-to-be-detected mini-moons that are relatively stable for time scales comparable to those of unbound quasi-satellites such as (469219)

Kamo 'oalewa 2016 HO3. In addition, nearly 10 per cent of the experiments led to brief moon-moon episodes in which the value of the selenocentric energy of 2020 CD3 became negative.

Brenner, A.R., et al (2020) **Paleomagnetic evidence for modern-like plate motion velocities at 3.2 Ga.** SCIENCE ADVANCES 6:doi.org/10.1126/sciadv.aaz8670 (available as a free pdf)

Authors' abstract: The mode and rates of tectonic processes and lithospheric growth during the Archean [4.0 to 2.5 billion years (Ga) ago] are subjects of considerable debate. Paleomagnetism may contribute to the discussion by quantifying past plate velocities.

We report a paleomagnetic pole for the ~3180 million year (Ma) old Honeyeater Basalt of the East Pilbara Craton, Western Australia, supported by a positive fold test and micromagnetic imaging. Comparison of the  $44^{\circ} \pm 15^{\circ}$  Honeyeater Basalt paleolatitude with previously reported paleolatitudes requires that the average latitudinal drift rate of the East Pilbara was  $\approx 2.5$  cm/year during the ~170 Ma preceding 3180 Ma ago, a velocity comparable with those of modern plates.

This result is the earliest unambiguous evidence yet uncovered for long-range lithospheric motion. Assuming this motion is due primarily to plate motion instead of true polar wander, the result is consistent with uniformitarian or episodic tectonic processes in place by 3.2 Ga ago.

Liu, A.G., and F.S. Dunn (2020) **Filamentous connections between Ediacaran fronds.** CURRENT BIOLOGY 30:doi.org/10.1016/j.cub.2020.01.052

[Stolons are connective strands that link two or more individuals in colonial animals or offsets in plants.]

Authors' abstract: Abundant filamentous structures are preserved on late Ediacaran bedding planes. Filaments terminate at, and can connect, individual members of frondose taxa. Filaments are interpreted as evidence for stoloniferous outgrowths. This implies a clonal reproductive strategy for many Ediacaran frondose taxa.

*Fossils of the Ediacaran macrobiota (~571 to 539 mya) record phylogenetically diverse marine palaeocommunities, including early animals, which pre-date the “Cambrian Explosion”. Benthic forms with a frondose gross morphology, assigned to the morphogroups Rangeomorpha and Frondomorpha (see also Arboreomorpha), are among the most temporally wide-ranging and environmentally tolerant members of the Ediacaran macrobiota and dominated deep-marine ecosystems ~571 to 560 mya.*

*Investigations into the morphology, palaeoecology, reproductive strategies, feeding methods, and morphogenesis of frondose taxa together constrain their phylogenetic position to the metazoan (for Rangeomorpha) or eumetazoan (e.g., Arborea) total groups, but tighter constraint is currently lacking.*

*Here, we describe fossils of abundant filamentous organic structures preserved among frond dominated fossil assemblages in Newfoundland (Canada). The filaments constitute a prominent component of the ecosystems, and exhibit clear physical associations with at least seven frondose taxa. Individual specimens of one uniterminal rangeomorph taxon appear to be directly connected by filaments across distances of centimeters to meters.*

*Such physical linkages are interpreted to reflect evidence for stolonial connections: a conclusion with potential implications for the phylogenetic placement and palaeoecology of frondose organisms. Consideration of extant stoloniferous organisms suggests that Ediacaran frondose taxa were likely clonal and resurrects the possibility that they may have been colonial.*

Racimo, F., et al (2020) **The spatiotemporal spread of human migrations during the European Holocene.** PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES USA 117:8989-9000 (available as a free pdf)

[The Yamnaya culture were nomadic cattle herders who were originally based in the steppes of Ukraine and southern Russia. The Anatolians were farmers of what is now Turkey, Syria, and Iraq.]

*Authors’ abstract: The European continent was subject to two major migrations of peoples during the Holocene: the northwestward movement of Anatolian farmer populations during the Neolithic and the westward movement of Yamnaya steppe peoples during the Bronze Age. These movements changed the genetic composition of the continent’s inhabitants.*

*The Holocene was also characterized by major changes in vegetation composition, which altered the environment occupied by the original hunter-gatherer populations. ... Using ancient DNA in combination with geostatistical techniques, we produce detailed maps of ancient population movements, which allow us to visualize how these migrations unfolded through time and space.*

*We find that the spread of Neolithic farmer ancestry had a two-pronged wavefront, in agreement with similar findings on the cultural spread of farming from radiocarbon-dated archaeological sites. This movement, however, did not have a strong association with changes in the vegetational landscape.*

*In contrast, the Yamnaya migration speed was at least twice as fast and coincided with a reduction in the amount of broad-leaf forest and an increase in the amount of pasture and natural grasslands in the continent.*

Farquharson, J.I., and F. Amelung (2020) **Extreme rainfall triggered the 2018 rift eruption at Kilauea Volcano.** NATURE 580:491-495

*Authors’ abstract: The May 2018 rift intrusion and eruption of Kilauea Volcano, Hawaii, represented one of its most extraordinary eruptive sequences in at least 200 years, yet the trigger mechanism remains elusive. The event was preceded by several months of anomalously high precipitation. It has been proposed that rainfall can modulate shallow volcanic activity, but it remains unknown whether it can have impacts at the greater depths associated with magma transport.*

*Here we show that immediately before and during the eruption, infiltration of rainfall into Kilauea Volcano’s subsurface increased pore pressure at depths of 1 to 3 kilometres by 0.1 to 1 kilopascals, to its highest pressure in almost 50 years.*

*We propose that weakening and mechanical failure of the edifice was driven by changes in pore pressure within the rift zone, prompting opportunistic dyke intrusion and ultimately facilitating the eruption.*

*A precipitation-induced eruption trigger is consistent with the lack of precursory summit inflation, showing that this intrusion, unlike others, was not caused by the forceful intrusion of new magma into the rift zone. Moreover,*



*statistical analysis of historic eruption occurrence suggests that rainfall patterns contribute substantially to the timing and frequency of Kilauea's eruptions and intrusions.*

*Thus, volcanic activity can be modulated by extreme rainfall triggering edifice rock failure, a factor that should be considered when assessing volcanic hazards. Notably, the increasingly extreme weather patterns associated with ongoing anthropogenic climate change could increase the potential for rainfall-triggered volcanic phenomena worldwide.*

**Zhang, T., et al (2020) Probable pangolin origin of SARS-CoV-2 associated with the COVID-19 outbreak. CURRENT BIOLOGY 30:1346-1351 (available as a free pdf)**

*Authors' abstract: An outbreak of coronavirus disease 2019 (COVID-19) caused by the 2019 novel coronavirus (SARS-CoV-2) began in the city of Wuhan in China and has widely spread worldwide. Currently, it is vital to explore potential intermediate hosts of SARS-CoV-2 to control COVID-19 spread.*

*Therefore, we re-investigated published data from pangolin lung samples from which SARS-CoV-like CoVs were detected. We found genomic and evolutionary evidence of the occurrence of a SARS-CoV-2-like CoV (named Pangolin-CoV) in dead Malayan pangolins.*

*Pangolin-CoV is 91.02% and 90.55% identical to SARS-CoV-2 and BatCoV RaTG13, respectively, at the whole genome level. Aside from RaTG13, Pangolin-CoV is the most closely related CoV to SARS-CoV-2. The S1 protein of Pangolin-CoV is much more closely related to SARS-CoV-2 than to RaTG13.*

*Five key amino acid residues involved in the interaction with human ACE2 are completely consistent between Pangolin-CoV and SARS-CoV-2, but four amino acid mutations are present in RaTG13.*

*Both Pangolin-CoV and RaTG13 lost the putative furin recognition sequence motif at S1/S2 cleavage site that can be observed in the SARS-CoV-2. Conclusively, this study suggests that pangolin species are a natural reservoir of SARS-CoV-2-like CoVs.*

**Chinazzi, M., et al (2020) The effect of travel restrictions on the spread of the 2019 novel coronavirus (COVID-19) outbreak. SCIENCE 368:395-400 (available as a free pdf)**

*Authors' abstract: Motivated by the rapid spread of coronavirus disease 2019 (COVID-19) in mainland China, we use a global metapopulation disease transmission model to project the impact of travel limitations on the national and international spread of the epidemic. The model is calibrated on the basis of internationally reported cases and shows that, at the start of the travel ban from Wuhan on 23 January 2020, most Chinese cities had already received many infected travelers.*

*The travel quarantine of Wuhan delayed the overall epidemic progression by only 3 to 5 days in mainland China but had a more marked effect on the international scale, where case importations were reduced by nearly 80% until mid-February. Modeling results also indicate that sustained 90% travel restrictions to and from mainland China only modestly affect the epidemic trajectory unless combined with a 50% or higher reduction of transmission in the community.*

