OPUNTIA 401

2018 New Year's Day

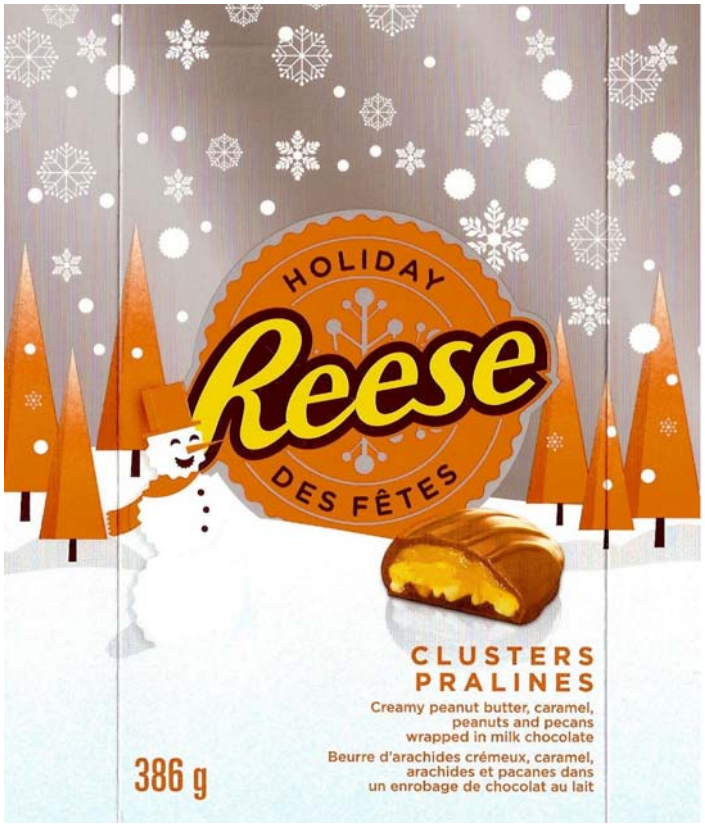
Opuntia is published by Dale Speirs, Calgary, Alberta. It is posted on www.efanzines.com and www.fanac.org. My e-mail address is: opuntia57@hotmail.com When sending me an emailed letter of comment, please include your name and town in the message.

Hogmanay 2017

by Dale Speirs

It looked as if we were going to have a brown Christmas in southern Alberta, but a few days before Christmas we had a 15-cm snowfall, repeated again a couple more times through to the New Year's Day weekend. I had planned on going downtown to the Olympic Plaza where the big New Year's Eve party is held.

On Boxing Day a polar front moved in, with daytime highs of -25ºC and overnight lows of -30ºC. That meant the stage show was canceled, although the fireworks went ahead as planned. What drove Cowtowners to maddened frustration was that a few hours after midnight on New Year's Eve, a chinook blew in and raised the temperature to -4ºC by sunrise. Missed it by that much.



Instead, I stayed at home and listened to old-time radio shows while scarfing candy.

The cover photo was taken at noon on December 31, when the temperature was -28ºC. I didn't bother shoveling out the Opuntiamobile (notice the licence plate) since I wasn't planning on driving anywhere until after the chinook.

TEMPUS FUGIT

by Dale Speirs

At one time or another, everyone has wished for more hours in the day to get things done. As the old saying goes, be careful what you wish for because you may get it.

All The Time In The World.

"Time And Again", written by Ian Martin, is a 1974 episode of the radio drama series CBS RADIO MYSTERY THEATER. This series is available as free mp3 downloads from www.cbsrmt.com.

The protagonist is Ethan, who has a clock repair shop, owned in equal thirds by him, his hypochondriac wife Henrietta, and her nagging sister Harriet.

He buys a non-working but very eldritch clock from a stranger. It is heart-shaped, as in a human heart, not a Valentine heart, and has 13 hours on its face. While trying to figure out how to get it working again, Henrietta comes to his workbench and talks to him. She sticks her finger inside the clock. It is pricked and she bleeds. She goes off to put on a band-aid. Nathan is amazed that the clock suddenly begins working. It doesn't ticktock, but instead pounds to the rhythm of a human heartbeat.

More is to come. The first time the clock strikes thirteen, time stops for one hour. Everyone and everything freezes except for Nathan (and presumably the oxygen molecules he breathes). Twice a day, time stops for Nathan, giving him two hours a day with no interruptions. He discovers that he is rejuvenated during those hours, feeling younger and healthier, and much smarter.

Nathan begins to work on projects that he always wanted to do but could never get done before. Henrietta takes genuinely ill and is admitted to hospital. The attending physician is baffled as she slowly sinks into death. The clock, meanwhile, stops at the exact moment of her death.

Nathan wants those two hours a day of freedom. He draws a slightly wrong conclusion and assumes the clock runs on an aliquot of blood. Hesitant to use his own, he steals a blood sample from a tray of test tubes that a hospital nurse had left unattended for a moment. Pouring it into the clock, it begins pulsing again and giving him his two hours.

Through one method or another, Nathan is able to steal the occasional blood test sample and keep the clock going indefinitely. He then learns from a doctor friend that patients keep dying for mysterious reasons. The hospital can't figure out why because it happens that in every case the patient's blood sample had gone missing. The deaths are obviously medical problems, so no suspicions are raised, certainly not against Nathan, whose thefts of blood were undetected.

The guilt, however, consumes him. He decides on suicide by drowning, but will strap the clock to his body to make certain it will not be used by someone else. A downer ending that doesn't really wrap up the story. The writer seems to have run out of ideas and so decided a quick suicide would get him to the end credits.

New Year's Eve.

"The Man Who Murdered Time", writer uncredited, is an episode of the old-time radio series THE SHADOW first aired on 1939-01-01. It was a clever bit of timing since the story was set on New Year's Eve. (This and hundreds of other OTR shows are available as free mp3s at www.archive.org) A mad scientist, dying of heart disease and bitter at the world, invents a time machine setting the world back 24 hours at midnight on the Eve, and keeps repeating it.

The crazed inventor spends his last day of life in riotous living, culminating in the murder of his wealthy cousin, of whom he was extremely jealous. He knows that he will relive that joyous day (for him, anyway) forever.

Lamont Cranston is a wealthy young man about town who has the ability to cloud people's minds and become invisible in his capacity as The Shadow. His girlfriend Margo Lane is the only person who knows his secret.

They are at a New Year's Eve party when the countdown begins. It never finishes because the time machine sends the world back a day. No one else seems aware of it. Cranston hypothesizes that his hypnotic powers make him immune, which is gibberish, but then again so is a time machine. Lane was in his embrace at the time jump backwards; if she lets go, she is swept away in time.

Cranston begins his investigation and eventually tracks the mad scientist to his lair. There is a confrontation and the machine is disabled, as the villain dies. All is well, except for the villain of course, and everything is set back onto a proper course. Auld lang syne.

"New Year's Eve Off Scilly Isles", written by Edith Meiser, was broadcast 1947-12-28. It is a pastiche from the OTR series THE NEW ADVENTURES OF SHERLOCK HOLMES, as told by Dr Watson. The adventure at hand took place in 1912 and involved the ocean liner Gigantic. Watson mentions the Titanic in passing, so it wasn't a roman-a-clef about that ship.

Holmes and Watson have been hired to forestall an attack on the Gigantic, to be carried out on New Year's Eve as it approaches the Scilly Isles off the southwestern coast of England. The plot uncovered is a plan to set fire to the ship with its 2,000 passengers. Floyd's (with an F, not a typo) of London, an insurance agency, naturally wants the plot investigated.

The duo use logic to deduce where the incendiaries are placed. A saboteur locks them in with the infernal devices, but they manage to get the alarm sounded and are rescued in time. After securing the ship and arresting the culprit, they arrive in the ballroom in time for Auld Lang Syne.

Pretty much a standard plot. Since both the announcer and Watson blabbed the finale at the beginning of the show, there was no suspense. Worth listening to once.

"New Year's Nightmare", written by Robert A. Arthur and David Kogan, is an episode of the OTR series MYSTERIOUS TRAVELER, originally broadcast on 1947-01-05. It opens in a nightclub whose patrons are about to count down to the new year of 1947. Chris and Judy are a couple squabbling; she is fed up with his boozing and calls off their engagement. He flounces out and goes bar crawling. About 05h00, while staggering about, he stumbles out into the street and is hit by a car.

The next thing he knows he is under a different name, married to a different woman named Blanche, and about to celebrate New Year's Eve again, in 1948. Chris had amnesia and has suddenly snapped out of it. He learns that after being discharged from the hospital, he was given a menial clerkship. He had no identification and therefore was given a new identity. Blanche had been his nurse and she later married him.

After coming out of his amnesia, Chris relocates Judy but she won't have him back. Blanche, meanwhile, won't give him his freedom. Judy gives in and says he can come back but only if he divorces Blanche.

At this point the remaining plot becomes obvious. Yes, Blanche is not long for this world. After Chris murders her in a staged accident, he begins courting Judy but she throws him over, propelling him into a rage during which he blabs what he has done before killing her. The police arrive and he kills himself rather than surrender.

Except he then wakes up in hospital. The doctor talks to him and tells him it is January 5, 1947 (the original air date). Chris has amnesia again, and his nurse is Blanche. He is trapped in a time loop.

"The 32nd Of December", written by Morris Lee Green and William Walker, is a 1958 episode of the radio series SUSPENSE. Joe, the narrator, is a born loser who is deep in debt for gambling. The date is December 31, and the Mob wants $1,000 on account by midnight. Joe pawns his wife's engagement ring but only gets $150 for it. While in the pawnshop he sees a mysterious watch with all sorts of dials and knobs, and, driven by impulse, buys it for the $150.

Joe discovers by accident that when pushing various knobs and turning the hands, he can make time go backward and forward. He uses the watch to rob a bank. He goes into his bank, ostensibly to get something out of his safe deposit box. Inside the vault, he quickly sets the watch ahead to Sunday when the bank is closed. Grabbing sufficient cash, he stuffs it into his pockets and returns the watch to his previous time. Joe walks out of the bank with no one the wiser, since the robbery won't be noticed until the following Monday.

To celebrate his new wealth, he takes his wife to a New Year's Eve party. At midnight, the watch ticks over into December 32 instead of January 1, and everyone disappears. Joe is completely alone in nothingness. He tries to set the watch back a day but it is broken. He is trapped forever by himself.

DEATH OF A BLUE BLOOD (2014) by Jessica Fletcher and Donald Bain, is a novel in the MURDER, SHE WROTE series. Fletcher, the character, has been invited to a New Year's Eve gala at Castorbrook Castle in Gloucestershire. Lord Norrance, the 7th Earl, and Countess Marielle, the 3rd wife, are the hosts. Among the guests is Inspector George Sutherland, Scotland Yard, whose presence is essential given that wherever Fletcher goes, at least one body will follow.

After settling in and unpacking, Fletcher goes for a stroll and discovers the first body on page 12, pardon me, in the gardens. It is that of a lady's maid. Fletcher and Sutherland don't have much time for sleuthing as the gala is the next night. Nonetheless they do manage to expose a few cracks in the polite society of the castle, such as family feuds and unacknowledged illegitimate children. There are some nasty undertones because Lord Norrance wants to convert the castle into a hotel. The family doesn't have enough money to keep it in the style to which they have become accustomed.

The New Year's Eve gala is indeed a night to remember. The murder is a subject of gossip of course, but after all the victim was only a maid. Lord Norrance leads the countdown to the New Year and then keels over dead, having only survived a few seconds into the turn of the calendar. No one sings "Auld Lang Syne".

It was poisoning. He had caviar and champagne moments before his death. The obvious suspect is arrested, a farmhand on the manor who bought poison to kill badgers, or so he said. Fletcher continues snooping and identifies the real murderer, who was motivated by family jealousies.

The J'accuse! meeting is an extended tea party conversation, where all are ever so polite. It being the modern age, Fletcher records the confession via her cellphone. Sutherland then steps into the room to make the arrest. Very neatly wrapped up without causing a disturbance. As the British say, "Whatever you do, don't frighten the horses."

New Year's Glee.

For a lighter look at New Year's Eve, there is the old-time radio series FIBBER MCGEE AND MOLLY, a domestic sitcom about a middle-aged couple with too much time on their hands. It was one of the top-rated comedies of radio. Each episode followed the same template. The McGees would be preparing to

leave the house and fussing about getting ready, but were constantly interrupted by visitors who did a funny routine and then left.

Molly always called Fibber by his last name, which would be strange except that, as mentioned in one episode, Fibber was his legal name. He constantly jumped to wild conclusions on the flimsiest of suppositions, and dug himself in deeper thereby.

One standard gag was his hallway closet. Whenever he needed a tool or some such thing, he would open the closet and be buried under a cascade of junk, the noisy clattering sound of which went on for a minute.

"New Year's Celebration" is a 1935 episode, broadcast December 30. The McGees spend most of the episode getting ready to go out for the celebrations. They finally escape the house and arrive at the nightclub.

Molly is loaded for bear, but the other patrons seem rather reticent. Fibber and Molly carry on celebrating, loudly whooping about. The maitre d' comes over and shushes them. Molly is indignant, and demands to know why they can't celebrate the Eve. The maitre d' coldly informs them that New Year's Eve isn't until tomorrow night.

Time Freezes.

"The Deadly Smorgasbord Affair" is a 1967 episode from Season 3 of THE MAN FROM U.N.C.L.E., written by Stanley Ralph Ross. It is set in Stockholm, Sweden, where Napoleon Solo is looking after Prof. Dr A.C. Nillson. Kuryakin does not appear in this episode, being busy in Russia on another case.

Nillson is not quite a mad scientist, although he has the obligatory beautiful daughter Neila, no wife, and an invention that could change the world. Nillson's laboratory assistant is Inga Bergstrom, a sexy THRUSH infiltrator trying to get the device. She acts as Solo's romantic interest, since Neila, a cute teenager, is jailbait for him.

Nillson has invented a gadget called Suspended Animation Device, which freezes time for living organisms. Naturally THRUSH, through its local satrap Henry Beckman, wants the SAD, and Solo is there to stop him. Beckman wants to first use the SAD to destroy UNCLE's Scandinavian headquarters in Oslo, Norway, as a method of getting a promotion to THRUSH Central Board of Directors, which he feels he so richly deserves.

The episode opens with Bergstrom escorting Solo to Nillson's laboratory at the university. The students are having a party, go-go dancing to jazz music, a rather embarrassingly dated scene. Groovy it isn't.

Solo would like the SAD but Nillson can't find it. He goes into the room with the dancing students, one of whom locates it and tosses it over. He misses the catch, it falls on the floor, activates, and freezes everyone. A moment later, two THRUSH agents enter and see the easy pickings. They hoist up Nillson like a statue and grab the device. The effects wear off, and time restarts for the students and Solo. Big excitement and so forth, and the chase is on. The THRUSH men get away with Nillson but lose the SAD in the process.

The SAD has varying properties depending on the immediate needs of the plot. When first used, albeit inadvertently, it freezes a whole room of students in time. Yet in every subsequent use of it, whether by THRUSH or others, it has to be aimed at individuals and triggered one by one to freeze them in time. The length it suspends people in time varies, from minutes to half-hours to several hours. The device looks like a large television remote control device but doesn't seem to have any adjustment knobs other than the on/off switch.

After much to-ing and fro-ing around Stockholm, THRUSH finally gets the device. In the process, Solo and Neila are frozen by the SAD and then dumped into the river. Their bodies are not retrieved from the water until several hours later, but they survive because they were frozen in time and thus never drowned.

Beckman takes off for Oslo where he, Bergstrom, and four henchmen successfully invade UNCLE headquarters. They freeze the staff in time one by one as they make their way into the file room where they grab as many secret documents as they can, including a list of all UNCLE agents in Europe.

Solo and Neila arrive shortly and the fireworks begin. There are no prizes for guessing how it all turns out. In the epilogue, Solo and Neila visit Nillson in his lab where he is working on a new version of SAD. When he tries it out on his daughter, she floats up to the ceiling. A mildly interesting story with many inconsistencies.

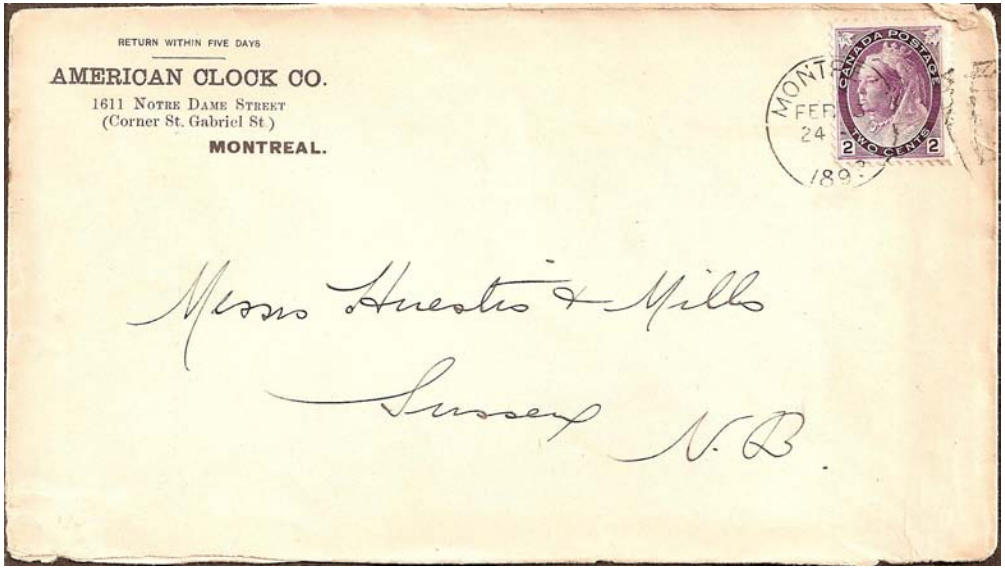
Cozy Clocks.

CHIME AND PUNISHMENT (2017) by Julianne Holmes is from a cozy mystery series about Ruth Clagan, who runs a clock repair shop in the village of Orchard, Massachusetts. This is in keeping with the propensity of Miss Marples to open marginal businesses that for lack of customers give them plenty of time for amateur sleuthing.

Clagan got the contract to renovate the clock tower of the village. She is constantly annoyed by a petty bureaucrat named Kim Gray. That annoyance is removed when Gray is found crushed under the clock tower bell. Suspicion covers the village like snow, and Clagan is kept busy snooping about. Nevermind the State Police or the local Deppity Dawgs, the reader knows who will solve the case.

In the denouement, the real method of death was covered up by the murderer crushing Gray's face under the bell. With obvious physical trauma like that, the police don't bother testing for poisons. Gray was vain about her appearance, so that was a bonus to the murderer, ensuring it was a closed casket funeral. She had been a schemer, and kept her past hidden for good reason, but it finally caught up with her.

In the epilogue, Clagan finishes the clock tower renovations. The clock is restarted on June 21, the summer solstice. If that isn't timely significance, I don't know what is.



THE DAYS OF OUR LIVES

Phlox Icona sends me a homemade mail art calendar each year which I use by my desk. It wasn't until Canada Day that I discovered the June 2017 calendar was different. Take a close look at the calendar and you will spot what is wrong with it. All the other months were okay.

LET MARS DIVIDE ETERNITY IN TWAIN: PART 11

by Dale Speirs

[Parts 1 to 10 appeared in OPUNTIAs #310, 321, 328, 332, 337, 354, 357, 369, 372, and 384. Reviews of the WAR OF THE WORLDS movies appeared in #289.]

Palaeo Mars.

THE CERTAINTY OF A FUTURE LIFE IN MARS by Louis Pope Gratacap is a 1903 novel from www.gutenberg.org, available as a free download. The narrator is Bradford Torrey Dodd, whose experiments in wireless telegraphy bore more fruit than he expected. Although Queen Victoria had been dead two years, the novel is written in the Victorian style, with long discursions and infodumps.

Dodd and his father, a wealthy widower, were interested in astronomy, particularly Mars. They moved from America to New Zealand, the better to set up an observatory on a mountain top. They are involved in the then cutting-edge technology of electricity and wireless telegraphy, and try out the new technologies for astronomical observation.

On September 1, 1859, in real life, Earth was hit by the most massive solar flare ever recorded, the Carrington event. It shut down telegraph lines around the world, and short-circuited electrical installations of every kind. If it were to occur today, it would wreck the Internet, computers and mobile devices, and electrical power distribution systems with massive electromagnetic pulses.

The Dodds read a paper about the event which explained the electromagnetic nature of the flare and how it moved through space. That got them thinking about how to use wireless telegraphy to communicate to planets or vice versa. Dodd Senior extrapolates this in an unusual explanation of spiritualism which sets up the rest of the novel:

For myself I am convinced that there has been an evolution in the order of beings from one planet to another, that there is going on a stream of transference, from one plane of life here to planes elsewhere, and that the stream is pouring in as well as out of this world, and that it may be, in our case, pouring both ways, that is, we may be losing individuals into lower grades of life as well as emitting them to higher. See, what economy!

Instead of wasting the energies of imagination to account for the destinations of millions upon millions of human beings, the countless host that has occupied the surfaces of this earth through all the historic and prehistoric ages, we can, upon this assumption, reduce the number of individuals immensely, allowing that spirits are constantly arriving, constantly departing, and that the sum total in the solar system remains perhaps nearly fixed, just as in the electrolysis of water we have hydrogen rising at one electrode and oxygen at the other by transmission of atoms of hydrogen and atoms of oxygen toward each electrode through the water itself, in opposite directions, while for a sensible time the mass of water remains unchanged.

Let us suppose that in Mercury some form of mental life exists, that it is individualized, that it expresses the physical constants of that globe, that its mentality has reached the point where it can make use of the resources of Mercury, can respond to its physical constants so far as they awaken poetry or art or religion or science.

Suppose that this life is one of extreme forcefulness, of stress and storm, like some prehistoric condition on our globe, but invested with more intellectual attributes than the same ages on our earth required or possessed, perhaps reaching a permanent condition not unlike that depicted in the Niebelungen Lied or the Sagas of the North. It might be called the brawn period. Then the spirits born upon our planet or on any other planet in an identical condition, would find after death their destination in Mercury, where they could evolve up to the point where they might return to as, or to some other planet fitted for a higher life.

Then Venus, we may imagine, succeeding Mercury, carries a higher type, an emotional life, though of course I am not influenced by her accidental name, in suggesting it. Here in Venus, a period perchance resembling a mixture of the pagan Grecian life and the troubadour life of Provence may prevail and again to it have flown the spirits which in our planet only touch that development, which from Venus flow to us, those adapted for the religious or intellectual phase we present. This Venus life might be called the sense period.

And now our world follows, with its scientific life which probably represents its normal limit. Beyond this it will not go. As we have developed through a brawn and sense period to our present stage, so in Mercury and Venus, ages have prevailed of development which eventuated in their final fixed stages at brawn and sense.

In Venus, too, the brawn stage preceded the sense period. In us both have preceded the scientific stage. There has been, may we not think, constant interchanges between these planets of such lives as survive material dissolution, and they have found the nidus that fits them in each. Souls leaving us in a brawn epoch have fled to Mercury, souls leaving us in a sense epoch have fled to Venus, and all souls in Mercury or Venus, ready for reincarnation in a scientific epoch, have come to us.

But there is an important postulate underlying this theory. It is, that upon each planet the possibilities of development just attain to the margin of the next higher step in mental evolution. That is, that on Mercury the period of brawn develops to the possibility of the period of sense without fully exemplifying it, so in Venus the period of sense develops to the possibility of the period of science without attaining it, and in our world the period of science develops to the period of spirit, without, in any universal way, exhibiting it.

These are steps progressively represented, I may imagine, in the planets. And, in the further progress outward, we reach the planet Mars. Let us place here the period of spirit. On Mars is accomplished in society, and accompanied by an accomplishment in its physical features, also, of those ideals of living which the great and good unceasingly labor to secure for us here and unceasingly fail to secure. O my child, if we could learn somehow to get tidings from that distant sphere, if only the viewless abyss of space between our world and Mars might be bridged by the noiseless and unseen waves of a magnetic current.

Having set up that foreboding, not necessarily ominous, the next step is their experiments in wireless telegraphy for use via the observatory, not the more prosaic transmission of current commodity prices and general news. After speculating at length about other civilizations, they aim the apparatus at Mars during its 1890 opposition (closest approach to Earth as the planets revolve around the Sun).

They succeed in getting code from Mars, albeit not Morse or commercial but evidently an alien language which can't be translated. Dodd Senior begins to decline physically and dies in 1892. Knowing that his time was coming, he worked hard to memorize the Morse code so that he could communicate with his son from the next world. Not just figuratively, in the sense of an afterlife, but the actual planet Mars.

In 1893, Dodd Junior begins to receive messages from Mars, this time in English Morse code. His father has indeed made the transition and bears glad tidings. The Martians have set up a collection centre for incoming Earth spirits, where they can be properly indoctrinated. Not all the arrivals on Mars are from Earth. Many are from Mercury or Venus, somehow being able to jump the queue, and a few are from distant stars.

The father, in his turn, is compelled to explain the wonders of the socialist utopia that exists on Mars. This is a universal disease of utopian novels, whereby some white-robed gentleman lectures at great length about the new world aborning, whether anyone wants to hear it or not.

The Martians are vegetarians, walk everywhere except to ride boats on the canals, and are constantly singing and playing ethereal music. They have a One World Government that rules firmly but benignly as would never happen on Earth but is standard for utopias. I always wonder who scrubs the toilets or augers tree roots out of the sewer drains, but that is never addressed.

Dodd Senior meets an old friend from Earth. I am tempted to send the following extract to David Langford's "Thog's Masterclass" column in the zine ANSIBLE: *I looked upon my friend, and in the rapidly rising flood of emotions that came with the acting members of my body, flushed and throbbing with excitement, and with a wild joy besides, I flung myself upon his neck and pressed him with arms that seemed once more those natural physical ties that have held upon my breast those I best loved on earth.*

Meanwhile, back in New Zealand, Dodd Junior has been transcribing his father's transmissions but keeps quiet. He swears his girlfriend Agnes Dodan to secrecy because he knows the reception he would get from everyone else if he said he was communicating with his father's spirit on Mars. Understandable, since the COAST TO COAST AM radio show hadn't been invented yet.

It seems that not everyone gets to go to the utopia of the next life. Dodd Senior's next communication mentions that: *It is singular that of the scientific workers of the earth the astronomers, physicists, and chemists alone reach Mars. The biologists, zoologists, botanists, geographers, and geologists rarely are booked at the Registeries as coming from the Earth. Their lives may be prolonged elsewhere, they seldom reach us.*

It is stated that Martian civilization clusters along the equator where the canals are, and the rest of the planet is uninhabited. I bring this point up because of the following text in Dodd Senior's report.

The Registeries were offices in the alcove-like openings in the sides of this very long building. In the same building were the Courts, which are few, and here the rooms for the reception and storage of supplies for the City. The Hall of Registeries is prolonged into a series of huge buildings extending along the walls of the Canal.

I was led by my unknown friend and Chapman to one of these recesses on which I recognized a globe of our earth with its continents in relief. Here upon simple tables were spread great bound books made up of thick creamy leaves of white paper.

These were the Registers. The original home, planet, world, or star, from which each emigrant spirit had departed was, as far as possible, determined, and appropriately recorded. The details of their lives were inquired into, the condition and history of the sphere they had left examined, and thus by the revision and comparison of these narratives the history of the various worlds was in a fair way known, almost as accurately as their present inhabitants knew them.

The alcoves of the Registeries were really ample rooms. Cases holding voluminous records were ranged upon their walls; maps, charts, even paintings and drawings, as made by the arriving spirits hung upon the walls, and in broad albums were gathered the portraits, in small size, of the incarnated persons.

Okay, they don't have optical or electronic storage in utopia, yet operate gargantuan libraries. Where do they get the paper for it all? It is repeatedly stated that the Martians only grow vegetable or fruit crops through irrigation. It is possible to make paper from herbaceous or other non-woody plants, but where are the pulp mills?

The Martians hadn't realized that Dodd Senior was communicating with Earth and become greatly excited. Since most of them are Earth spirits, they too want to talk to their loved ones back home. At that point, the novel makes an extended tour of civilized Mars, so the author can fill in the background and his characters lecture Dodd Senior some more about the wonders of the utopia.

But there is trouble in paradise, and an undercurrent of tension. Many spirits arriving on Mars are not well adjusted, and are rocketed off into space so as not to disturb the harmony of the utopia. Meanwhile, Martian astronomers have tracked a comet inbound for one of their major cities. If they cannot deflect the comet, then the city will have to be abandoned.

After the destruction of the city, Dodd Senior's communication is cut off. When he sends a third and final message, it is that he has found Mrs Dodd. Junior, in the meantime, has broken off his engagement, then suffers a fatal hemorrhage, terminating the manuscript and the novel. There is a brief afterword, followed by a paper by none other than Giovanni Schiaparelli himself.

An interesting novel. The abrupt ending suggests the author ran out of ideas and therefore just cut the story short.

THROUGH SPACE TO MARS is a 1910 juvenile novel published under the house name of Roy Rockwood, used by the Stratemeyer Syndicate. This particular novel was ghostwritten by Howard R. Garis. It is available as a free download from www.gutenberg.org.

The boy wonders of this novel are Jack Darrow and Mark Sampson, students at the Universal Electrical and Chemical College. Their mentor Prof. Henderson and a German scientist Santell Roumann have a plan to go to Mars:

We will go in a long, torpedo-shaped projectile, which, though it will not be very large in diameter, will be long enough to contain all our machinery and ourselves, with a sufficient store of provisions for a year or more.

But I know what you are going to ask, and that is: How can I send the projectile through space? Well, I'll tell you, that is, partly tell you, for some parts of my secret can never be revealed. I have discovered a wonderful power, more wonderful than man ever dreamed of before. I have called it Etherium, for the reason that I expect it to carry us through the ether, or space that exists outside of the atmosphere of this earth and that of Mars.

Roumann specifies the details: *A projectile, two hundred feet long and about ten feet through in the thickest part. In that we will build sleeping and living apartments, racks to store the air which we will have to breathe while traveling through space, other tanks for water, a compartment for food, another for*

scientific instruments, and we will need a comparatively large space for my machinery.

There is the usual trouble and strife along the way. Some Slavic bad guys are after the magic projectile. Sabotage and theft are constant problems. It isn't until Chapter 15 that the Etherium motors are fired up.

Off they go for Mars. The crew consists of the two boys, the two scientists, the Professor's hired hand, and his cook/housekeeper, a Negro who talk dat ole darkie dialect that no author would dare use today.

The trip out is initially rather boring, so everyone spends their time pumping out "As you know, Professor" infodumps about everything from Earth's atmosphere to Hohmann transfer orbits. Once they run out of things to lecture each other about, the excitement picks up, from having to zigzag around a stray asteroid, to a stowaway sabotaging the engines to being captured by the gravitational pull of a comet. Prof. Henderson says: *A comet is a terrible mass to escape from.* Now you know where that other phrase came from.

Finally to Mars, where they meet the inhabitants. *Their heads were about three times as large as those of the ordinary person, and the eyes, ears and nose were of extraordinary size. Indeed, the eyes bulged out in quite an unpleasant fashion, and the ears of the Martians were not unlike those of an elephant in proportion, though they were shaped more like those of a human being. As for a Martian nose, it was elongated, and capable of being moved in any direction, as were also the ears.*

The Martians don't speak any Earth languages and the travelers don't know the local lingo, so the two sides begin with mathematics to establish a common ground. Their machines are powered by a magical red substance they call cardite, a handful of which can propel a vehicle or heat a house.

The Earthlings immediately go into imperialistic mode. *It's all nonsense to think any harm can come from taking it. It will not injure their planet, and it will be a fortune to us. They must have a lot of it, for they told us that all the cities on Mars, and there are several of them, are lighted and heated by it.*

Cultural relations take a nosedive, and soon the natives become unruly. The Earthlings load a supply of cardite on board their projectile, fight off an attack by the Martians, and launch. Back to Earth, where the cardite sells for a fortune.

That seems to be the end of it for the boys and scientists, but one can bet that military staffs around the world are thinking about future expeditions to Mars.

This type of novel is an interesting read for the types of cultural assumptions that the author and readers of that era took for granted. Before any Social Justice Warriors sneer at it, they should remember that everything they currently hold dear will be repudiated by their great-grandchildren.

TO MARS VIA THE MOON (1911) is a different approach by Mark Wicks. The novel is available from www.gutenberg.org as a free download in several formats. The narrator is Wilfrid Poynders, late of Croydon, Surrey, England. His partner in the epic voyage is John Yiewsley Claxton, and the engineer is a Scot named Kenneth M'Allister.

The spaceship, named the Areonal, is described thus: *Outwardly it was shaped somewhat like a fish, being constructed of a special metal, our joint invention, which we had named "martalium". The metal was composed of aluminium and two other rarer metals which, when combined together, produced a substance almost as light as aluminium, yet many times harder and tougher than case-hardened steel, whilst its surface shone like burnished silver and could never in any circumstances become tarnished or affected by rust. The ship was ninety-five feet in length, and its diameter twenty feet in the broadest part, tapering off to a point at either end.*

With the exception of the steering and balancing fans, there was no machinery whatever visible on the exterior of the vessel. Several windows along each side, together with a few at the top and bottom of the vessel, gave light to the interior, and would allow for observations being made in any direction.

These windows were all constructed of a special toughened glass obtained from Vienna, very thick and warranted to withstand the hardest blows. Along each side of the vessel there was an observation platform or gallery on to which the exterior doors opened, and each gallery was provided with a protecting railing.

The interior of the ship was divided into five separate compartments, the rear one being the general living and sleeping room, having observation windows so arranged as to command an outlook in all directions. The next compartment was mainly a store-room, but, like all the others, could be used for observation purposes; next to that was a small compartment intended for a special purpose which will hereafter be apparent; then another containing water storage, apparatus for compressing or rarefying air, as well as machinery for producing the latter chemically.

Lastly, right in the forepart of the vessel was M'Allister's special sanctum, containing the driving, lighting, warming, and steering machinery, but electric buttons and switches were also provided for controlling these in every compartment, so that whichever one we happened to be in we were prepared for all emergencies. Periscopes capable of being turned in all directions also communicated with every compartment, thus we could always see what might be around us.

All the machinery was either electric or magnetic, some of it being very simple; other portions were extremely intricate, but nearly all was the outcome of our joint inventions. Such parts as could not profitably be made by ourselves had been carefully distributed between several firms of founders and engineers, in order that none could have any means of discovering the use to which they were intended to be put.

The whole of the shell of the vessel was double, with a packed space between the two skins; and each door opened into a small lobby, having another door on the farther side, to ensure that every part might be kept perfectly air-tight when required.

That last sentence describes an airlock, something not commonly thought of in most stories of that era. No hand-waving is required to describe the engines by virtue of omitting any description whatever. The ship just rises up into the air and heads out into space. Something to do with magnetism, and on that point the author goes no further. That makes sense. Mystery stories don't stop so that the detective can explain how the engine in his car works, and in westerns, cowboys don't recite infodumps about six-shooters.

The author being an astronomer, there are lots of infodumps. As he mentions in the foreword, the novel is as much a non-technical textbook on astronomy as it is an action-adventure. Some of his remarks are prescient; he explains how Earth appears looking back from the Moon. They make the side trip before heading off to Mars because they can, reaching the Moon in sixteen hours.

After describing half the craters on the Moon, it's heigh-ho and off we go, and the spaceship swings out to Mars. The voyage is not without its strife. One of the Marsnauts runs out of tobacco for his pipe and finds that he has to quit smoking. A lesser problem is that the ship is smacked hard by a meteor, but fortunately the double hull saves the occupants.

They arrive at the red planet, which has its civilization and natives, who are anglophone humanoids. The Martians were expecting the travelers, and greet them with massed crowds and flying banners. After the physical descriptions are completed a few chapters later, one then sits through utopian philosophy.

It is a universal rule of utopias that people will always be lecturing you about how their society is so much better. If I quoted the full lecture by the chief of the Martians, it would fill an entire issue of this zine, so herewith is only a brief extract. Every objection the narrator makes is crushed by the chief, who explains how Martians are above that sort of thing.

Here upon Mars the welfare of the whole community all over our planet is the first and most important consideration. The whole adult population, both male and female, have an equal voice in the discussion of all matters with which the governing Council are concerned.

My office, as Chief of the Council, is held for a term of two Martian years; and I am not a ruler imposing my own will upon the people, but their trusted servant, appointed to supervise the carrying into effect of the people's wishes, as expressed by their votes and by their own appointed spokesmen.

The whole of the land upon Mars belongs to the State, and is utilised strictly in the interests of the whole community; no one can hold it as a private possession, or use it for merely selfish purposes. A necessary corollary to the private ownership of land is the overcrowding of buildings upon small areas; and such general poverty and insanitary conditions as those in which so many of your population have to live in what you have termed your slums are the inevitable outcome of such a system. Private ownership of large areas of land really involves also the practical ownership of the people upon it!

I can assure you, Mr. Poynders, that no such overcrowding, poverty, or insanitary conditions will be found upon our planet, go where you will. Our people are well and comfortably housed, and you will find ample air-space and light around every dwelling.

On Mars no office, rank, or privilege is hereditary. It is true we have amongst us persons of different ranks or grades, but such honours as these can only be gained as the reward of meritorious and useful services, and can only be held by the person who has earned them.

We have no need of an army or navy, for we are all one united nation; so all the enormous expenditure which is wasted in your world in international rivalry and warfare is entirely avoided here, and schemes for the general welfare of the people benefit instead. Ages ago we abandoned war as a folly and a crime; and our world-wide system of canals, which is a prime essential to our very existence, could never have been accomplished or maintained if one section of our population had been at war, or was likely to be at war, with another.

Apart from all other considerations then, our vast canal system is a guarantee of unity and of permanent universal peace upon our planet; but, as I have said, we saw the folly of war, and abandoned it ages ago.

Then, as regards the terrible curse of drink which you have mentioned; if such ever existed on Mars, it must have been in the most dim and distant past, for we have no records of such a dreadful state of affairs as you have described as being even now one of your most difficult problems to deal with. The absence of any excesses of this kind may, perhaps, help to account for the fact that our population is strong and healthy, and few die of anything but old age.

There is no such thing here as poverty or lack of employment. There is work for all who are able to do it; and those who, by reason of age or infirmity, are unable to work, are all honourably provided for, so that they can live in the same comfort as though they did work. This is not charity or privilege, but the absolute right of all.

Neither is there any over-working of any individual in our population, for the ordinary working day here is only six hours, about equal to six hours and ten minutes in your world. No one need work longer than this except for his own pleasure; all the remainder of the time can be devoted to rest or recreation. No one need work at all when his powers are failing, as he will be amply provided for.

"But", I asked, "how do you manage with regard to those who will not work? They are our most difficult people to deal with, and constitute a great burden upon the community." Soranho seemed astounded at this question, and exclaimed, "Is it really possible that such beings can exist? Here no one able to work would dream of living an idle and useless life; their natural self-respect forbids it!

Talk about hand-waving. One of the Marsnauts decides to stay, while the other two return home. No one believes the prodigal sons, and on that note the story trickles to a close.

Given that the novel was specifically intended to educate the general public about the state of knowledge of astronomy at the time, the infodumps are not a

problem. In fact, the accompanying artwork and astronomical charts, based entirely on what astronomers knew in those days, make an interesting historical record of those distant times.

Old Mars.

"At The Perihelion" by Robert Willey (1937 February, ASTOUNDING) is set on a Mars colonized by various nations such as the USA and the Soviet Union. There are ruins on the planet indicating that it was inhabited by a Martian civilization until about 10,000 years ago.

The only life form left is a species that resembles a two-metre long centipede, known as the blue skolopender to anglophones and tchorts (devils) to Slavs. It is dangerous to humans because we are basically bags of water, the one commodity incredibly scarce on the desert world. No canals here. If a skolopender catches a human out in the open, then he will be attacked and sucked dry.

Dan Benson has to go into town on errands. He meets up with Russian nomenclatura, who hire him to exterminate the skolopenders. It is full scale war. The population is mobilized to burn as many skolopenders as possible. At first, a line is formed of thousands of men going shoulder-to-shoulder across the territory, burning skolopenders and pushing the survivors ahead of them. Many of the skolopenders go underground, then come up from behind and attack the humans from the rear.

Benson runs afoul of the commissars for not keeping up with the plan. With others, he makes an escape on a stolen spaceship, but after a brief battle with their pursuers, it is damaged. They cannot go back down to Mars but must run to Earth. The problem is getting there before their oxygen or food runs out. The standard Hohmann transfer orbit will save fuel but take forty days longer than their air supply will last.

Instead, they try a slingshot orbit known as a Pirquet orbit, named after the scientist who invented the idea of gravity assist orbits to speed up spacecraft. (A standard technique for many space probes today to get to the outer Solar System within a decade instead of a century.) They dive around the Sun closer than Mercury and barely survive the heat. The rest of the story is simply a long infodump mixed in with a few bits of plot. They make it back to Earth, and all is well.

"Water For Mars" by Ross Rocklynne (1937 April, ASTOUNDING) is about a water hunter on Mars named Will Kair who has promised the Empress of Mars a supply of water from asteroids. Not all of her court are happy with the idea because they fear it will lead to a population explosion among the Martians and introduce problems such as crime and soft living. Others opposed are the Venusians, who have a pretty good job supplying water from their planet at pretty good prices, and Earthlings, who are mining Mars for radium and don't want Martians getting ideas above their station.

Kair is undaunted by trouble, strife, sabotage, and other vexations. He finds an icy asteroid and delivers it to Mars. The impact vapourizes the ice, spreading steam through the atmosphere, then condensing into rain, and finally soaking the planet. Green Mars is assured.

"Hobo God" by Malcolm Jameson (1944 September, ASTOUNDING) is about an escaped convict on Mars who takes over a group of Martians and gets them to do his bidding. He inadvertently creates a new culture for them based on engineering and hard work. Since he can't handle all the details of running the economy by himself, he delegates authority to Martians and, without realizing it, builds up a self-sustaining bureaucracy.

By the time of his death, he is worshiped as a god, although he didn't understand that. He gave Martians writing, the wheel, and the fundamentals of organizational psychology. The story fits the theme that editor John W. Campbell Jr liked, that of humans proving their superiority over aliens.

New Mars.

"The First Trebuchet On Mars" by Marie Vibbert (2017 Sep/Oct, ANALOG) pretty much sums up the whole story in the title, a modern version of a Tom Swift tale. The builder of the trebuchet is rebuked for wasting scarce materials. She redeems herself when an emergency occurs and the trebuchet is used to catapult oxygen cylinders to the victims, saving their lives. John Campbell would have bought this story on sight.

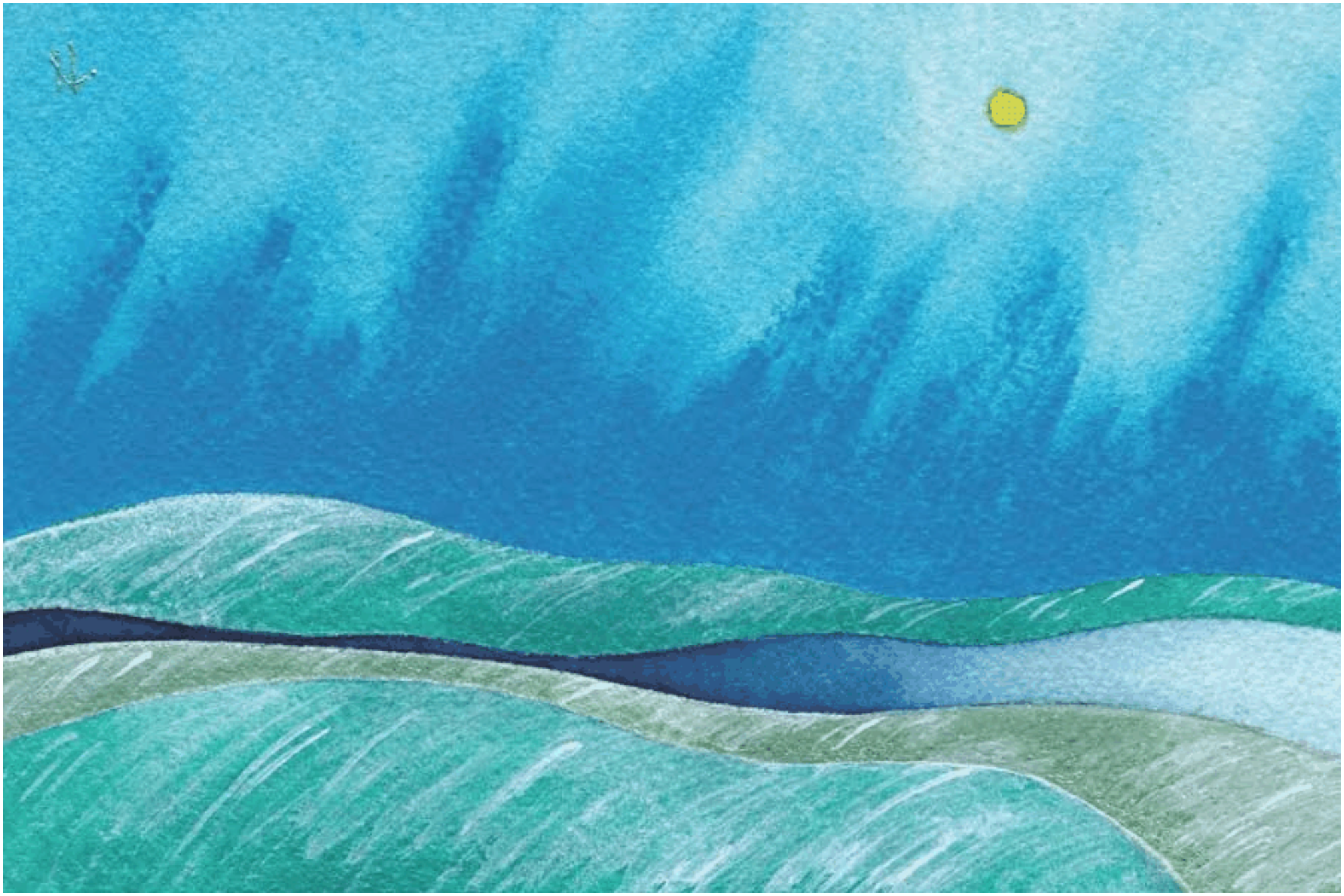
Immediately following that story in the same issue is "Climbing Olympus" by Simon Kewin. Again the title sums up the story. An angst-ridden man hikes up Olympus Mons in order to deposit his father's ashes on the summit. He and the old man, who was a mountaineer, had their problems. The ascent allows him psychoanalytical time.

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 2017-12-21
Calgary, Alberta

[His quarterly solstice/equinox mail art postcard]



tnelson@bexx.com

"Seasonal Greetings!"

As the Solstice arrives once again,
The longest and the shortest days
Bring their respective visions,
To the viewer's mind.

Summer light, Winter heavy.

At least to this writer's gaze,
For Winter brings a contemplation
That can match the darkness
Of the longest night.

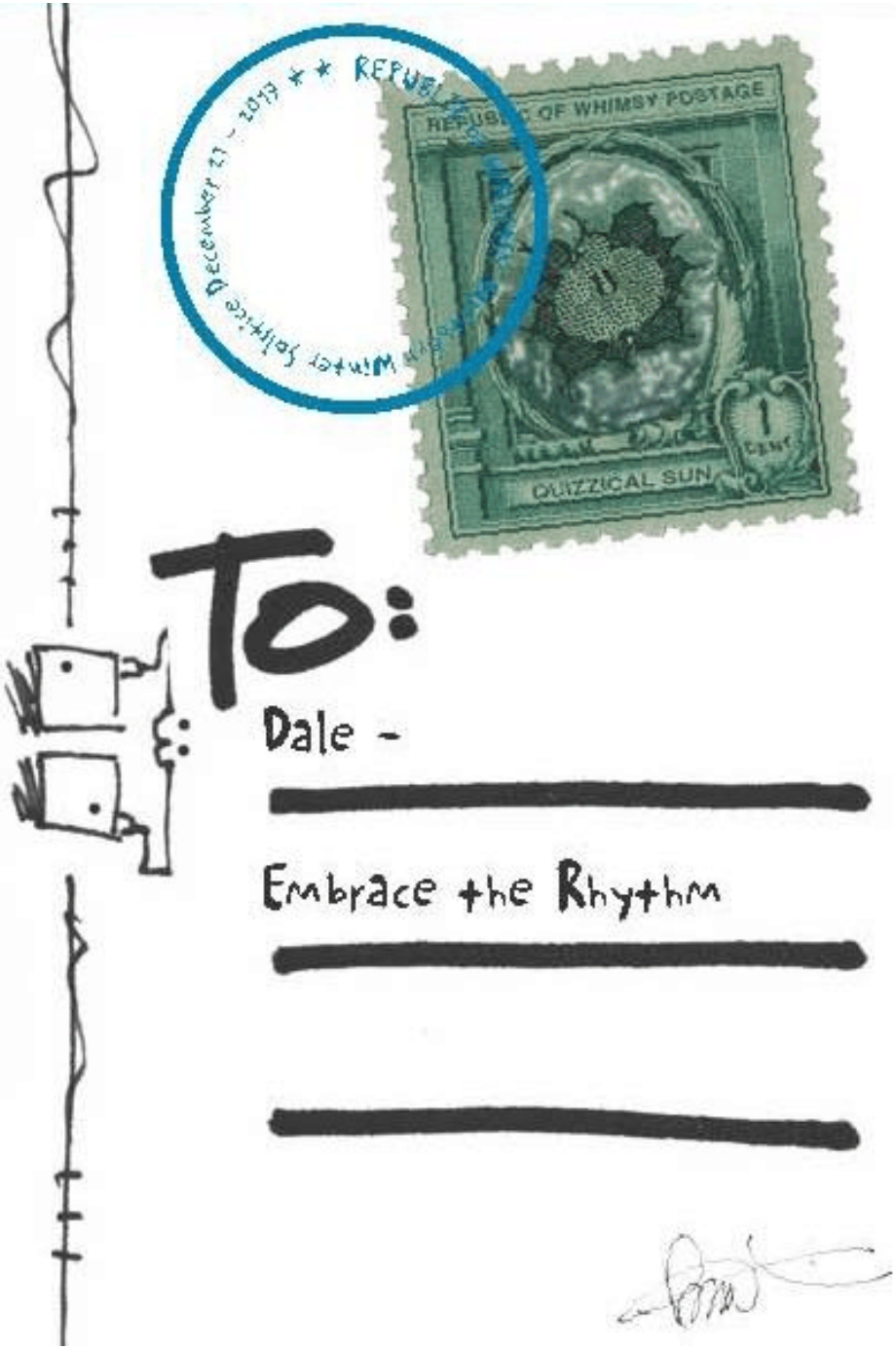
The northern world greets the day.

This writer knows that light
Shall once again lengthen
And slowly banish the shadows
That fill the mind's spaces.

An eternal rhythm.

Of energy that fills
The world and all
The creatures big and small
That live here.

Winter Hills



ZINE LISTINGS

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

[The Usual means $5 cash ($6 overseas) or trade for your zine. Americans: please don't send cheques for small amounts to Canada or overseas (the bank fee to cash them is usually more than the amount) or mint USA stamps (which are not valid for postage outside USA). US$ banknotes are still acceptable around the world.]

BANANA WINGS #68 (The Usual from Claire Brialey and Mark Plummer, 59 Shirley Road, Croydon, Surrey CR0 7ES, England) Fannish news and notes, SF conventions, and a discussion of trying to maintain copyrights online, plus many letters of comment.

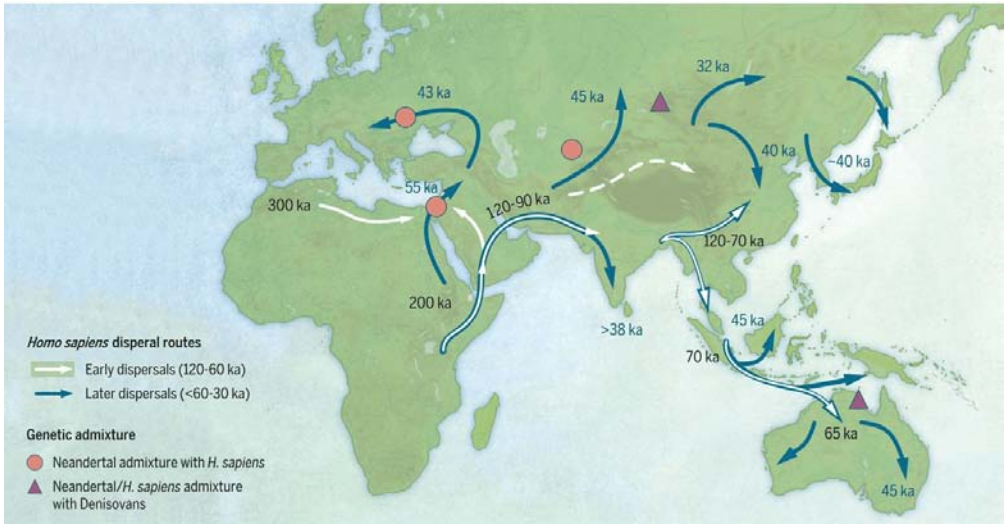
FOR THE CLERISY #88 (The Usual from Brant Kresovich, Box 404, Getzville, New York 14068-0404) Reviewzine concentrating on older books that deserve renewed attention. The books are not available everywhere in stores like the current crop of Star Wars paperbacks but worth the hunt for online.

CHRISTIAN NEW AGE QUARTERLY V23#2 (US$5 for a sample copy from Catherine Groves, Box 276, Clifton, New Jersey 07015-0276) An editorial on the virtues of to-do lists, and numerous letters of comment. The main article is "Jesus As Rorschach" by Robert Arias, about the myriad interpretations of Jesus and the scriptural variations made to support them.

SEEN IN THE LITERATURE

Bae, C.J., K. Douka, and M.D. Petraglia (2017) **On the origin of modern humans: Asian perspectives.** SCIENCE doi:10.1126/science.aai9067

Authors' abstract: *The traditional "out of Africa" model, which posits a dispersal of modern Homo sapiens across Eurasia as a single wave at ~60,000 years ago and the subsequent replacement of all indigenous populations, is in need of revision. Recent discoveries from archaeology, hominin paleontology, geochronology, genetics, and paleoenvironmental studies have contributed to a better understanding of the Late Pleistocene record in Asia. Important findings highlighted here include growing evidence for multiple dispersals predating 60,000 years ago in regions such as southern and eastern Asia. Modern humans moving into Asia met Neandertals, Denisovans, mid-Pleistocene Homo, and possibly H. floresiensis, with some degree of interbreeding occurring. These early human dispersals, which left at least some genetic traces in modern populations, indicate that later replacements were not wholesale.*



Morishima, K., et al (2017) **Discovery of a big void in Khufu's Pyramid by observation of cosmic-ray muons.** NATURE 552:386-390

Authors' abstract: *The Great Pyramid, or Khufu's Pyramid, was built on the Giza plateau in Egypt during the fourth dynasty by the pharaoh Khufu (Cheops), who reigned from 2509 BC to 2483 BC. Despite being one of the oldest and largest monuments on Earth, there is no consensus about how it was built. To understand its internal structure better, we imaged the pyramid using muons, which are by-products of cosmic rays that are only partially absorbed by stone. The resulting cosmic-ray muon radiography allows us to visualize the known and any unknown voids in the pyramid in a non-invasive way.*

Here we report the discovery of a large void (with a cross-section similar to that of the Grand Gallery and a minimum length of 30 metres) situated above the Grand Gallery. This constitutes the first major inner structure found in the Great Pyramid since the nineteenth century. The void, named ScanPyramids'

Big Void, was first observed with nuclear emulsion films installed in the Queen's Chamber, then confirmed with scintillator hodoscopes set up in the same chamber and finally re-confirmed with gas detectors outside the pyramid.

This large void has therefore been detected with high confidence by three different muon detection technologies and three independent analyses. These results constitute a breakthrough for the understanding of the internal structure of Khufu's Pyramid. Although there is currently no information about the intended purpose of this void, these findings show how modern particle physics can shed new light on the world's archaeological heritage.

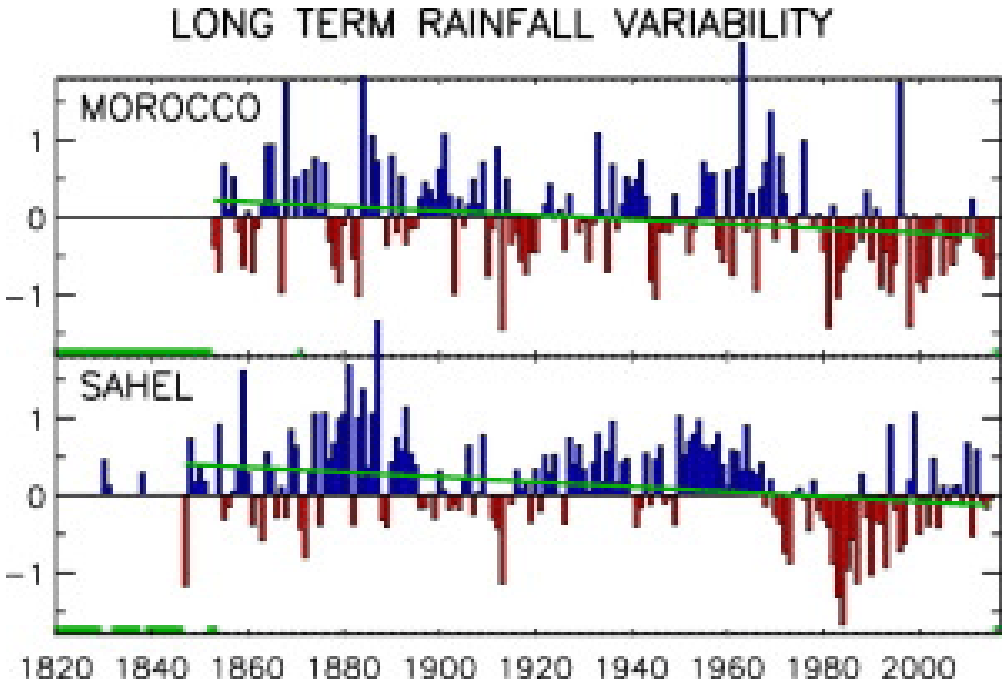
Nicholson, S.E., C. Funk, and A.H. Fink (2017) **Rainfall over the African continent from the 19th through the 21st century.** GLOBAL AND PLANETARY CHANGE doi.org/10.1016/j.gloplacha.2017.12.014

Authors' abstract: *This work presents the longest rainfall series ever published for 13 African regions. These encompass most of the continent and are 125 to 175 years in length. Around 1968 a change to more arid conditions occurred in the Sahel and North Africa. For the continent as a whole more arid conditions began in the 1980s. In equatorial regions, the boreal spring has become drier and the boreal autumn wetter.*

Although towards the end of the 20th century there was a widespread trend towards more arid conditions, few significant trends are evident over the entire period of record. The largest were downward trends in the Sahel and western sectors of North Africa. In those regions, an abrupt reduction in rainfall occurred around 1968, but a synchronous change occurred many other parts of Africa. A recovery did occur in the Sahel, but to varying degrees across the east-west expanse of the region.

Noteworthy is that the west-to-east rainfall gradient across the region appears to have weakened in recent decades. For the continent as a whole, another change began in the 1980s decade, with more arid conditions persisting at the continental scale until early in the twenty-first century. No other such period of dry conditions occurred within the roughly one and one-half centuries evaluated here.

A notable change also occurred at the seasonal level. During the period 1980 to 1998 rainfall during March-to-May was well below the long-term mean throughout most of the area from 20˚ N to 35˚ S. At the same time rainfall was above the long-term mean in most of eastern sectors within this latitude span, indicating a change in the seasonality of rainfall of a large part of Africa.



Scheffer, M., et al (2017) **Inequality in nature and society.** PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES USA 114:13154-13157

Authors' abstract: *Inequality is one of the main drivers of social tension. We show striking similarities between patterns of inequality between species abundances in nature and wealth in society. We demonstrate that in the absence of equalizing forces, such large inequality will arise from chance alone. While natural enemies have an equalizing effect in nature, inequality in societies can be suppressed by wealth-equalizing institutions.*

However, over the past millennium, such institutions have been weakened during periods of societal upscaling. Our analysis suggests that due to the very same mathematical principle that rules natural communities (indeed, a law of nature) extreme wealth inequality is inevitable in a globalizing world unless effective wealth equalizing institutions are installed on a global scale.

Most societies are economically dominated by a small elite, and similarly, natural communities are typically dominated by a small fraction of the species. Here we reveal a strong similarity between patterns of inequality in nature and society, hinting at fundamental unifying mechanisms. We show that chance alone will drive 1% or less of the community to dominate 50% of all resources in situations where gains and losses are multiplicative, as in returns on assets or growth rates of populations.

Key mechanisms that counteract such hyperdominance include natural enemies in nature and wealth equalizing institutions in society. However, historical research of European developments over the past millennium suggests that such institutions become ineffective in times of societal upscaling. A corollary is that in a globalizing world, wealth will inevitably be appropriated by a very small fraction of the population unless effective wealth-equalizing institutions emerge at the global level.

Lorenz, S.L., and G.B. Osborne (2017) **"Nothing more than the usual injury": Debating hockey violence during the manslaughter trials of Allan Loney (1905) and Charles Masson (1907).** JOURNAL OF HISTORICAL SOCIOLOGY 30:698-723

Authors' abstract: *This historical case study of violence in Canadian hockey examines media coverage of two manslaughter trials: the 1905 trial of Allan Loney and the 1907 trial of Charles Masson. Both players stood accused of killing opposing players by striking them in the head with their hockey sticks. In each case, the offending player was acquitted in the courts, mainly because such violence was deemed intrinsic to the sport.*

Injuries that resulted from violent acts were downplayed or ignored; even death from a deliberate stick attack could be rationalized as an unfortunate accident. Newspaper accounts of the deaths, trials, and subsequent acquittals offer valuable insight into the cultural narratives surrounding hockey violence and notions of masculinity in early twentieth-century Canada.

These cases generated considerable debate around the issue of what constituted "clean" and "rough" hockey. The game reports, trial coverage, and public opinion examined in this case study suggest that stick-swinging incidents and aggressive play have been regarded as ordinary and "proper" aspects of "strenuous hockey" for more than a century.

The historical examination of such cases is important because the justifications for violence that were articulated in the context of the deaths continue to be voiced in contemporary discussions of hockey violence. As long as fighting and aggression remain markers of masculinity, and hockey continues to be seen as a training ground for manhood, it will be difficult to remove such forms of violence from the sport.

Redelmeier, D.A., and E. Shafir (2017) **The full Moon and motorcycle related mortality: population-based double control study.** BRITISH MEDICAL JOURNAL 359:doi.org/10.1136/bmj.j5367

Authors' abstract: *Objective: To test whether a full moon contributes to motorcycle related deaths. Design: Population based, individual level, double control, cross sectional analysis.*

Setting: Nighttime (4 pm to 8 am), United States. Participants 13,029 motorcycle fatalities throughout the United States, 1975 to 2014 (40 years).

Results: 13,029 motorcyclists were in fatal crashes during 1,482 relevant nights. The typical motorcyclist was a middle-aged man (mean age 32 years) riding a street motorcycle with a large engine in a rural location who experienced a head-on frontal impact and was not wearing a helmet.

4,494 fatal crashes occurred on the 494 nights with a full moon (9.10/night) and 8,535 on the 988 control nights without a full moon (8.64/night). Comparisons yielded a relative risk of 1.05 associated with the full moon (95% confidence interval 1.02 to 1.09, P=0.005), a conditional odds ratio of 1.26 (95% confidence interval 1.17 to 1.37, P<0.001), and an absolute increase of 226 additional deaths over the study interval.

The increase extended to diverse types of motorcyclists, vehicles, and crashes; was accentuated during a supermoon; and replicated in analyses from the United Kingdom, Canada, and Australia.

Conclusion: The full moon is associated with an increased risk of fatal motorcycle crashes, although potential confounders cannot be excluded. An awareness of the risk might encourage motorcyclists to ride with extra care during a full moon and, more generally, to appreciate the power of seemingly minor distractions at all times.

A further finding in our study was that the increased relative risk of a fatal motorcycle crash was accentuated under a supermoon. The absolute increased risk was substantial and amounted to about two additional deaths on a night with a supermoon. To the best of our knowledge, this increased risk has not been previously mentioned, even in myths around the supermoon.

The observed correlation between a purely visual event and an increase in fatalities supports the theory that momentary distraction is a contributing mechanism. An alternative explanation is that a supermoon enhances the lighting of surrounding landscapes that may lead motorcyclists to misjudge distance and speed (analogous to the aerial perspective optical illusion experienced by aviators and mountaineers in sunlight).

De Hevia, M.D., et al (2017) **At birth, humans associate "few" with left and "many" with right.** CURRENT BIOLOGY 27:3879-3884

Authors' abstract: *Humans use spatial representations to structure abstract concepts. One of the most well-known examples is the "mental number line", the propensity to imagine numbers oriented in space. Human infants, children, adults, and nonhuman animals associate small numbers with the left side of space and large numbers with the right. In humans, cultural artifacts, such as the direction of reading and writing, modulate the directionality of this representation, with right-to-left reading cultures associating small numbers with right and large numbers with left, whereas the opposite association permeates left-to-right reading cultures.*

Number-space mapping plays a central role in human mathematical concepts, but its origins remain unclear: is it the result of an innate bias or does it develop after birth? Infant humans are passively exposed to a spatially coded environment, so experience and culture could underlie the mental number line.

To rule out this possibility, we tested neonates' responses to small or large auditory quantities paired with geometric figures presented on either the left or right sides of the screen. We show that 0- to 3-day-old neonates associate a small quantity with the left and a large quantity with the right when the multidimensional stimulus contains discrete numerical information, providing evidence that representations of number are associated to an oriented space at the start of postnatal life, prior to experience with language, culture, or with culture-specific biases.

Schroeder, T.B.H., et al (2017) **An electric-eel-inspired soft power source from stacked hydrogels.** NATURE 552:214-218

Authors' abstract: *Progress towards the integration of technology into living organisms requires electrical power sources that are biocompatible, mechanically flexible, and able to harness the chemical energy available inside biological systems. Conventional batteries were not designed with these criteria in mind.*

The electric organ of the knifefish Electrophorus electricus (commonly known as the electric eel) is, however, an example of an electrical power source that operates within biological constraints while featuring power characteristics that include peak potential differences of 600 volts and currents of 1 ampere.

Here we introduce an electric-eel-inspired power concept that uses gradients of ions between miniature polyacrylamide hydrogel compartments bounded by a repeating sequence of cation- and anion-selective hydrogel membranes. The system uses a scalable stacking or folding geometry that generates 110 volts at open circuit or 27 milliwatts per square metre per gel cell upon simultaneous, self-registered mechanical contact activation of thousands of gel compartments in series while circumventing power dissipation before contact.

Unlike typical batteries, these systems are soft, flexible, transparent, and potentially biocompatible. These characteristics suggest that artificial electric organs could be used to power next-generation implant materials such as pacemakers, implantable sensors, or prosthetic devices in hybrids of living and non-living systems.

Duarte, J.C., W.P. Schellart, and F.M. Rosas (2017) **The future of Earth's oceans: consequences of subduction initiation in the Atlantic and implications for supercontinent formation.** GEOLOGICAL MAGAZINE 155:45-58

Authors' abstract: *In this paper, we explore the consequences of subduction zone invasion in the Atlantic Ocean, following recent discoveries at the SW Iberia margin. We discuss a buoyancy argument based on the premise that old oceanic lithosphere is unstable for supporting large basins, implying that it must be removed in subduction zones. As a consequence, we propose a new conceptual model in which both the Pacific and the Atlantic oceans close*

simultaneously, leading to the termination of the present Earth's supercycle and to the formation of a new supercontinent, which we name Aurica.

Speirs: As this will be tens of millions of years in the future, beachfront property owners need not panic. Time travel stories where the traveler jumps ahead or back in vast time periods must take into account that not only is Earth moving through space but its continents are shuffling about. After all, 450 megayears ago, Alberta was a tropical sea at the equator.

Aria, C., and J.B. Caron (2017) **Mandibulate convergence in an armoured Cambrian stem chelicerate.** BMC EVOLUTIONARY BIOLOGY doi.org/10.1186/s12862-017-1088-7

Authors' abstract: *Chelicerata represents a vast clade of mostly predatory arthropods united by a distinctive body plan throughout the Phanerozoic. Their origins, however, with respect to both their ancestral morphological features and their related ecologies, are still poorly understood. In particular, it remains unclear whether their major diagnostic characters were acquired early on, and their anatomical organization rapidly constrained, or if they emerged from a stem lineage encompassing an array of structural variations, based on a more labile panchelicerate body plan.*

Artistic reconstruction of *Habelia optata*. Courtesy of Joanna Liang © Royal Ontario Museum

In this study, we reinvestigated the problematic middle Cambrian arthropod Habelia optata Walcott from the Burgess Shale, and found that it was a close relative of Sanctacaris uncata Briggs and Collins (in Habeliida, ord. nov.), both retrieved in our Bayesian phylogeny as stem chelicerates.

Habelia possesses an exoskeleton covered in numerous spines and a bipartite telson as long as the rest of the body. Segments are arranged into three tagmata. The prosoma includes a reduced appendage possibly precursor to the chelicera, raptorial endopods connected to five pairs of outstandingly large and overlapping gnathobasic basipods, antennule-like exopods seemingly dissociated from the main limb axis, and, posteriorly, a pair of appendages morphologically similar to thoracic ones. While the head configuration of habeliidans anchors a seven-segmented prosoma as the chelicerate ground pattern, the peculiar size and arrangement of gnathobases and the presence of sensory/tactile appendages also point to an early convergence with the masticatory head of mandibulates.

Most specimens were collected in situ from the Greater Phyllopod Bed within the Burgess Shale Walcott Quarry, in Yoho National Park, British Columbia.

Although small in absolute size, the cephalic gnathobases of habeliidans seem to have specifically evolved as adaptations to durophagous niches. This is notably supported by the presence of trilobite fragments within the gut of the habeliidan Wisangocaris barbarahardyae.