OPUNTIA

405

Lunar New Year 2018

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.

GUNG HEI FAT CHOY 2018
photos by Dale Speirs

Calgary has a large Chinese population, so the Lunar New Year is one of the bigger annual events in Cowtown. The actual date was February 16 but the celebrations began the weekend before and carried on to the weekend after. On February 10, I moseyed on down to the Chinese Cultural Centre, took in a few events, and browsed the dealer bourse.

The lion dancers are always popular.

The audience was protected with clear plastic panels because of the following act, the sword dancers. The sword dancers do a lot of spinning around, and it is not unknown for performers to occasionally lose their grip.

WINTER WONDERLANDS
by Dale Speirs

We all know the letdown after the Christmas/New Year holidays, and the long hard slog through January, February, and March before more holidays and more sunlight appear. Townies who live in cities big enough to have a Chinatown can get a break with the Lunar New Year celebrations, but for the rest, the days drag by slowly.

Cozy Mysteries.

Many towns try to brighten up the dark days of winter with some sort of festival. Of course, in those deadly little villages with their Miss Marples, there will always be corpses surfacing during the winter festivals.

TOWN IN A WILD MOOSE CHASE (2012) by B.B. Haywood (pseudonym of Robert R. and Beth Ann Feeman) is a novel in a cozy mystery series about Candy Holliday. She and her father Henry "Doc" have a farm near the village of Cape Willington, Maine. She writes for the local newspaper. If there is a corpse found near the village, guess who will get mixed up in the case.

The first body isn't found by Candy, to the surprise of many, but by a local hermit who found it while trailing a white moose out in the woods. It is late January, and the town is gearing up for its annual Winter Moose Fest. There will be a Sleigh and Sled Parade, ice-sculpting, and the Moose Fest Ball.

The white moose is seen repeatedly in the woods, causing a stir, and once ambled down the main drag of the village. Meanwhile, police can't find either the hermit nor the body he said was out there. As a matter of prudence, the local constabulary begin tailing Candy, knowing her past skill at finding corpses.

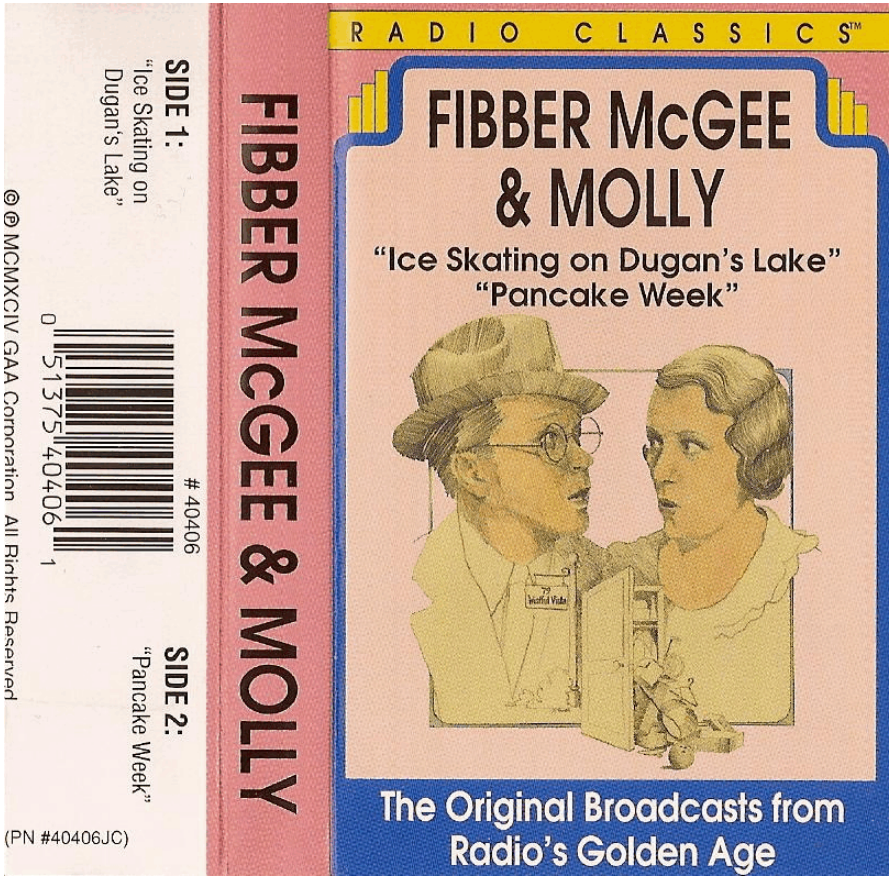
The ice sculptors have some emotional events going on behind the scenes, and one of them turns out to be the body in the woods. Not once but several times, Candy finds herself trapped with desperate and dangerous people, thanks to her blind stupidity.

The immediate crimes at hand are solved. The police clean up the mess, although they are visibly disappointed they couldn't run Candy in on charges as well. Towards the end of the novel, a new mystery starts up. Someone is investigating the history of two pioneer families, their descendants, and possible inheritance claims. Those threads are not tied up but deliberately left dangling for a future novel in the series.

Humour.

It's not all blood and tears at winter festivals. "Ice Skating On Dugan's Lake", written by Don Quinn and Phil Leslie, is a 1946 episode of the old-time radio series FIBBER MCGEE AND MOLLY. Fibber was a blowhard, not malicious

but in a foolish way, who always thought he knew best and always messed up. This and other OTR series are available as free mp3s from www.archive.org. Having written that, my copy of this episode is actually on a cassette I bought copyrighted 1994. Although OTR shows have been around for decades as tapes, the expense and space needed to house them kept the hobby down until the advent of the mp3.



The shows followed a stereotypical plot. First, Fibber and his wife Molly would be preparing to leave the house on some errand but were constantly interrupted by a parade of callers. Each episode had two musical numbers, one of them orchestral and the other a chorus group called the King's Men.

In the middle of the episode, announcer Harlow Wilcox would appear and work the sponsor's commercial into the storyline, usually with lots of puns. (Don Quinn loved puns.) For most of their career, the show was sponsored by Johnson's Wax, but at the time of this episode, Pep Evaporated Milk was the sponsor. In the second half, the McGees finally escaped the house and went out into the world where Fibber would make a mess of things. There was usually a twist ending.

In the episode at hand, Fibber proposed an ice-skating party at Dugan's Lake, just outside the town. Assorted one-line gags start the audience laughing, then the usual stream of visitors come through the front door of the McGee residence, bringing their acceptances for the ice skating party.

In common with other OTR shows, no one ever answered the door by walking over and opening it. The McGees always said "Come in" in a normal tone of voice. Visitors had the hearing of a cat or dog, and there followed the sound of a door opening and closing.

Try it sometime and see how well it works in real life. If someone rings the doorbell, just say "Come in" in a conversational voice. You could be standing in the front hallway and they won't hear you. Often in radio, the residents were on the other side of the house and yet visitors could hear them.

Having set up the episode's premise, Billy Mills and His Orchestra played a bland piece of music as the segue into the next scene, which opens out on the ice at Dugan's Lake. Fibber is bossing other people around, telling them to fetch wood for the roaring campfire he set up. This allows for assorted sarcastic remarks back and forth, the kind you hear in a tavern just before the brawl starts.

The regular supporting actors work their usual spiels into the show. They notice that Wilcox is out on the lake trying unsuccessfully to jump over some cases of Pep milk. Never mind why anyone would take three cases of condensed milk to a skating party. Exhausted, Wilcox skates back to the campfire. They ask him what the problem is. He says Pep milk is so wonderful that he just can't get over it. Groans from the audience.

After the campfire jokes have run dry, Fibber and Molly go out skating. The swish-swish-swish of their skates sets the rhythm for a segue to a rapid patter song from the King's Men about that exotic place "Saskatoon, Saskatchewan". It's funnier for Canadians, I suppose. Saskatoon is the Canadian equivalent of Cleveland, Ohio. It's a place where people live either because they were born there or the company transferred them there.

I tried to Google the lyrics online but they seem well hidden. From some references it appears that the song was written by Burl Ives, but I can't find it listed in his biographies. Transcribing it from the tape didn't work because of the muddy sound and the very fast tempo used by the King's Men that slurred the words. I did get the first verse:

What a delight
When I think of the night
That I met you on
In Saskatoon, Saskatchewan.

Finally having run out of jokes, the gang are gathered round the campfire for the twist ending. That one, which no one seemed to have noticed, was that Fibber built the fire out on the lake ice. The inevitable happens as the ice softens and can no longer support the group, all of whom go splashing into the water. And so to the final commercial for Pep milk and the end credits.

The Winter Olympics have just opened in South Korea as I type this, certainly one of the biggest winter festivals in the world. Calgary is ready. The display below was in Bankers Hall.

GROUND CONTROL TO MAJOR TOM: PART 2
by Dale Speirs

[Part 1 appeared in OPUNTIA #396.]

Palaeo-Spacecraft.

"The Brick Moon" by Edward Everett Hale was originally serialized in ATLANTIC MONTHLY in 1870-71. It is considered to be the first hard-SF story about an artificial satellite. It is available free from www.gutenberg.org in various formats.

The story, a humourous satire, is narrated by Frederic Ingham, who was one of those involved in the idea of launching an artificial satellite in the middle 1800s. It begins with an infodump about how to calculate latitude, something that ancient sailors knew how to do, and longitude, something that had to wait for reliable portable clocks in the 1800s.

This story then uses the problem of longitude determination to justify launching a brick satellite into space, to be used by mariners in calculating their courses by timing the appearance of the satellite in the sky. That in itself was an unusual justification for a space programme, instead of scientific exploration or military applications.

The problems were finances and resources. The first was soon overcome, as Ingham and his friends were wealthy enough. The main problem was carrying it out. Building a brick moon required tens of millions of high-quality bricks, not something one could order by sending out a messenger boy with a requisition to the local brickyard.

Launch into orbit was another difficulty. Since the Brick Moon was for longitude observational purposes, it had to be at least 200 feet in diameter so as to be visible from Earth's surface. Even today, no one can build a cannon with a 200 ft bore and who knows what length.

The plan decided was to have two giant flywheels rotating in opposite directions and just barely touching each other. They would be powered by flowing water, which would gradually spin them up to very high speeds. The Brick Moon would be rolled into the small gap between them, and be instantly flung up into space. The project proceeded apace. The American War Between The States

halted the it for the duration, but the investors were stalwart. By the spring of 1866, the Brick Moon had been mostly completed.

Its construction was described thusly by Ingham: *If you will cut open the seed-vessel of Spergularia rubra* [carnation pinks]*, or any other carpel* [seed capsule] *that has a free central placenta, and observe how the circular seeds cling around the circular centre, you will have some idea of the arrangement of a transverse horizontal section of the completed Moon.*

Lay three croquet-balls on the piazza, and call one or two of the children to help you poise seven in one plane above the three; then let another child place three more above the seven, and you have the core of the Moon completely. If you want a more poetical illustration, it was what Mr. Wordsworth calls a mass "Of conglobated bubbles undissolved."

Any section through any diameter looked like an immense rose-window, of six circles grouped round a seventh. In truth, each of these sections would reveal the existence of seven chambers in the moon, each a sphere itself, whose arches gave solidity to the whole; while yet, of the whole moon, the greater part was air. In all there were thirteen of these moonlets, if I am so to call them; though no one section, of course, would reveal so many.

Sustained on each side by their groined arches, the surface of the whole moon was built over them and under them, simply two domes connected at the bases. The chambers themselves were made lighter by leaving large, round windows or open circles in the parts of their vaults farthest from their points of contact, so that each of them looked not unlike the outer sphere of a Japanese ivory nest of concentric balls. You see the object was to make a moon, which, when left to its own gravity, should be fitly supported or braced within.

Some of the construction crew and their families moved inside the Moon because the living quarters were more comfortable than the log cabins they had been living in.

One day, Ingham and the others visited the construction site and to their horror found the Brick Moon had vanished. Because of the spring rains, the ground had subsided slightly, just enough to cause the Brick Moon to slide down into the two counter-rotating flywheels and be fired up into space.

There was the problem of communicating with the inhabitants of the Brick Moon, something that had not been thought through before the launch. Eventually the satellite occupants hit on the idea of Morse code, and the ground staff responded by laying out giant words on the ground.

Over time, the Brick Moon inhabitants established a working ecosystem on board, and managed to survive. Their atmosphere was refreshed with plants and they grew their own food. Communications become regular. By 1871, the inhabitants began to lose interest in the affairs of Earth, they had been so long in space.

They had been gone nearly two years, and much had happened. Which thing was, on the whole, the most interesting and important? He had said we were all well. What then?

Did you never find yourself in the same difficulty? When your husband had come home from sea, and kissed you and the children, and wondered at their size, did you never sit silent and have to think what you should say? Were you never fairly relieved when little Phil said, blustering, "I got three eggs to-day."

The truth is, that silence is very satisfactory intercourse, if we only know all is well. When De Sauty got his original cable going, he had not much to tell after all; only that consols were a quarter per cent higher than they were the day before.

The ground staff attempted to send up some supplies such as books and toys for the space colony, as it now is, but the intricacies of orbital rendezvous made it very difficult. The colonists for their part were uninterested in news of Earth such as a church schism, nor did they want advice about establishing a formal legal government based on British law. They were a village small enough not to need the burdens of bureaucracy, and quite content to live in their utopia.

It is there in ether. I cannot keep it. I cannot get it down. I cannot well go to it, though possibly that might be done, as you will see. They are all very happy there, much happier, as far as I can see, than if they lived in sixth floors in Paris, in lodgings in London, or even in tenement-houses in Phoenix Place, Boston.

There are disadvantages attached to their position; but there are also advantages. And what most of all tends to our accepting the situation is, that

there is "nothing that we can do about it," as [my brother] *says, but to keep up our correspondence with them, and to express our sympathies. For them, their responsibilities are reduced in somewhat the same proportion as the gravitation which binds them down, I had almost said to earth, which binds them down to brick, I mean. This decrease of responsibility must make them as light-hearted as the loss of gravitation makes them light-bodied.*

As time passes, communications with the Brick Moon fade away. People at both ends run out of things to say. Beyond "All is well" there is very little we need to tell each other when separated by distance.

Can it be possible that all human sympathies can thrive, and all human powers be exercised, and all human joys increase, if we live with all our might with the thirty or forty people next to us, telegraphing kindly to all other people, to be sure? Can it be possible that our passion for large cities, and large parties, and large theatres, and large churches, develops no faith nor hope nor love which would not find aliment and exercise in a little "world of our own"?

On that note, the story ends. It is a reasonable attempt for its time and tries to use some science in its plot. Not bad, and still worth reading. Jules Verne didn't have a monopoly in those days.

Palaeo-Exploration.

An example of how not to do it was A JOURNEY IN OTHER WORLDS (1894) by John Jacob Astor IV. Yes, one of those Astors, born with a trust fund. The novel is disjointed and jumps back and forth in the narrative. Still done today unfortunately, by authors who think they can spice up a routine plot by mixing up the chapters and confusing the reader. This novel is available free from www.gutenberg.org in various formats.

The principal protagonists are the resident egghead Prof Dr Henry Courtlandt, big-game hunter and man of action Dick Ayrault, and the President of the Terrestrial Axis Straightening Company, Col. Bearwarden, who is the principal moneybags of the venture.

The first chapter is a flash forward as the spaceship Callisto, powered by the anti-gravity substance apergy, lands on Jupiter. A different Jupiter, with a solid surface hidden just below the clouds. The flora and fauna are the usual lost-world mix of Carboniferous to Cretaceous plants and animals. They set out to bag some big game, but it will be a while before the reader finds out how they succeed. From there, the narrative jumps to the Terrestrial Axis Straightening Company and an explanation of its activities.

Bearwarden is a busy man, as in addition to funding the spacecraft, his company will straighten up Earth on its axis to reduce seasonality and ensure everyone enjoys a moderate year-round climate. It is to be done by pumping water back and forth between the two poles in counterpoint to Earth's wobble. The Company has the approval of the American government, and as for the rest of the world, that is their lookout. What I couldn't figure is how they would make money at it, the expenses being what would today be trillions of dollars. After that venture succeeds, the next step will be to smooth out Earth's orbit into a circle from its present ellipse. People thought big in those days.

The novel then switches to a side track as Prof Courtlandt takes a couple of chapters to explain the world history and how events developed to year 2000. The author was writing in 1894, so he missed the two world wars. He evidently was a believer in Manifest Destiny, and like so many Americans did not understand why Canadians were not yearning to unite with the USA. The following extract will be funnier to my Canuck readers.

Gradually the different States of Canada, or provinces, as they were then called, came to realize that their future would be far grander and more glorious in union with the United States than separated from it; and also that their sympathy was far stronger for their nearest neighbours than for any one else. One by one these Northern States made known their desire for consolidation with the Union, retaining complete control of their local affairs, as have the older States. They were gladly welcomed by our Government and people, and possible rivals became the best of friends.

Preceding and also following this, the States of Mexico, Central America, and parts of South America, tiring of the incessant revolutions and difficulties among themselves, which had pretty constantly looked upon us as a big brother on account of our maintenance of the Monroe doctrine, began to agitate for annexation, knowing they would retain control of their local affairs. In this they were vigorously supported by the American residents and property holders, who knew that their possessions would double in value the day the United States Constitution was signed.

You can tell that last sentence was written by an Astor. But to be fair, he did predict extensive use of wind turbines to generate electricity. Diseases are abolished, and everyone eats proper healthy food.

A very remarkable prediction was the use of camera radar: *The policemen on duty also have instantaneous kodaks mounted on tripods, which show the position of any carriage at half- and quarter-second intervals, by which it is easy to ascertain the exact speed, should the officers be unable to judge it by the eye; so there is no danger of a vehicle's speed exceeding that allowed in the section in which it happens to be; neither can a slow one remain on the fast lines.*

Setting aside the changing of Earth's axial tilt, life seems rather boring, hence the interest in a spaceship. The group explain the idea to the U.S. Secretary of the Navy, Mr Deepwaters, and Secretary of State Stillman:

"Should you propose to go to Mars or Venus?" asked Cortlandt.

"No", replied Ayrault, "we know all about Mars; it is but one-seventh the size of the earth, and as the axis is inclined more than ours, it would be a less comfortable globe than this; while, as our president here told us in his T. A. S. Company's report, the axis of Venus is inclined to such a degree that it would be almost uninhabitable for us. It would be as if colonists tried to settle Greenland, or had come to North America during its Glacial period. Neither Venus nor Mars would be a good place now."

"Where should you propose to go?" asked Stillman.

"To Jupiter, and, if possible, after that to Saturn", replied Ayrault, "the former's mean distance from the sun is 480,000,000 miles, but, as our president showed us, its axis is so nearly straight that I think, with its internal warmth, there will be nothing to fear from cold. Though, on account of the planet's vast size, objects on its surface weigh more than twice as much as here, if I am able to reach it by means of apergy, the same force will enable me to regulate my weight. Will any one go with me?"

The answer being yes, discussion continues on what to do next: *"And I", said Deepwaters, "will order the commanders of our vessels to give you a farewell salute at starting, and to pick you up in case you fail. When you have demonstrated the suitability of apergy", he continued, "and the habitability of Jupiter and Saturn, which, with their five and eight moons, respectively, and rings thrown in, must both be vastly superior to our little second-rate globe, we will see what can be done towards changing our orbit, and if we cannot swing a little nearer to our new world or worlds. Then we'll lower, or rather raise, the boats in the shape of numerous Callistos, and have a landing party ready at each opposition, while a man or two can be placed in charge of each projectile to bring it back in ballast. Thus we may soon have regular interplanetary lines."*

"As every place seems to have been settled from some other," said Cortlandt, "I do not see why, with increased scientific facilities, history should not repeat itself, and this be the point from which to colonize the solar system; for the present at least, it would seem that we could not get beyond that."

"As it will be quite an undertaking to change the orbit", said Deepwaters, "we shall have time meanwhile to absorb or run out all inferior races, so that we shall not make the mistake of extending the Tower of Babel."

It isn't clear from Deepwaters's remark if the genocide he is talking about is to be on Earth before changing its orbit, or out at Jupiter and Saturn, if sapient species are discovered there. Possibly both.

A few more chapters cover the building and launch of the Callisto. Since it is powered by apergy, it moves considerably faster than chemical or ion engines would. They take the scenic route, first a slingshot orbit past Mars, with opportunity to observe Phobos and Deimos as well. After several infodumps, they whip on out into further space.

Next up is a stern chase of a comet, inoffensively minding its own business out past Mars but soon to be afflicted with "As you know, Professor" lectures. They pass through the tail and near the head of the comet, learnedly discoursing. From there, the next passage is through the asteroid belt, but fortunately we are only lectured about two of them, Pallas and Hilda, not all several thousands.

No respite though, as the author then inserts several pages of astronomical tables and illustrations, determined to use every bit of research he did on the planets of the Solar System. Finally to Jupiter, a landing, and then camping out. The adventures are much the same as in any other lost world epic.

Even allowing for the fact that Astor was writing fiction, he does do violence to science that was accepted even in his day. The Red Spot is explained away as forest trees changing leaf colours. They have an encounter with a mastodon, despite repeated statements that the biome of Jupiter was analogous to the Carboniferous era. Dinosaurs, of course, with giant tortoises, giant carnivorous plants, giant soldier ants, and hydrogen-filled jellyfish floating on the breeze.

And so back to the Callisto. Next is the exploration of the planet, taking the ship on a course toward the pole so as to get a view of different climatic zones and terrains. Many more lectures, as the slightest resemblance to any Earth feature will bring forth the history of, for example, the Grand Canyon in Arizona or the Cretaceous sea that once existed in western North America.

After about twenty pages of learned essays on just about everything geographical, the explorers lift off Jupiter and head out for Saturn. At first it seems to be more of the same, except a colder climate, not Carboniferous.

While the explorers are hunting, they find out that Saturn is inhabited by human spirits, who after death emigrated outward to the planet. Since they had lectured each other on Jupiter, it is the turn of a spirit manifesting itself as an old man. His chosen subject is electrolysis of water and generating electricity.

Much of what follows is a mixture of spiritualism and Christian eschatology. Once that runs out, the explorers have no choice but to return to Earth, full of after-dinner stories. As a novelist, Astor made a good millionaire. Nonetheless, the novel is an interesting variation on the lost world story.

As It Wasn't In The Beginning.

All but a handful of science fiction movies produced in the 1950s were black-and-white no-budget films churned out by small studios. This gave SF a bad reputation from which it has never entirely recovered. The movies were alien invasions, monsters, and space opera.

There was one serious attempt at respectable SF by Paramount Studios in 1959, which was intended as a pilot for a television series. DESTINATION SPACE sticks to reasonable extrapolation based on current thought at the time. (Available on DVD from Alpha Home Entertainment via Amazon or www.oldies.com)

The SFX were reasonable for the 1950s. The production values and the script by Alford Van Ronkel were well done. A fair number of scenes set up the characters, including professional rivalries and a love triangle.

In the 1950s there was still discussion as to whether a trip to the Moon should be direct from Earth (as happened in real life), or via a spaceship built in orbit next to a space station. The pilot show assumed the latter, with both a wheel-type space station and a giant flying wing which latched onto nuclear propulsion units in orbit for further travel.

The show starts off with a rush. An asteroid sideswipes the space station, providing footage of astronauts dashing about putting out electrical fires, flipping giant toggle switches back and forth, belaying orders, and possibly splicing the mainbrace off screen. They save the station but there will be a delay while everything is repaired..

The delay encourages a Senator to begin hearings to cancel the whole programme. A good chunk of the show is the struggle of the space agency against the budget-cutting politicians. Not something that one ordinarily sees in a 1950s SF movie, but realistic. The head astronaut gives a rousing speech about exploring strange new worlds, and gets in a few digs against the Senator for effectively helping the commies.

The final third of the show is the orbital burn of the Moon ship. It is aborted after a servo freezes up, and will be the cause of yet another delay. Lots of rushing about trying to fix the problem. At that point, the pilot cuts off abruptly. The Moon trip has not yet been made, and nothing is resolved. All of that was reserved for subsequent episodes if the show had been picked up by the network.

The pilot episode is well done. It is too bad that it never became a television series but in the real world the space programme was moving too fast. The realism of the series was what crippled it. Worth watching, especially after viewing the typical SF movies of that decade.

FANAC FAN HISTORY PROJECT UPDATE: 2018-01-31
by Joe Siclari

Fanac.org has passed 50,000 pages of fannish history online and available on our website. That's not too much, considering how prolific fans have been for the last almost-100 years, but it's something.

Fan History Spotlight: Retro-Hugos are back. Both Worldcon 76 and Dublin 2019 have announced that they will award Retro-Hugos for work done in 1942 and 1943, respectively. We have been feverishly scanning and uploading materials from 1942 so that voters can make informed nominations and votes for the Retro-Hugos. You can find our list of available materials at: http://fanac.org/fanzines/Retro_Hugos.html. As we locate and scan more material, the list will be updated to include it. Our thanks go to Sam McDonald for providing additional material for these lists.

FANAC Fan History Project website: The Newszine Project(http://fanac.org/fanzines/newszines.html)update: We have over 2,500 newszines online, with more to come. We'll be asking for help again with missing issues. Can you help provide any of the missing four issues (26, 27, 29, 30) of CHAT, the newszine the Lynch's edited in the late 1970s. Please let us know. (http://fanac.org/fanzines/CHAT/)

Our newszine archives are extensive: FANDOM ON PARADE, PHAN, STEFNEWS, TYMPANY, FANAC, AXE, LUNA MONTHLY, FIAWOL, KARASS, SFINCTOR, and FILE 770 are all complete, plus long runs of ANSIBLE (180), the Australian S-F BULLSHEET (248), FANEWS (223), FANTASY FICTION FIELD (192) and FANTASY/S-F TIMES (475).

Retros: We have added hundreds of pages of 1942 fanzines, including 3 mailings of the Fantasy Amateur Press Association from 1942. Most BNFs [big name fans] were in FAPA, and the mailings are a good showcase of their writing styles, and attitudes. Some, like Jack Speer, had multiple titles in the mailings, each with a different feel to it. If you think it's hard to be a fan now, read these mailings and the newszines of the period to find out what it was like being a fan in time of war. Scanning by Mark Olson and myself.

You will now find many issues of Ed Meskys' fanzine NIEKAS on fanac.org. NIEKAS started as the Tolkien zine, and was soon one of the best and largest sercon zines with page counts hitting 100 more than once. We're starting to put up Linda Eyster/Bushyager's GRANFALLOON as well, along with smaller runs and issues of other titles like SPECULATION, MIRAGE, SHANGRI-LA, and THE TIME TRAVELLER. Check the "What's New" heading for details.

Photos: We've added hundreds of photos, from convention pictures to those in Gil Gaier's scrapbooks. Thanks to the scanning of Patty Peters, we are putting Gil's photos on line. Many are identified, but many are not. We hope you will help out with identification in those cases. Corrections, enhancements and additions are welcome via the form on each photo. (http://fanac.org/Fan_Photo_Album/g02- p00.html)

FANAC Fan History YouTube Channel:
https://youtube.com/c/FANACFanHistory. We've had strong interest in our YouTube offerings. First surprise (good): In the run -up to the new Star Wars movie, Mashable discovered our 1976 MidAmeriConfootage of the Star Wars Q&A. It features a very young Mark Hamill along with producer Gary Kurtz, answering questions from a curious and unimpressed crowd of fans. With the Mashable publicity, the number of views shot up past 10,000, and is now at 14K+. The comments about the video show wonder and amazement at the attitudes of a pre-Star Wars audience, as if it were an anthropological study.

The second surprise (not really good): After the death of Ursula Le Guin, interest increased in her 1975 Guest of Honor speech at Aussiecon. I hope that those mourning the loss of a beloved author were eased a little to find a "new" 40 minutes of her in that video. There have been over 7,500 views to date. Check out the channel.

We've also added an interview with heavily illustrated recordings of Forry Ackerman, a Lunacon GoH speech by Theodore Sturgeon (recordings provided by Evelyn Leeper), and Heinlein's MidAmeriCon Guest of Honor talk from 1976 (Video Archeology Project). We now have 222 subscribers. The YouTube effort is also run by our Webmaster Edie Stern.

Fancyclopedia 3: http://fancyclopedia.org/ We've been using Fancy3 ourselves, and hope you are too. For example, as we put up the FAPA zines from 1942, the Fancy3 articles are helping Edie figure out exactly who the zines were by. More than one discussion thread on social media has referenced an article in Fancy3. There are some super contributors, and some merely regular contributors. Help us capture the facts, and perhaps shape the interpretation. It's easy to get started.

AROUND COWTOWN
photos by Dale Speirs

Calgary has had slightly colder temperatures than average, mostly at -20°C, with just one cold spell from Christmas to New Year's Day when daytime highs were -30°C. More snow than average though. I've shoveled enough snow that the piles along my sidewalk are chest high. Only a couple of chinooks this winter.

The photo at right is a Plus 15 pedestrian overpass between two skyscrapers downtown, Bow Valley Square and the Suncor building. The Plus 15 overpasses are heated and connected into the second floors of downtown skyscrapers, so they tend to produce a good crop of icicles.

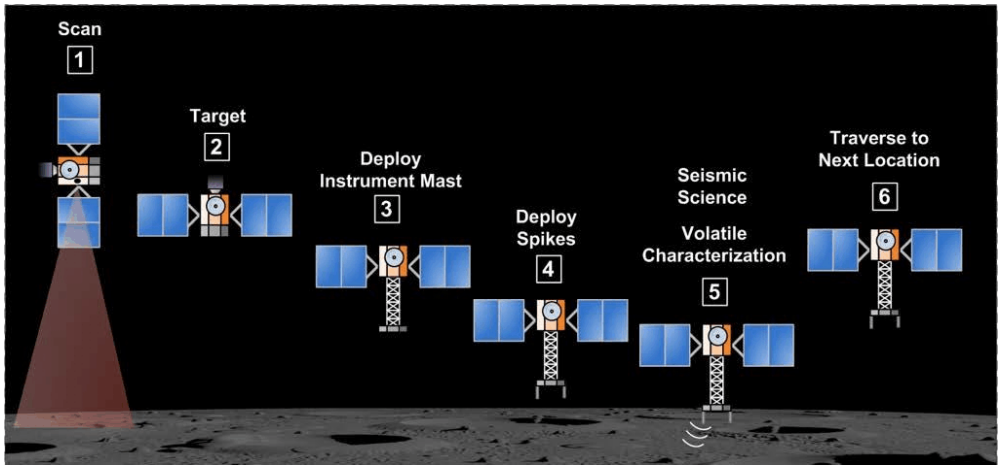
Below, maintenance staff work on another common hazard in wintertime Calgary, avalanches off the awnings of skyscrapers.

SEEN IN THE LITERATURE

Kalita, H., et al (2018) **Mobility and science operations on an asteroid using a hopping small spacecrafts on stilts.** arXiv:1801.09482 Preprint at www.arxiv.org

Authors' abstract and extract: *Landing on a small asteroid and manipulating its surface materials remains a major unsolved challenge fraught with high risk. The asteroid surface may contain everything from hard boulders to soft regolith loosely held by cohesion and very low-gravity. Upcoming missions Hayabusa II and OSIRIS-REx will perform touch and go operations to mitigate the risks of 'landing' on an asteroid. This limits the contact time and requires fuel expenditure for hovering.*

An important unknown is the problem of getting stuck or making a hard impact with the surface. The Spacecraft Penetrator for Increasing Knowledge of NEOs (SPIKE) mission concept will utilize a small-satellite bus that is propelled using a xenon-fueled ion engine and will contain an extendable, low-mass, high-strength boom with a tip containing force-moment sensors. SPIKE will enable contact with the asteroid surface, where it will perform detailed regolith analysis and seismology as well as penetrometry, while keeping the main spacecraft bus at a safe distance.



Using one or more long stilts frees the spacecraft from having to hover above the asteroid and thus substantially reduces or eliminates fuel use when doing science operations. This enables much longer missions that include a series of hops to multiple locations on the small-body surface.

We consider a one-legged system, modelled as an inverted pendulum, where the balanced weight is only 10-100 mN. The objective is to balance the spacecraft upon the boom-tip touching the surface. Furthermore, the spacecraft will disengage with the asteroid and hop to another location. The reaction times in the milligravity environment of a km-sized asteroid are much less stringent than the inverted pendulum task on Earth. However, there remain uncertainties with the asteroid surface material, hardness and overall risk posture on the mission.

There are one million asteroids in near-Earth space larger than 40 m diameter, and about a thousand bigger than 1 km. These derive from the Main Belt that contains about one million kilometer-sized asteroids and innumerable smaller ones. Asteroids are diverse in physical and dynamical properties and composition. They are time capsules of the early solar system and the planet formation processes. Many are resource-rich containing water, carbon-compounds, iron and platinum group metals. These small bodies are remnants of planet formation, progenitors of meteorites, and are therefore high-value targets identified in the Planetary Science Decadal Survey. Some of these asteroids are potential hazards that may impact Earth.

[Image is from this paper]

Wright, J.T. (2017) **Prior indigenous technological species.** INTERNATIONAL JOURNAL OF ASTROBIOLOGY 17:96-100

Author's abstract: *One of the primary open questions of astrobiology is whether there is extant or extinct life elsewhere the solar system. Implicit in much of this work is that we are looking for microbial or, at best, unintelligent life, even though technological artefacts might be much easier to find.*

Search for Extraterrestrial Intelligence (SETI) work on searches for alien artefacts in the solar system typically presumes that such artefacts would be of extrasolar origin, even though life is known to have existed in the solar system, on Earth, for eons. But if a prior technological, perhaps spacefaring, species ever arose in the solar system, it might have produced artefacts or other technosignatures that have survived to present day, meaning solar system artefact SETI provides a potential path to resolving astrobiology's question.

Here, I discuss the origins and possible locations for technosignatures of such a prior indigenous technological species, which might have arisen on ancient

Earth or another body, such as a pre-greenhouse Venus or a wet Mars. In the case of Venus, the arrival of its global greenhouse and potential resurfacing might have erased all evidence of its existence on the Venusian surface.

In the case of Earth, erosion and, ultimately, plate tectonics may have erased most such evidence if the species lived gigayears ago. Remaining indigenous technosignatures might be expected to be extremely old, limiting the places they might still be found to beneath the surfaces of Mars and the Moon, or in the outer solar system.

Taylor, E.R. (2018) **If technological intelligent extraterrestrials exist, what biological traits are de rigueur.** LIFE SCIENCES IN SPACE RESEARCH 17:15-22

Author's abstract: *If extraterrestrials exist in the depths of cosmic space, and are capable of interstellar communications, even space flight, there is no requirement that they be humanoid in form. However, certain humanoid capabilities would be advantageous for tool fashioning and critical to operating space craft as well as functioning under the disparate extreme conditions under which they may be forced to operate.*

They would have to be gas breathing. The reasonable assumption that life based upon the same elements as Earth life requiring water stems from the unique properties of water that no other similar low molecular weight nonmetal hydride offers. Only water offers the diversity of chemical properties and reactivity, including the existence of the three common physical states within a limited temperature range of service to life, avoiding the issues presented by any alternatives.

They must, like us, possess a large, abstract thinking brain, and probably possess at least all the fundamental senses that humankind possess. They would also be carbon-based life, using oxygen as the electron sink of their biochemistry for the reasons considered. They most likely are homeothermic as us, though they may not necessarily be mammalian as we are. Their biochemistry could differ some from ours, perhaps presenting contact hazards for both species as discussed.

Webster, K.D., et al (2018) **Subterranean karst environments as a global sink for atmospheric methane.** EARTH AND PLANETARY SCIENCE LETTERS 485:9-18

Authors' abstract: *Methane (CH_4) was sampled in the air of 36 caves from the USA and New Zealand. Sub-atmospheric CH_4 concentrations were measured in 35 of the 36 caves. The data indicate caves are acting as a global atmospheric CH_4 sink.*

The air in subterranean karst cavities is often depleted in methane (CH_4) relative to the atmosphere. Karst is considered a potential sink for the atmospheric greenhouse gas CH_4 because its subsurface drainage networks and solution-enlarged fractures facilitate atmospheric exchange. Karst landscapes cover about 14% of earth's continental surface, but observations of CH_4 concentrations in cave air are limited to localized studies in Gibraltar, Spain, Indiana (USA), Vietnam, Australia, and by incomplete isotopic data.

To test if karst is acting as a global CH_4 sink, we measured the CH_4 concentrations, $d^{13}C_{CH4}$, and $d^{13}H_{CH4}$ values of cave air from 33 caves in the USA and three caves in New Zealand. We also measured CO_2 concentrations, $d^{13}C_{CO2}$, and radon (Rn) concentrations to support CH_4 data interpretation by assessing cave air residence times and mixing processes.

Among these caves, 35 exhibited sub-atmospheric CH_4 concentrations in at least one location compared to their local atmospheric backgrounds. CH_4 concentrations, $d^{13}C_{CH4}$, and $d^{13}H_{CH4}$ values suggest that microbial methanotrophy within caves is the primary CH_4 consumption mechanism.

Only 5 locations from 3 caves showed elevated CH_4 concentrations compared to the atmospheric background and could be ascribed to local CH_4 sources from sewage and outgassing swamp water.

Several associated $d^{13}C_{CH4}$ and $d^{13}H_{CH4}$ values point to carbonate reduction and acetate fermentation as biochemical pathways of limited methanogenesis in karst environments and suggest that these pathways occur in the environment over large spatial scales. Our data show that karst environments function as a global CH_4 sink.

Meindl, R.S., et al (2018) **Early hominids may have been weed species.** PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES USA 115:1244-1249

Authors' abstract: *Panid, gorillid, and hominid social structures appear to have diverged as dramatically as did their locomotor patterns as they emerged from a late Miocene last common ancestor. Despite their elimination of the sectorial canine complex and adoption of bipedality with its attendant removal of their ready access to the arboreal canopy, Australopithecus was able to easily invade novel habitats after florescence from its likely ancestral genus, Ardipithecus sp.*

Other hominoids, unable to sustain sufficient population growth, began an inexorable decline, culminating in their restriction to modern refugia. Success similar to that of earliest hominids also characterizes several species of macaques, often termed weed species.

We here review their most salient demographic features and find that a key element is irregularly elevated female survival. It is reasonable to conclude that a similar feature characterized early hominids, most likely made possible by the adoption of social monogamy. Reduced female mortality is a more probable key to early hominid success than a reduction in birth space, which would have been physiologically more difficult.

Hershkovitz, I., et al (2018) **The earliest modern humans outside Africa.** SCIENCE 359:456-459

Authors' abstract: *To date, the earliest modern human fossils found outside of Africa are dated to around 90,000 to 120,000 years ago at the Levantine sites of Skhul and Qafzeh. A maxilla and associated dentition recently discovered at Misliya Cave, Israel, was dated to 177,000 to 194,000 years ago, suggesting that members of the Homo sapiens clade left Africa earlier than previously thought.*

This finding changes our view on modern human dispersal and is consistent with recent genetic studies, which have posited the possibility of an earlier dispersal of Homo sapiens around 220,000 years ago. The Misliya maxilla is associated with full-fledged Levallois technology in the Levant, suggesting that the emergence of this technology is linked to the appearance of Homo sapiens in the region, as has been documented in Africa.

Skuban, M., et al (2018) **Bears napping nearby: daybed selection by brown bears (Ursus arctos) in a human-dominated landscape.** CANADIAN JOURNAL OF ZOOLOGY 96:1-11

Authors' abstract: *Daybeds are essential for the survival of brown bears (Ursus arctos L., 1758) and may represent a population-limiting resource in human-dominated landscapes. In this study, we demonstrate which land-cover types and bear characteristics affect daybed selection in north-central Slovakia. We used the positional and activity data of 21 bears acquired by GPS-GSM telemetry to identify 3864 daybeds. By use of K-select analysis and linear mixed-effects modelling, we explored how bears chose these places for their daytime resting.*

The most important drivers for daybed selection were the presence of dense regenerating forests and forest-shrubbery belts in farmland. Bears avoided resting in older forests without suitable undergrowth. Females selected daybeds differently depending on the presence of dependent cubs. During spring to early summer, females with cubs of the year avoided other bears by selecting more rugged terrain.

These females also selected daybeds significantly closer to human settlements than adult males, possibly to avoid the risk of infanticide. In late summer to autumn, all bears selected daybeds closer to human settlements than in spring, probably because they were attracted by maize (Zea mays) fields and fruit trees. Many daybeds were located outside protected areas in farmland closer to people, which could increase bear-human conflicts.

Speirs: I've never been able to get a photograph of a bear while hiking in the mountains. I only see them from a distance, and by the time I get my camera up and focused, they have moved out of sight.

The reason I don't believe in Bigfoot is because I have seen bears walking on their hind legs, and it is obviously a case of mistaken identity for those who think they have seen Bigfoot. Plus, no animal that size is so rare that hunters wouldn't have brought back hundreds of carcasses for scientific inspection.

Akhilesh, K., et al (2018) **Early Middle Palaeolithic culture in India around 385 to 172 ka reframes Out of Africa models.** NATURE 554:97-101

Authors' abstract: *Luminescence dating at the stratified prehistoric site of Attirampakkam, India, has shown that processes signifying the end of the Acheulian culture and the emergence of a Middle Palaeolithic culture occurred at 385 ± 64 thousand years ago (ka), much earlier than conventionally presumed for South Asia. The Middle Palaeolithic continued at Attirampakkam until 172 ± 41 ka.*

Chronologies of Middle Palaeolithic technologies in regions distant from Africa and Europe are crucial for testing theories about the origins and early evolution of these cultures, and for understanding their association with modern humans or archaic hominins, their links with preceding Acheulian cultures and the spread of Levallois lithic technologies.

The geographic location of India and its rich Middle Palaeolithic record are limited by the paucity of excavated sites and hominin fossils as well as by geochronological constraints. At Attirampakkam, the gradual disuse of bifaces, the predominance of small tools, the appearance of distinctive and diverse Levallois flake and point strategies, and the blade component all highlight a notable shift away from the preceding Acheulian large-flake technologies.

These findings document a process of substantial behavioural change that occurred in India at 385 ± 64 ka and establish its contemporaneity with similar processes recorded in Africa and Europe . This suggests complex interactions between local developments and ongoing global transformations. Together, these observations call for a re-evaluation of models that restrict the origins of Indian Middle Palaeolithic culture to the incidence of modern human dispersals after approximately 125 ka.

Tucker, M.A., et al (2018) **Moving in the Anthropocene: Global reductions in terrestrial mammalian movements.** SCIENCE 359:466-469

Authors' abstract: *Using a unique GPS-tracking database of 803 individuals across 57 species, we found that movements of mammals in areas with a comparatively high human footprint were on average one-half to one-third the extent of their movements in areas with a low human footprint. We attribute this reduction to behavioral changes of individual animals and to the exclusion of species with long-range movements from areas with higher human impact. Global loss of vagility alters a key ecological trait of animals that affects not only population persistence but also ecosystem processes such as predator-prey interactions, nutrient cycling, and disease transmission.*

Miskin, M.Z., et al (2018) **Graphene-based bimorphs for micron-sized, autonomous origami machines.** PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES USA 115:466-470

Authors' abstract: *We build origami machines the size of cells by folding them out of atomically thin paper. At the heart of our approach is an actuator technology made from graphene and a nanometer-thick layer of glass. We use these actuators to fold 2D patterns into targeted 3D structures.*

The resulting machines are freely deployed in solutions, can change shape in fractions of a second, carry loads large enough to support embedded electronics, and can be fabricated en masse. This work opens the door to a generation of small machines for sensing, robotics, energy harvesting, and interacting with biological systems on the cellular level.

Origami-inspired fabrication presents an attractive platform for miniaturizing machines: thinner layers of folding material lead to smaller devices, provided that key functional aspects, such as conductivity, stiffness, and flexibility, are persevered. Here, we show origami fabrication at its ultimate limit by using 2D atomic membranes as a folding material.

As a prototype, we bond graphene sheets to nanometer-thick layers of glass to make ultrathin bimorph actuators that bend to micrometer radii of curvature in response to small strain differentials. These strains are two orders of magnitude lower than the fracture threshold for the device, thus maintaining conductivity across the structure. By patterning 2-micrometer-thick rigid panels on top of bimorphs, we localize bending to the unpatterned regions to produce folds.

Although the graphene bimorphs are only nanometers thick, they can lift these panels, the weight equivalent of a 500-nm-thick silicon chip. Using panels and bimorphs, we can scale down existing origami patterns to produce a wide range of machines.

These machines change shape in fractions of a second when crossing a tunable pH threshold, showing that they sense their environments, respond, and perform useful functions on time and length scales comparable with microscale biological organisms. With the incorporation of electronic, photonic, and chemical payloads, these basic elements will become a powerful platform for robotics at the micrometer scale.

Kodila-Tedika, O., et al (2017) **Financial development and prehistoric geographical isolation: global evidence.** FINANCIAL HISTORY REVIEW 24:283-306

Authors' abstract: *Using cross-country differences in the degree of isolation before the advent of technologies in sea and air transportation, we assess the relationship between geographical isolation and financial development across the globe. We find that prehistoric geographical isolation has been beneficial to development because it has contributed to contemporary cross-country differences in financial intermediary development.*

The relationship is robust to alternative samples, different estimation techniques, outliers and varying conditioning information sets. The established positive relationship between geographical isolation and financial intermediary development does not significantly extend to stock market development.

Speirs: In other words, globalization is bad for everyone except stock brokers.

Dematteis, G., et al (2018) **Rogue waves and large deviations in deep sea.** PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES USA 115:855-860

Authors' abstract: *Quantifying the departure from Gaussianity of the wave-height distribution in the seas and thereby estimating the likelihood of appearance of rogue waves is a long-standing problem with important practical implications for boats and naval structures. Here, a procedure is introduced to identify ocean states that are precursors to rogue waves, which could permit their early detection.*

Our findings indicate that rogue waves obey a large deviation principle, i.e., they are dominated by single realizations, which our method calculates by solving an optimization problem. The method generalizes to estimate the probability of extreme events in other deterministic dynamical systems with random initial data and/or parameters, by using prior information about the nature of their statistics.

The appearance of rogue waves in deep sea is investigated by using the modified nonlinear Schrödinger (MNLS) equation in one spatial dimension with random initial conditions that are assumed to be normally distributed, with a spectrum approximating realistic conditions of a unidirectional sea state. It is shown that one can use the incomplete information contained in this spectrum as prior and supplement this information with the MNLS dynamics to reliably estimate the probability distribution of the sea surface elevation far in the tail at later times.

Our results indicate that rogue waves occur when the system hits unlikely pockets of wave configurations that trigger large disturbances of the surface height. The rogue wave precursors in these pockets are wave patterns of regular height, but with a very specific shape that is identified explicitly, thereby allowing for early detection.

Speirs: In the town where I was born, there lived a man who sailed to sea, and he told me of his life in the land of WW2 destroyers (with apologies to the Beatles). I was born in Eckville, Alberta, in the heart of the continent far from the sea. As a young boy, I listened to stories told by a neighbour who had served in the Royal Canadian Navy during the war.

One of them was about the time when he was on lookout duty in the North Atlantic. The water was calm, but suddenly a giant wave came out of nowhere. It was taller than the ship was long. Fortunately the destroyer was already headed bow-on to the wave, which is the only way to survive what today we call rogue waves. Had it been broadside to the wave, the ship would have capsized. My neighbour said the ship tilted up 45^{o}, cut through the crest with its keel until the deck was level with the wave top, then slid down the other side at 45^{o}. There were no other such waves for the rest of his tour of duty. One was enough, as he always ended the story.

Rogue waves are believed to be responsible for countless mysterious ship vanishings over the millennia, always in relatively calm waters. This paper offers a method to predict when they will occur.

Kausha, S.S., et al (2018) **Freshwater salinization syndrome on a continental scale.** PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES USA 115:E574-E583

Authors' abstract: *Salt pollution and human-accelerated weathering are shifting the chemical composition of major ions in fresh water and increasing salinization and alkalinization across North America. We propose a concept, the freshwater salinization syndrome, which links salinization and alkalinization processes. This syndrome manifests as concurrent trends in specific conductance, pH, alkalinity, and base cations.*

Although individual trends can vary in strength, changes in salinization and alkalinization have affected 37% and 90%, respectively, of the drainage area of the contiguous United States over the past century. Across 232 United States Geological Survey monitoring sites, 66% of stream and river sites showed a statistical increase in pH, which often began decades before acid rain regulations. The syndrome is most prominent in the densely populated eastern and midwestern United States, where salinity and alkalinity have increased most rapidly.

The syndrome is caused by salt pollution (e.g., road de-icers, irrigation runoff, sewage, potash), accelerated weathering and soil cation exchange, mining and resource extraction, and the presence of easily weathered minerals used in agriculture (lime) and urbanization (concrete). Increasing salts with strong bases and carbonates elevate acid neutralizing capacity and pH, and increasing sodium from salt pollution eventually displaces base cations on soil exchange sites, which further increases pH and alkalinization.

Symptoms of the syndrome can include: infrastructure corrosion, contaminant mobilization, and variations in coastal ocean acidification caused by increasingly alkaline river inputs. Unless regulated and managed, the freshwater salinization syndrome can have significant impacts on ecosystem services such as safe drinking water, contaminant retention, and biodiversity.

Lamb, J.B., et al (2018) **Plastic waste associated with disease on coral reefs.** SCIENCE 359:460-462

Authors' abstract: *Plastic waste can promote microbial colonization by pathogens implicated in outbreaks of disease in the ocean. We assessed the influence of plastic waste on disease risk in 124,000 reef-building corals from 159 reefs in the Asia-Pacific region.*

The likelihood of disease increases from 4% to 89% when corals are in contact with plastic. Structurally complex corals are eight times more likely to be affected by plastic, suggesting that microhabitats for reef-associated organisms and valuable fisheries will be disproportionately affected. Plastic levels on coral reefs correspond to estimates of terrestrial mismanaged plastic waste entering the ocean.

We estimate that 11.1 billion plastic items are entangled on coral reefs across the Asia-Pacific and project this number to increase 40% by 2025. Plastic waste management is critical for reducing diseases that threaten ecosystem health and human livelihoods.

D'Asaro, E.A., et al (2018) **Ocean convergence and the dispersion of flotsam.** PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES USA 115:1162-1167

Authors' abstract: *Floating oil, plastics, and marine organisms are continually redistributed by ocean surface currents. Prediction of their resulting distribution on the surface is a fundamental, long-standing, and practically important problem.*

The dominant paradigm is dispersion within the dynamical context of a nondivergent flow: objects initially close together will on average spread apart but the area of surface patches of material does not change. Although this paradigm is likely valid at mesoscales, larger than 100 km in horizontal scale, recent theoretical studies of submesoscales (less than ~10 km) predict strong surface convergences and downwelling associated with horizontal density fronts and cyclonic vortices.

Here we show that such structures can dramatically concentrate floating material. More than half of an array of ~200 surface drifters covering ~20 × 20 km converged into a 60 × 60 m region within a week, a factor of more than 10 decrease in area, before slowly dispersing.

As predicted, the convergence occurred at density fronts and with cyclonic vorticity. A zipperlike structure may play an important role. Cyclonic vorticity

and vertical velocity reached 0.001 s and 0.01 ms , respectively, which is much larger than usually inferred.

This suggests a paradigm in which nearby objects form submesoscale clusters, and these clusters then spread apart. Together, these effects set both the overall extent and the finescale texture of a patch of floating material. Material concentrated at submesoscale convergences can create unique communities of organisms, amplify impacts of toxic material, and create opportunities to more efficiently recover such material.

[Image is from this paper.]

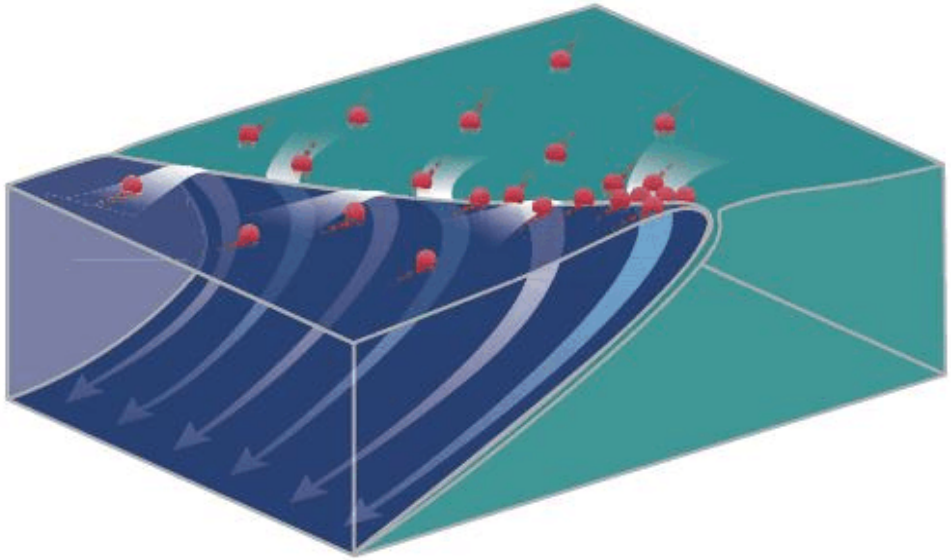


Fig. 2. Ocean surface currents converge and sink at a density front separating light and heavy water, sweeping floating material to the front where it accumulates.

SIGNS, SIGNS, EVERYWHERE A SIGN
photos by Dale Speirs

Doesn't anyone look before they leap anymore?

Seen at Brookfield Place skyscraper downtown. Do as we say, not as we do.