OPUNTIA 324

Thanksgiving 2015

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.

ROCKY MOUNTAIN WAY: GRASSI LAKES AND FALLS

photos by Dale Speirs

The town of Canmore is on the valley floor of the Bow River, just downstream from the eastern gates of Banff National Park. Above it on the south side of the valley is the Spray River valley. It is a hanging valley, that is, the mouth of the valley opens out onto the main valley high above Canmore. If all the spruce trees were stripped away, someone standing in the town could look up and see, in order of increasing height, a giant reservoir contained by earth-fill dams, the Grassi Lake Falls, Lower Grassi Lake, Upper Grassi Lake, and Spray Lake reservoirs, also earthern dams.**

It was a rare August day when the winds shifted away from the southwest and we had a temporary respite from the Washington State forest fire smoke. I went out to Canmore and hiked the trail up past the falls to the Grassi Lakes. Lawrence Grassi was a pioneer settler who loved the area. There being no natural parks at the time, he decided to carve out the trails that are still used today. Eventually the provincial government incorporated the area into its park system. The view at right is the upper half of Grassi Lake Falls.

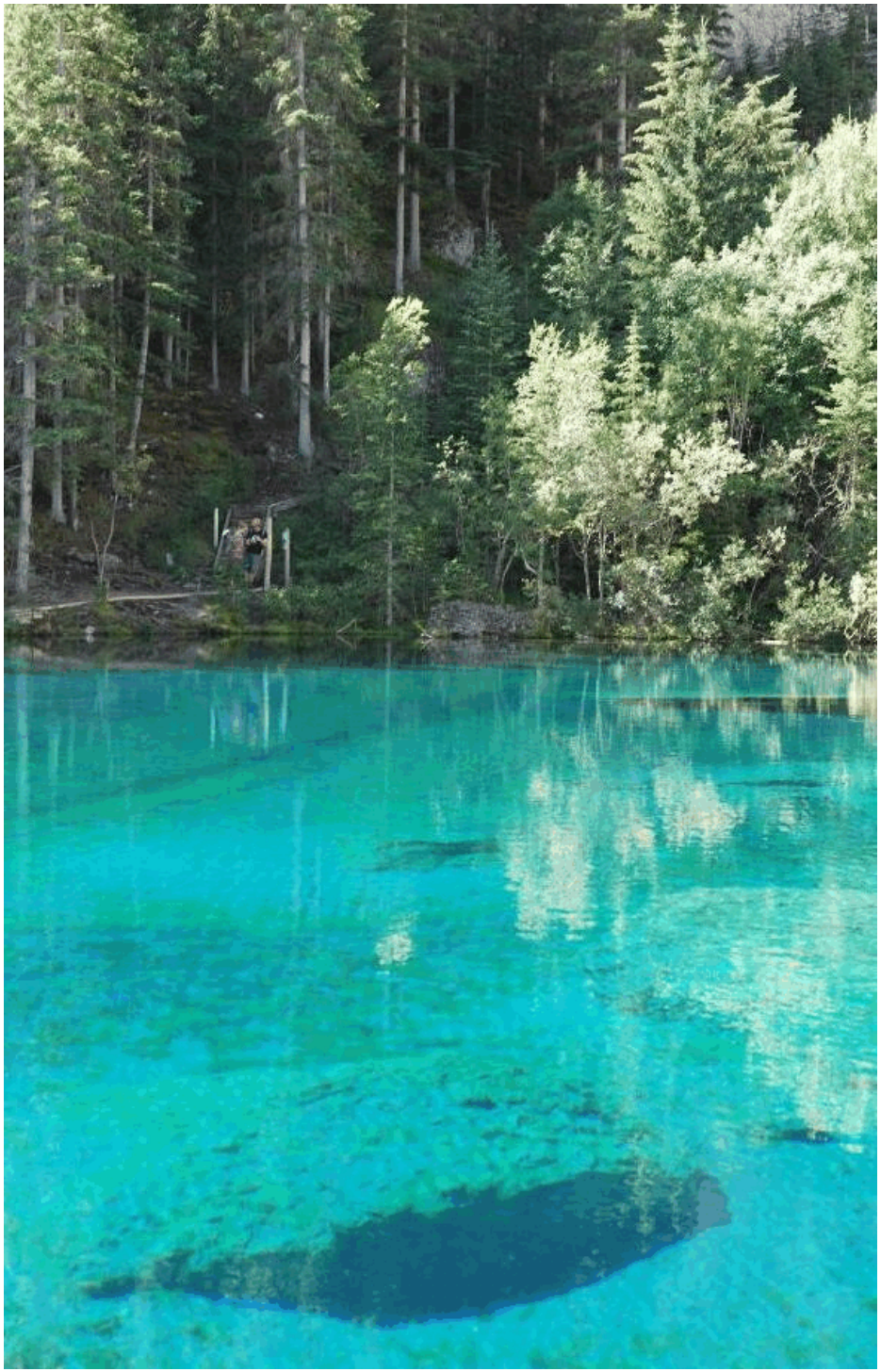
** Which is why I would never buy property in Canmore, directly below all of that water. The natural lakes might not fail, but those earth-fill dams make me nervous. If even one of them fails, a large chunk of Canmore will go floating down the Bow River to Calgary.

The lower half of Grassi Lake Falls prompted them to be originally named Bridal Veil Falls, but so many waterfalls around the world use that name that it was changed.

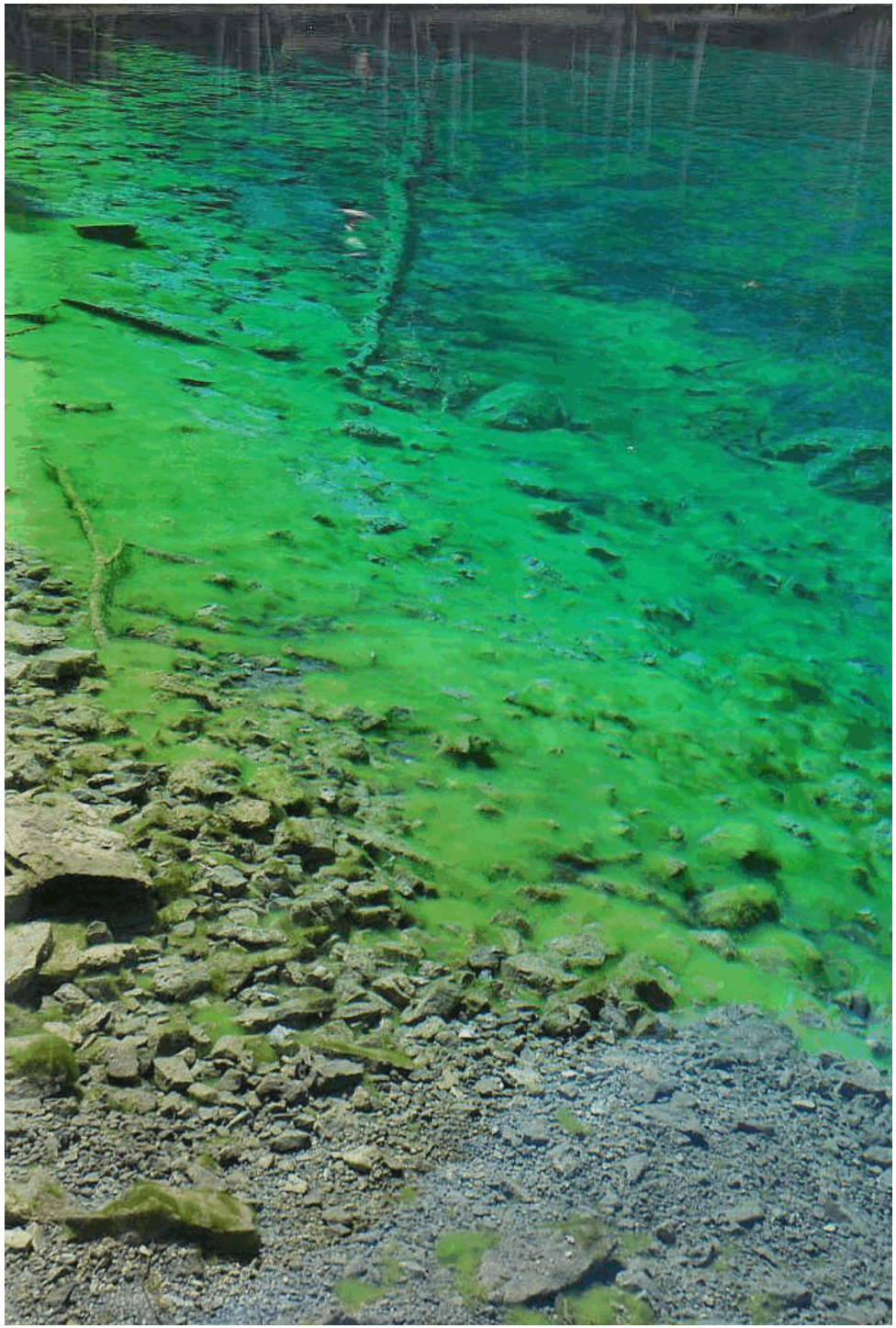
Spruce trees screen the lower half from a distance, but I was able to get into position on a cliff and use a telephoto lens.

Looking down at Canmore and the Bow River valley from the top of the falls. The water in the photo is only a small side pond of the main reservoir. Notice the canal winding around the edge of the mountain. On the other side, outside the left of the photo, is the main reservoir. You can see the earth-fill dams. If they break, Canmore will all go together when they go.

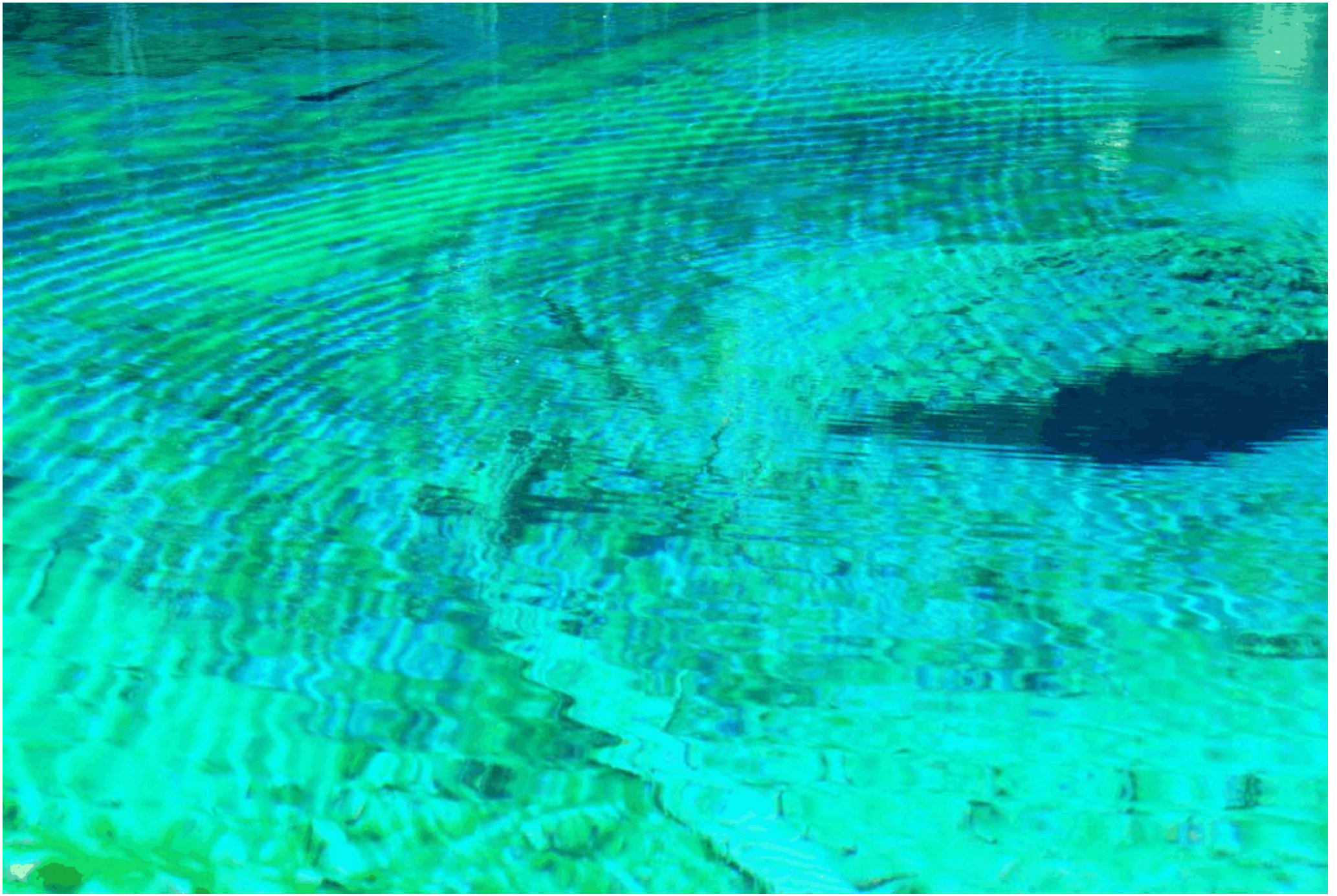
Upper Grassi Lake's water is so clear that one doesn't appreciate just how deep it is. The large boulder in the photo below is two metres below the surface.



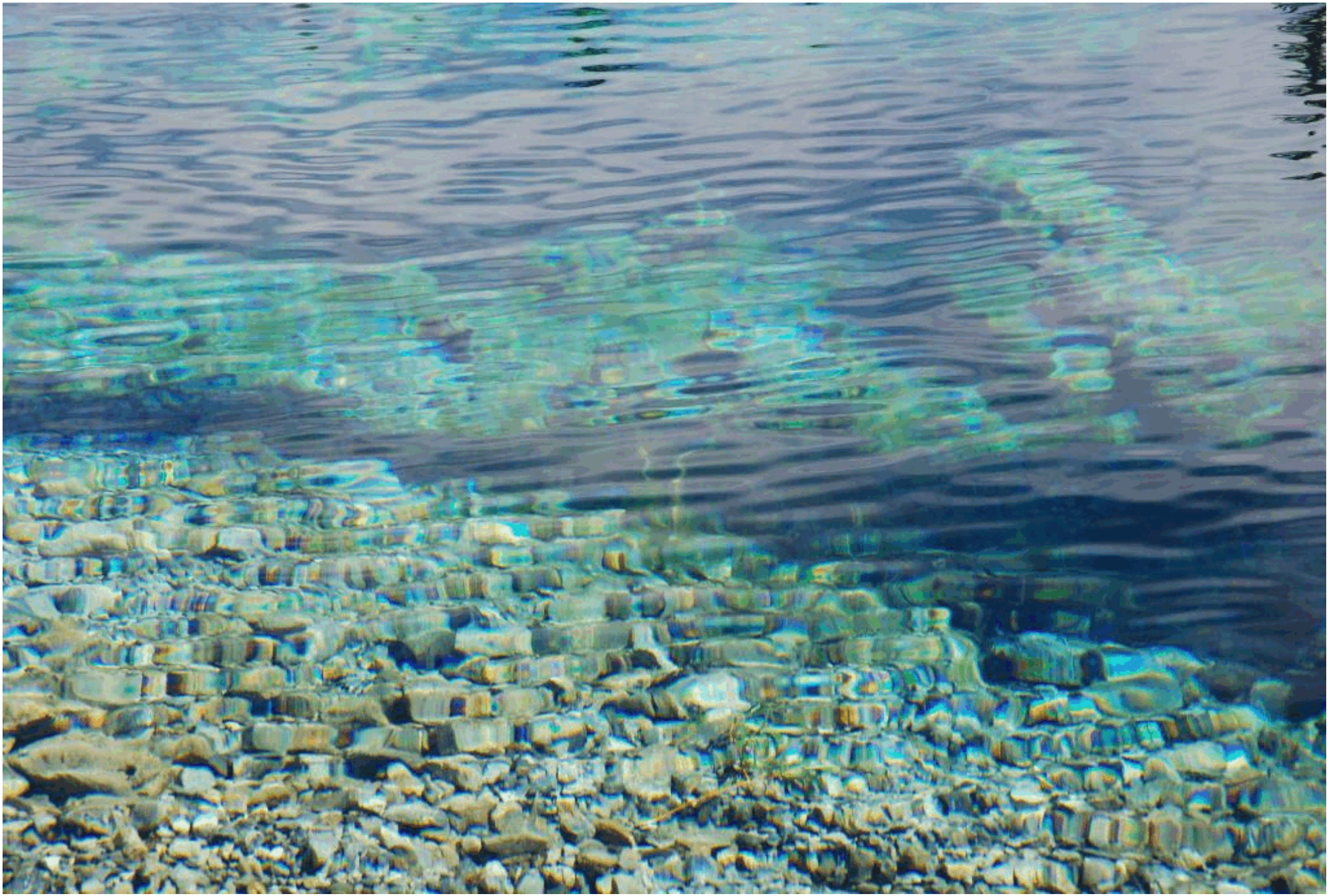
Not a shoreline photo. The rocks at the bottom edge of this photo are about 50 cm deep but look like they are on dry land. Colourful blankets of algae.



This photo shows true colours and was not altered with software. When a breeze sprang up, the patterns of colour and ripples were incredibly beautiful.



This is the south shoreline of Upper Grassi Lake. The foreground rocks are waist-deep. My household faucets don't run such clear water.



Looking down from above Upper Grassi Lake. Notice the bands of yellow and green algae at the far end of the lake.

VENUS IN HER GLIMMERING SPHERE: PART 1

by Dale Speirs

The planet Venus in science fiction has taken a greater blow from modern science than Mars, with the discovery by 1960s robot probes that it wasn't some sort of Carboniferous swamp but instead a blast furnace with a poisonous atmosphere that would crush us to death in a split-second. At the surface of Venus, the air pressure is 92 atmospheres, the temperature is 470°C, and the air's composition is 96% carbon dioxide. Interestingly, Venus is still a possible candidate for terraforming, although not in our lifetimes nor our grandchildren's.

Inflamed With Venus.

There seems to be something about Venus that attracts bad movie makers. I don't mean makers of bad movies, I mean bad makers of movies.

Stanislaw Lem's first novel was THE ASTRONAUTS, which was made into a 1960 movie in East Germany, which in turn had the English-language rights bought by Crown International Pictures. They specialized in buying foreign films, dubbing them in English and adding stock shots, and then releasing them as double-bill B-movies. This particular film appeared in English as FIRST SPACESHIP ON VENUS (1962). The story begins with the discovery of a memory spool at the Tunguska, Siberia, site. The spool indicated that the 1908 explosion was not a comet impact but a spacecraft crash. Attempts to decipher the memory spool by supercomputer are unsuccessful, but handwaving methods suggest the spacecraft came from Venus.

Many stock shots and primitive SFX later, the voyage to Venus begins with the usual mix of crew plus a cute little robot that looks like a miniature tank. En route there are the expected alarums and excursions, such as a meteor swarm whose passage makes the spaceship buck and sway about like a sailing ship on a stormy ocean.

But finally to standard orbit around Venus and a landing. The crew step out onto a land charred into black glass, with radioactive potholes and constant mist. Overhead power lines still function and weird machines are partially functional, including small flying memory crystals that look like spiders with wings. Bizarre structures tower over the landscape, evidently buildings half melted by a catastrophe.

Black goo rises up and begins submerging the landscape. One of the astronauts chases it back by firing a ray gun at it, but this triggers a doomsday machine. Some of the flying memory crystals are decoded. It is learned that Venus was preparing to attack Earth when its doomsday machine backfired and wiped out the Venusian civilization. A few of the astronauts escape the doomsday machine and return to Earth with a warning to Earthlings to avoid a similar fate.

VOYAGE TO THE PREHISTORIC PLANET (1965) jumps back and forth between English-dubbed footage from the Russian movie PLANETA BUR (1962) and el-cheapo American scenes with Basil Rathbone which were inserted to modify the plot and attract an American audience. The movie gets off to a slow start as characters in various spacecraft and a lunar base explain the plot to each other via radio transmitters.

Finally though, two spacecraft land on Venus, one coming down the hard way in a swamp and the other landing far enough away to justify a quest across the landscape to pick up plot coupons en route before reuniting with their comrades. As the first cosmonaut steps out onto the surface of Venus ("That's one small step for a comrade, ...") he carefully tests the surface to ensure that it is solid. Since the giant legs of the spaceship can be seen in the same shot, and the craft obviously landed well and safely on bedrock, this seems redundant.

In that era of sci-fi film-making, anyone landing on a planet would be caught by the tentacles of a giant carnivorous plant in the first ten minutes, and this movie is no exception. But since there is still another hour to go in the movie, the afflicted cosmonaut is rescued as the orchestra goes berserk with one crescendo after another.

From there, the movie alternates between the two crews as they gradually move toward each other. Assorted dinosaurs make their appearances, the smaller ones in rubber suits and the bigger ones as stop-motion clay figures. There is a torrential storm, and the usual volcano erupts, with last-second rescues to add synthetic excitement that the overwrought orchestra can't provide. There is a giant robot that sacrifices itself to get two of the cosmonauts across a lava flow.

One crew is in an aircar when they are attacked by a pterodactyl, so they dive into a lake after killing it with a top-mounted machine gun. Sinking to the bottom, the cosmonauts hop out in their spacesuits, which apparently are also pressure suits. They explore among front-projection aquarium fish and rubber giant octopuses, and find the submerged remains of an ancient civilization.

After all the plot coupons have been collected, the combined crews blast off for space and head back to Earth. After they are gone, the Venusians come out of hiding and poke around where the cosmonauts were.

Now pay attention here because it gets complicated. PLANETA BUR having been butchered to turn into VOYAGE TO THE PREHISTORIC PLANET (VPP), the latter movie was in turn cheapified further in 1968 as VOYAGE TO THE PLANET OF PREHISTORIC WOMEN (VPPW). Scenes were added of playmate women such as Mamie Van Doren, with additional footage from a different Russian movie NEBO ZOVYET. That movie had been used to make an American knock-off BATTLE BEYOND THE SUN, about a trip to Mars, which I reviewed in OPUNTIA #310.

Mars, Venus, what's the difference to Hollywood producers? After all, the producers are the same ones who in our modern times make computer keyboards noisily clickety-clack like manual typewriters, or spaceships swerve and zoom like fighter planes.

VPPW used poor-quality prints with colour so faded that most of the time the movie was black-and-white with only occasional bursts of pastels. The story is roughly the same as VPP, except that the playmates were telepathic Venusian priestesses who worshiped those pterodactyls as gods.

The movie begins with NASA footage predicting what future spacecraft might look like, followed by lots of shots of waves breaking on a rocky ocean shoreline in bright sunshine. Stock shots from the two Russian movies are intermixed to make the movie look slightly more original than VPP, with voiceovers to explain a completely different plot. The Russian movie showed Venus as a mist-enshrouded planet, but in the mash-up, the priestesses walk around in sunshine. Must be a benefit of their religion.

The cosmonauts land as per the first film and make their way to the shoreline where the playmates lie about in provocative poses. The women wear seashell bras, which must have been uncomfortable, and are sleeping on igneous rocks, which must have been worse. When the women see that the pterodactyl has been killed, they recover its body, which is the flabbiest and phoniest rubber suit ever seen in moviedom. Understandably they renounce it as a god. A little while later, they find the defunct robot and carry it to their shrine as their new god. The cosmonauts leave Venus and the movie ends not a moment too soon and much too late.

THE DOOMSDAY MACHINE (1972) is about a manned expedition to Venus despite its inhospitable environment being known by then. According to Wikipedia, the movie was made in stages due to budget problems, as a result of which there are major continuity errors, such as the spacecraft changing its appearance back and forth, crew members going out in spacesuits ditto, and a convoluted plot line that makes no sense.

The original space expedition to Venus was for exploration, which is changed to sending mated pairs of astronauts for fear the Chinese Communists are going to explode a doomsday weapon and destroy Earth. They wouldn't have been that crazy even at the height of the Cultural Revolution. But in the movie they do, and Earth goes out not with a whimper but a bang. The survivors have various trials and tribulations. It turns out there is a Venusian civilization which understandably does not want humans, at which point the movie abruptly ends.

The spacecraft is launched showing stock footage of a Saturn 5 booster, those shots where the camera is looking down at the rocket as it clears the launch gantry. The cabin interior consists of three horizontal rooms in a line which are the combined size of a hotel ballroom. The spaceship must be like the Tardis, bigger on the inside than the outside. The rooms are lit up by coloured flood lights for no apparent reason, and the seats are recliner chairs, the kind your father had in the living room. The film's colour balance is terrible. Earth is a red planet like Mars, then becomes a wrinkled black ball.

Absolutely the worst continuity errors are the spacecraft, constantly changing from one shot to another. Not fiddly little details like an extra fin or different decals. In some shots it is a needlenose rocketship, in others it is a rotating wheel, and later at Venus it becomes an Apollo command/service module.

The crew of four men and three women bicker endlessly. The commander has to repeat his orders two or three times before anyone obeys him. There is an attempted rape and several accidental deaths. All of that is before Earth blows up in what has to be the worst SFX explosion ever, a flame flickering in very fast jump shots. No wonder the Venusians wanted nothing to do with humans. Money is saved by never showing the Venusians, just playing their messages over a bad screen shot of Venus. This movie is to be watched only at drinking parties. Take a drink every time the spacecraft changes shape and you won't be conscious by the ending.

ALL THAT GLISTERS
by Dale Speirs

Although the world officially went off the gold standard in August 1971 after Richard Nixon repudiated the redemption of U.S. dollars for gold, even today the ultimate bedrock is still physical gold (and silver), which never goes to zero as so many paper currencies or investments have. The matter is discussed more fully in OPUNTIA #70.1F.

Until 1973, Americans could only legally own gold as jewelry or numismatic coins, which retail at far higher prices than the actual value of gold in them. Since the price of gold was held at $35 per Troy ounce, one couldn't resell the gold at a later date for a profit. The American government required that anyone having bullion gold bars or coins had to sell it to the U.S. Mint or Federal Reserve at $35. The problem was that because of the costs of the Vietnam War and the Great Society social programmes, the U.S. federal government had to print more and more paper currency to pay the bills. In turn, that paper currency could be redeemed for gold, which is how a gold standard works.

By the late 1960s, countries around the world began to unload their reserves of paper U.S. dollars on the U.S. Treasury and buy gold with it at the official US$35 price, then keep the gold in their own reserves or sell it elsewhere at higher prices. The U.S. Treasury began to run out of physical gold, so in 1971 it was necessary for Nixon to stop the redemption of dollars and make it a pure fiat currency. All the other countries were forced to convert their currencies to fiat to avoid a run on their own reserves. Fiat currencies are only accepted by the people because taxes and government fees can be paid with them. They are also why inflation has become a persistent problem since then.

Au.

Without a doubt, the best gold-related story is the James Bond epic GOLDFINGER. Published as a novel by Ian Fleming in 1959, it was made into a box-office hit in 1964 and is the best Bond movie. It is one of few movies that is better than the book it was made from because it fixed a major plot hole in the book. The basic story is that supervillain Auric Goldfinger is trying to steal the gold from Fort Knox by spraying the base with nerve gas to eliminate the soldiers and then moving his men in to blow open the vaults and empty out the gold. He is, of course, foiled in the end by James Bond.

The failure of the novel is that it would takes dozens of men a couple of weeks to load and haul out the gold. The depository is surrounded by a U.S. Army base. The soldiers might be knocked out for a few hours by the initial attack but the alarm would be sounded and the villains stopped by another force. No one could get a convoy of trucks out, much less drive them to wherever they intend to stash the gold. In the movie, Goldfinger instead tries to use a tactical nuke to irradiate the gold for 58 years, making it useless for currency exchange. This was back in the days when gold was actively swapped about between countries to settle accounts. Knocking out the American supply would force up the price of gold in paper currency and make Goldfinger vastly wealthy.

There is much more to the movie than this though, and if perchance you have not seen the movie, even today it is quite watchable. The movie brought to the fore Bond's gadgetry and specially tricked out cars. It featured a woman who was murdered by being painted gold, creating a myth that still exists today that the skin breathes. For the younger generation who think they invented sex, one of the criminal gangs is a group of lesbians with a bisexual ringleader named Pussy Galore. Goldfinger's leading henchman is an Oriental chap named Odd Job, whose weapon of choice is a steel-rimmed bowler hat used to decapitate enemies. He disposes of his victims by putting them in a vehicle and then running it through a crusher in a junk yard. One of the funniest moments is the cliffhanger where Bond has to stop the nuke from detonating. As he holds the detonator wires in his hand, trying to decide which ones to yank out, a bomb technician arrives, reaches across Bond, and flips the off switch on the detonator, stopping it at 007 seconds. All told, a good movie.

The Philosopher's Stone.

Every human culture in history has recognized the value of gold, and every society has some sort of legendary story about an easy way to make it from ordinary substances. European alchemists chased for centuries after the Philosopher's Stone, which would transmute lead into gold. The fallacy of such a discovery, also recognized for centuries, is that if such a thing existed, it would destroy the value of gold by making it too common to be a currency.

The novel INSTANT GOLD (1964) by Frank O'Rourke was published when it was still illegal for Americans to own bullion gold. It begins in San Francisco when Adrian Ericson, backed by mysterious forces, opens a shop with only one product, *instant gold*, sold under that name lower-case and italicized. It comes in 8-ounce cans as a powder. Mix with 8-ounces of seawater, let sit an hour, and then it becomes 16 ounces of gold. The cans cost $500, and the gold must be taken to the U.S. Mint where it could be sold for $560. Limit: one can per customer. It seems like a Ponzi scheme and yet it works, so the rush is on.

The U.S. government tries to stymie the *instant gold* people but run into all kinds of obstacles. Eventually, as more and more *instant gold* is sold, and additional shops open, the central banks of the world grow concerned. Finally, when the operation is about to be forcibly closed, the *instant gold* company releases the formula to the world and everyone can create their own gold. The novel ends with gold falling to base-metal values and becoming worthless as a monetary standard. The world has to switch to silver.

I'm not sure what was the point of this novel. Freedom from big bad government by wrecking the gold standard? Since it was replaced by silver, the *instant gold* company was just wrecking things for the sake of wrecking things. They then restart as *instant diamonds*, but diamonds are a luxury good, not economically important, so this doesn't matter. It was all made moot by Nixon in 1971 when paper currency took over and allowed politicians to run amok with debt and inflation. The sheeple do not understand that inflation is simply currency depreciation, which is a hidden tax on them. The novel seems to be wish fulfillment for readers who don't think beyond the next step.

"A Little Incorrectness" by Richard D. Orr (1980 February, ASIMOV'S) is about a couple of humans who make what they think is a great trade with some Auctalians, giving them 175 pounds of soybean meal in exchange for a matter transmuter that produces small gold bars. They have second thoughts after a Customs officer impounds the machine but never files an official report and instead takes it home to produce more gold bars. The traders track him down and take back the machine. As they zoom away in their spaceship, they have second thoughts about possessing a transmuter, knowing that sooner rather than later someone from the government or organized crime will take it away from them and use it with disastrous results. The traders dump it into a nearby star, as the Auctalians knew they would. The machine wasn't really a transmuter; it dispensed gold bars stored inside it and when it ran out it would have locked up with an error code. This story demonstrates the main problem of owning a Philosopher's Stone.

"Golden Rule" by Mack Reynolds (1980 March, ANALOG) is about an investigation by an American government operative into what appears to be international economic sabotage. A large amount of gold is quietly being

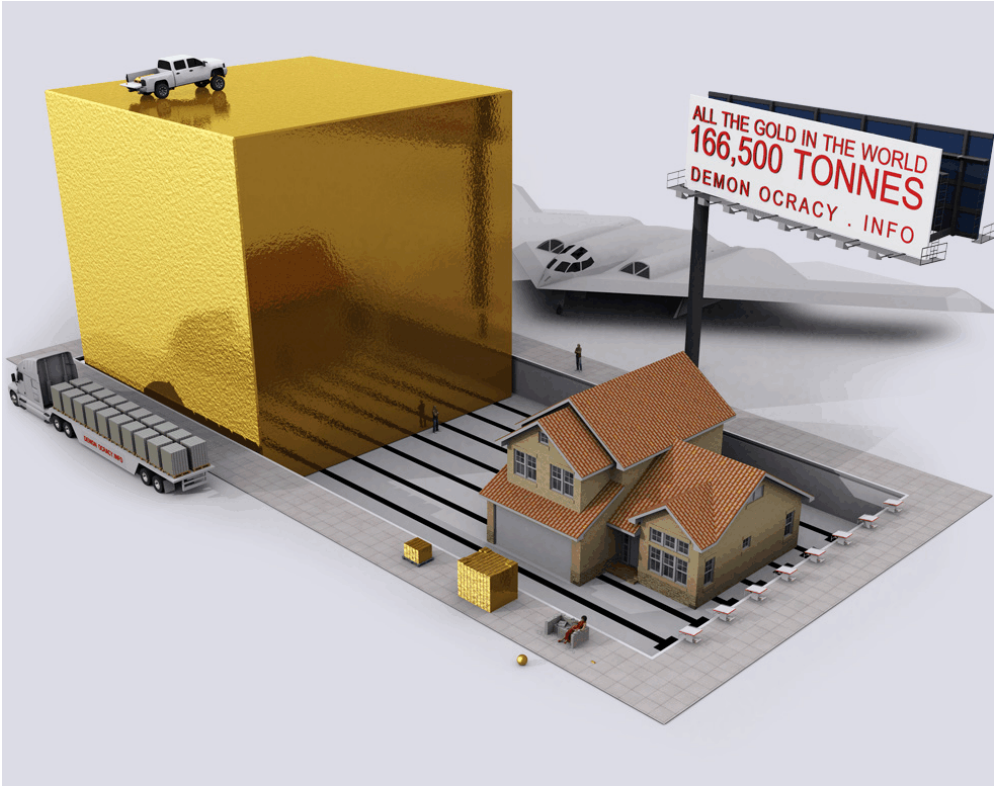
dumped on the market and bids fair to destroy the world's economy if it keeps flowing. The American government suspects the Soviets and vice versa. The Chinese government suspects everybody. They all think that someone has found a way to transmute some other element into gold and wants to destroy the economy. The investigation reveals that Communist Balkaners are responsible for flooding the market, having secretly found gold in their country and deciding to use it for ideological warfare to crash the world's currencies and trigger a new depression.

This story was long out of date before it was published. The world went off the gold standard in August 1971, so an influx of cheap gold would have meant little to currency speculators. It wouldn't work today because Wall Street banks use electronic futures contracts to depress the ostensible price of gold, although the physical price is much higher. (Brokerages make greater profits short-selling stocks and commodities rather than buying on rises.) Currently the Russian and Chinese governments are quietly buying as much physical gold as they can get. The Arabic sheiks are also accumulating. None of them say anything publicly about the price manipulation because it enables them to get more gold for the U.S. dollars they are trying to unload. Anyone trying to do as the Balkaners did in the story would find themselves selling to the above trio of gold accumulators.

RELIC HUNTER ran three seasons on television and is now on DVD. It is an action-adventure series about archaeology professor Sydney Fox, her bumbling assistant Nigel, and her scatterbrained secretary Claudia. Each episode is a quest for some lost or stolen artifact. The opening teaser shows the history of the artifact and how it disappeared, followed by a jump cut to the present day when Fox is approached by someone to find it. Lots of martial arts fights, and plenty of cleavage and thighs; no woman dresses modestly in this series.

Episode 6 of the first season (1999) is titled "Transformation". The teaser opens in Salzburg, Austria, in 1946, where thieves break into the Bruderschaft der Alchimisten and steal two scrolls, the Paracelsus scrolls. They contain a method to transmute lead into gold. Jump cut to present day when a pompous and arrogant federal agent barge's into Fox's office. He shows her one of the scrolls and dragoons her into the search for the other one. It seems that modern technology has caught up to the Paracelsus scrolls and it may be possible to make their method work.

The search goes into the Peruvian jungle where the thieves had fled. Cue the usual assorted chop-socky fights, betrayals, and minimally-dressed women. Fox and company arrive at the thieves' secret and abandoned laboratory. After a magical mystery tour through other dimensions, they find the missing scroll. Having done so, Fox and the agent each take a scroll to separate hiding places back home, well aware of the consequences should the wrong people get them.



All the gold that has ever been mined in history is shown to scale in this graphic.

"The Five Daughters Affair" was a two-part episode in the third season (1967) of THE MAN FROM UNCLE. Dr. Simon True is a scientist, the one with the daughters, working on a cheap method of desalinizing seawater, which also has a side effect of precipitating out gold at a low cost. That seawater contains dissolved gold has been known for a long time, but no one has found an economical method of extracting it. True keels over from a heart attack while explaining his method to the men from UNCLE, Napoleon Solo and Ilya Kuryakin.

Before he dies, True gasps out that his formula is scattered to the four winds. He has four stepdaughters (by his wife Amanda's four previous husbands) and a biological daughter (Sandy, who plays a prominent part in the episode).

The race is on, as Solo and Kuryakin scramble to collect plot coupons by visiting each stepdaughter, dragging Sandy along with them so that she can be repeatedly kidnapped by THRUSH agents and then rescued by the UNCLE agents. THRUSH also wants the formula and has the advantage that Amanda was having an affair with a man named Randolph, who, unbeknownst to her, is a THRUSH agent. Every ten minutes a fight breaks out or THRUSH agents ambush Solo and Kuryakin in some exotic location. There are, however, lots of good humour and quips along the way.

The chase for the four parts of the formula concludes with success for both UNCLE and THRUSH. The twist, though, is that neither side can make out what the formula represents. Only Sandy has a piece of the puzzle that might decode the formula, but she can't remember it. This sets off another round of travel and mayhem, ending up in Tokyo because both sides decode the phrase "Japanese lullaby" and figure it must be connected with Dr. True's visit there many years ago. Since it is only the third act in a four-act show, THRUSH gets the formula and Randolph takes Solo, Kuryakin, and Sandy True along to a secret base in the Antarctic. He wants to gloat, the way that supervillains always do, instead of just killing the agents on sight.

The machinery is set in motion to extract gold, the UNCLE agents escape with Sandy, the gold machine is blown up, and Randolph dies covered in gold. Wedding bells for a couple of the stepsisters round out the epilogue. One presumes that the THRUSH technicians who built the gold extraction plant were permanently silenced so they couldn't start over.

Pause For Digression.

I've always wondered why supervillains built their secret lairs in remote areas where their operations stick out like a sore thumb, instead of hiding in plain sight by locating in a factory district. If the place was built in any industrial city's Refinery Row, no one would think twice about it.

How can a supervillain afford those cavernous underground lairs? The construction can't be cheap. All those labourers and tradesmen are going to gossip about the job they did inside a volcano or under an ice cap. Someone would notice all those semi-trailers or ships hauling material to the remote site. The logistics would be incredibly expensive. Hauling supplies into an Antarctic base by helicopter certainly demands a big budget, as opposed to locating just off the exit ramp on a major highway in a metropolitan area.

If I were a supervillain, I'd put my headquarters in a big-city industrial district and prominently label the building Speirs Chemicals or Opuntia Electronics, with some kind of slogan along the bottom of the billboard. You've driven by such places many times, or perhaps even work at one. The Mayor and councilors would be invited to the groundbreaking ceremony. I would be sure to mention in my speech how many jobs the place would create. I would tell the news reporters that I predict a bright future for the city, even if I am secretly intending to become World Dictator and raze the city to the ground.

I'd hire retired cops and military veterans for the Security Dept., and the office clerks would be the daughters of local businessmen. By compartmentalizing the operations, none of the employees would know my real intent. Just to make it look good, the factory would ship out ordinary chemicals or electronic components from a loading dock. Absolutely no one would suspect anything.

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 them directly.]

CHRISTIAN NEW AGE QUARTERLY V22#1 (US$5 for sample issue, from Catherine Groves, Box 276, Clifton, New Jersey 07015-0276) This issue looks at the multiple origins from mythology of the Middle East and India that influenced the writing of the Christian Bible and church theology. Somewhat dense reading which could have been made a little easier by not leapfrogging articles and letters of comment in between each other.

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: Lloyd Penney 2015-10-04
Etobicoke, Ontario

OPUNTIA #321: A ton of things happen the last weekends in September, and into October, and there's simply too much to do. We're lucky. Looks like Carifest is a lot of fun. Toronto used to have Caravan, but too much cost and politics shut it down some years ago. Mississauga has Carassauga, and Brampton has Carabram, so if we would like to return to a festival of cultures, we don't have far to go. Looks like you've incorporated a Caribbean festival into it, too. Excellent.

Not long ago, there was a special festival in Hamilton we enjoyed called the Locke Street Festival, and huge street fair. One of the companies involved it in set up an area for kids to explore, and it was all about typewriters and cursive writing. Actually, the kids who were there actually seemed to have some fun there, so I hope this is something they will do next year. We will soon be looking into the idea of being a vendor at the 2016 Festival.

[I wonder how many of the younger generation can write in cursive other than their signature. Or need to.]

My previous letter: Toronto does have a readercon, SFContario, which seems to host the Canvention when When Words Collide and CanCon don't have it. SFContario doesn't have the same kind of attendance. There are enormous conventions like Fan eXpo, which bring in hundreds of thousands of people, given the public that SF is all about comics, gaming, and Doctor Who. In some years, I think the con is lucky to get 250 people there. I hope I'm wrong; we were vendors there one year, and not much was happening.

[For my non-Canadian readers, Canvention is the national SF convention of Canada, aimed at literary fans and usually held in conjunction with a local convention. Its main importance is that it presents the Aurora Awards, the example shown at right being the one I won in 2005 for Best Fan Publication.]

OPUNTIA #323: What do you call the chairs on the front cover? Around here, we call them Muskoka chairs, while in the USA, they seem to be called Adirondack chairs. No matter, we've got a couple on our balcony, and they were comfortable this past summer.

[I can't think of when they were ever topics of conversation out here in Alberta, but the name Muskoka does strike a familiar note.]

Touma, J.R. and S. Sridhar (2015) **The disruption of multiplanet systems through resonance with a binary orbit.** NATURE 524:439-441

Authors' abstract: "*Most exoplanetary systems in binary stars are of S-type, and consist of one or more planets orbiting a primary star with a wide binary stellar companion. Planetary eccentricities and mutual inclinations can be large, perhaps forced gravitationally by the binary companion. Earlier work on single planet systems appealed to the Kozai–Lidov instability wherein a sufficiently inclined binary orbit excites large-amplitude oscillations in the planet's eccentricity and inclination. The instability, however, can be quenched by many agents that induce fast orbital precession, including mutual gravitational forces in a multiplanet system. Here we report that orbital precession, which inhibits Kozai–Lidov cycling in a multiplanet system, can become fast enough to resonate with the orbital motion of a distant binary companion. Resonant binary forcing results in dramatic outcomes ranging from the excitation of large planetary eccentricities and mutual inclinations to total disruption. Processes such as planetary migration can bring an initially non-resonant system into resonance. As it does not require special physical or initial conditions, binary resonant driving is generic and may have altered the architecture of many multiplanet systems. It can also weaken the multiplanet occurrence rate in wide binaries, and affect planet formation in close binaries.*"

Speirs: Not a few SF paintings and stories depict multiple suns and looming moons in the sky, but such orbital configurations are often impossible. The problem is that resonance between the gravity fields disrupts orbits of planets and sends them wildly swinging about until they finally settle into a new configuration. In the abstract above, the phrase "*excitation of large planetary eccentricities*" is just a pedantic way of saying the planet is going for a wild ride and so are any life forms on it.

Schwarz, R., B. Funk, and Á. Bazsó (2015) **On the possibility of habitable Trojan planets in binary star systems**. ORIGIN OF LIFE AND EVOLUTION OF BIOSPHERES 45:469-477

Authors' abstract: "*Approximately 60 % of all stars in the solar neighbourhood (up to 80 % in our Milky Way) are members of binary or multiple star systems. This fact led to the speculations that many more planets may exist in binary systems than are currently known. To estimate the habitability of exoplanetary systems, we have to define the so-called habitable zone (HZ). The HZ is defined as a region around a star where a planet would receive enough radiation to maintain liquid water on its surface and to be able to build a stable atmosphere. ... The numerical investigation showed that a Trojan planet can move in stable orbits in binary star systems.*"

Skora, J., et al (2015) **Assessment of microbiological contamination in the work environments of museums, archives and libraries.** AEROBIOLOGIA 31:389–401

Authors' abstract: "*Museums, archives, and libraries have large working environments. ... Numbers of micro-organisms in the air and on the surfaces in museums were higher (2.1 9 102–7.0 9 103 cfu/m3 and 1.4 9 102– 1.7 9 104 cfu/100 cm2, respectively) than in archives and libraries (3.2 9 102–7.2 9 102 cfu/m3 and 8.4 9 102–8.8 9 102 cfu/100 cm2, respectively). ... The concentrations of respirable and suspended dust in museum storerooms were 2 to 4 times higher than the WHO-recommended limits. We found a correlation between microclimatic conditions and numbers of micro-organisms in the air in the tested working environments. In addition, a correlation was also found between ergosterol concentration and the number of fungi in the air. Fungi were the dominant microorganisms in the working environments tested.*"

Speirs: See also OPUNTIA #289, page 14, for further on why dust never sleeps.