# OPUNTIA

# 306

**World Press Freedom Day 2015**

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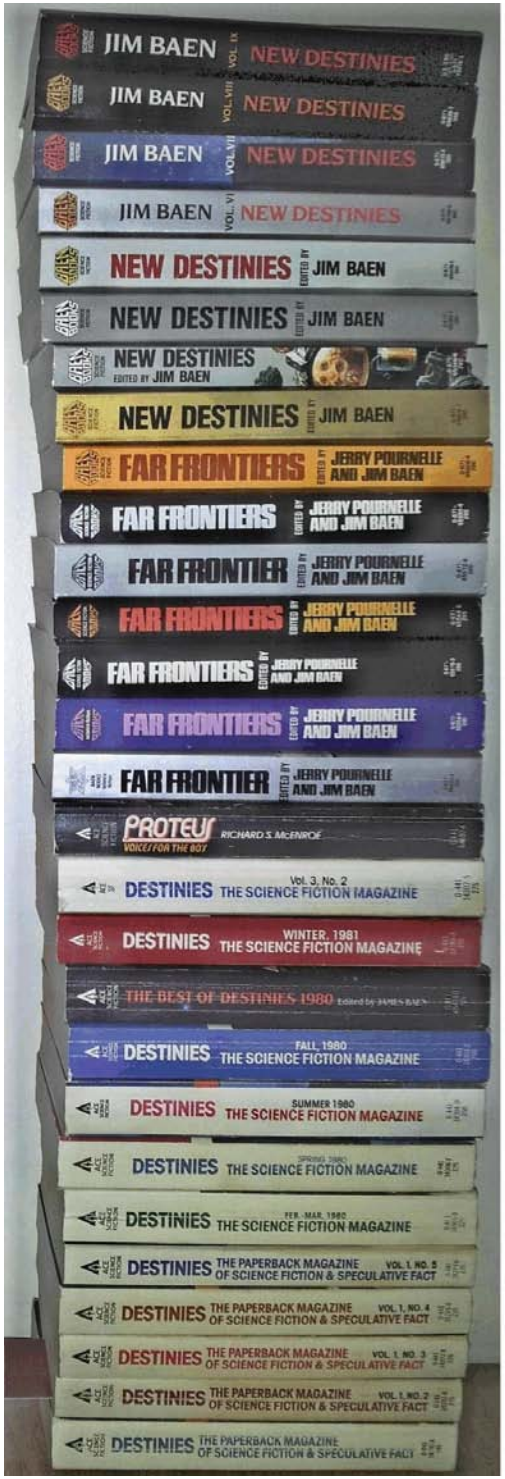
**SPRING HAS SPRUNG**
photo by Dale Speirs

The City of Calgary has been painting anything that attracts graffiti, including this overpass pillar on Memorial Drive NW.

Calgary had a very mild winter in 2014/15, one of the warmest on record. Southern Alberta had a half dozen light snowfalls, none more than 10 cm, which were each followed a few days later by chinooks. There were a couple of nights in December when the overnight low touched -35ºC, but mostly temperatures were mild, in the 0º to -10º range and +10º when chinooks were blowing. I never had to plug my car in.

**MAGAZINE PAPERBACKS**
by Dale Speirs




An oddity of the 1980s was the attempt by Jim Baen to produce a science fiction magazine in paperback form, sometimes referred to as a bookazine. The idea was that paperbacks would stay longer on a display rack than a regular digest magazine on a newsagent shelf, and therefore have a better sell-through rate. They would also reach a different class of SF readers, the ones who never paid attention to the digest magazines at the newsagents.

Baen spent a decade on this idea, the first one appearing as DESTINIES V1#1 dated 1978 Nov/Dec, and the last as NEW DESTINIES Vol. #9 dated 1990 Fall. The magazine paperbacks had short stories and speculative fact essays, generally hard SF, book reviews, and letters to the editor.

I had what I believe was a complete run. I won't review every story or column in them but will pick out samples in chronological order.

The title varied as shown at right, and sometimes the editor as well. Publication dates fluctuated and were more a sell-by date than the actual issue date.

| | | |
|---|---|---|
| DESTINIES V1#1 | 1978 Nov/Dec | edited by James Baen |
| V1#2 | 1979 Jan/Feb | |
| V1#3 | 1979 Apr/Jun | |
| V1#4 | 1979 Aug/Sep | |
| V1#5 | 1979 Oct/Dec | |
| V2#1 | 1980 Feb/Mar | |
| V2#2 | 1980 Spring | |
| V2#3 | 1980 Summer | |
| V2#4 | 1980 Fall | |

THE BEST OF DESTINIES 1980

| | | |
|---|---|---|
| DESTINIES V3#1 | 1981 Winter | |
| V3#2 | 1981 August | final issue |

PROTEUS 1981 May edited by Richard S. McEnroe
This was in the same paperback format as DESTINIES and had a front cover blurb "A DESTINIES SPECIAL".

| | | |
|---|---|---|
| FAR FRONTIERS Vol. #1 | 1985 January | edited by Jerry Pournelle and Jim Baen (notice his name change). |
| Vol. #2 | 1985 Summer | |
| Vol. #3 | 1985 Fall | |
| Vol. #4 | 1985 Winter | |
| Vol. #5 | 1986 Spring | |
| Vol. #6 | 1986 Fall | |
| Vol. #7 | 1986 Winter | Blurb on front cover says "SOON TO BECOME NEW DESTINIES" |

| | | |
|---|---|---|
| NEW DESTINIES Vol. #1 | 1987 Spring | edited by Jim Baen |
| Vol. #2 | 1987 Fall | |
| Vol. #3 | 1988 Spring | |
| Vol. #4 | 1988 Summer | |
| Vol. #5 | never published as far as I can tell | |
| Vol. #6 | 1988 Winter | |
| Vol. #7 | 1989 Spring | |
| Vol. #8 | 1989 Fall | |
| Vol. #9 | 1990 Fall | |

**Alpha.**

DESTINIES V1#1 reads like an issue of ANALOG magazine. The names are familiar. Roger Zelazny starts off with "Stand Pat, Ruby Stone", about the mating ritual of a sentient alien hymenopteroid species who mate in trios and kill one of the partners. An attempt to create a genuinely different alien species, rather than humanoids with weird foreheads.

"Very Proper Charlies" by Dean Ing looks at a futuristic relationship between television networks and the Islamic terrorists who provide visuals for the evening newscasts. This was a 1978 story, and we know such things couldn't happen today, if only because terrorists prefer to use the Internet.

Larry Niven has a story "Assimilating Our Culture, That's What They're Doing" which is a rewrite of the old joke about the alien cookbook on how to serve man. The stories in this and subsequent issues are interspersed with B&W art that doesn't really do much for the text.

There can be no doubt however, that DESTINIES began as it meant to go on, with hard SF and science fact columns. It was basically ANALOG in paperback.

**Beta.**

V1#2 began the year 1979, but the first few stories in it did nothing for me. Jerry Pournelle had a speculative fact column on the ever-receding fusion reactor, always promised for sometime within a decade but never arriving. His conclusion was that the American government did not want energy to become too cheap to meter, thus their opposition to new forms of energy. This actually makes sense in light of today's knowledge, where the government supports energy-negative forms of fuel such as ethanol and hydrogen, which require more energy to be created than what they give back.

David Drake's story "Cultural Conflict" is a classic type of ANALOG story, the kind John W. Campbell Jr would have readily bought when he was editing ANALOG. It mixes military SF with an ecological puzzle story. A squadron of soldiers on picket duty on an alien planet are recalled back to space, but must rendevous with their pickup ship on the other side of the continent. The planet is covered with trees inhabited by screaming humanoids. The soldiers have no conception of the humanoids as sentients and certainly don't realize they are interconnected with the trees. They have to fight their way across the forest in escalating battles without realizing that the word for world is forest (sorry about that, Ursula).

B.D. Wyatt has an SF gossip column which includes the tidbit that Harlan Ellison is editing a new anthology titled THE LAST DANGEROUS VISIONS.

Dr. Robert Prehoda has an extract from his new book titled "Your Next Fifty Years", predicting mass famine in 1994 and consequent major wars, although he hedges his bets by writing it as speculative fiction. He also has a section for the year 2014 in which human lifespan approaches 140 years.

I would be terrified to live that long if I was shrunken and feeble, with a pension that was good money when I retired in 2010 but a pittance by the time I reach my 140$^{th}$ birthday in the year 2095. The actual data indicate that humans are increasingly making their centenary but very few reach 110 in any kind of good health. It is not enough to reach that age if you are trapped in a wheelchair or senile.

This issue leans more on columns than stories, but certainly maintains the feel of ANALOG. There is one New Wave-style story that must have been purchased in a moment of aberration. By 1979 the New Wave movement was dead, a mercy to those of us who like to read stories rather than wade through gibberish that confuses verbal pyrotechnics with narrative.

**Gamma.**

V1#3 had no stories worth reviewing. G. Harry Stine writes on "Defending The Third Industrial Revolution", which begins with a very long sentence. "*By the year 2015 A.D., space utilization will have progressed to the point where there are many large multi-purpose communications/information satellites in geosynchronous orbit, a wide variety of space manufacturing facilities in various earth and lunar orbits, as many as two dozen or more huge solar power satellites beaming power from geosynchronous orbit to both earth and the various space industrial facilities, and several lunar outposts set up to mine lunar materials.*"

The first was already true by 1979 when this article was published, but the rest ignores basic economics. But to be fair, Stine's main topic was how military operations would be carried out in cis-lunar and low Earth orbit space. A basic

principle of war is that a combat force must control the high ground. In space, that means being at the top of the gravity wells, such as the L4 and L5 points between Earth and Moon, or locating on the Moon itself. But 35 years later, this is moot because war is no longer fought with set-piece battles. It is fought with suicide bombers, drones, and shaped charges. The Islamic terrorists have never held high ground, but have learned that one can attack an enemy in other ways.

**Delta.**

V1#4 starts off with the story "Skystalk" by Charles Sheffield about a bomb threat on one of the shuttles on a space elevator. The heroes have to locate the bomb on whichever shuttle it may be moving up the stalk into space. If the bomb detonates, the space elevator will flop over onto Earth, spanning oceans and continents, with who knows how many millions of deaths.

Following on is a speculative fact article by Sheffield on "How To Build A Beanstalk". The usual arguments are trotted out about how it could be done within sixty years with modern technology and materials. I don't believe it. A space elevator has to be constructed from geosynchronous orbit and slowly lowered into the atmosphere. This means the materials have to come from the Moon or asteroids, factories need to be built in space, and all the other fiddley details that assure such a thing won't come to pass, not the least of which is financing. It means megatonnes of construction materials to build a 13,000- km long cable.

It'll take a lot of handwaving to get that done and paid for. And, as Sheffield tells in his short story, the police must be 100% successful in stopping sabotage, an impossible stipulation.

The next story is by Fred Saberhagen, an installment of his Berserker series, titled "Some Events In The Templar Radiant". Berserkers are ancient war machines from somewhere else in the galaxy which are programmed to destroy all biological life. They are leftover doomsday machines which took out both sides in the original war, and are now spreading through the galaxy to eradicate life. The story involves a scientist who finds a damaged Berserker and tries to interrogate it to learn its secrets. He runs afoul of his own people in doing so, who don't understand the true threat and accidently release the Berserker.

There is an opening salvo from the L5 Society, a lost-cause organization that wants to colonize Lagrange 5, a point in space equidistant between the Moon's and Earth's gravity wells. Anything at a Lagrange point will stay where it is, instead of drifting away into some other orbit. A commendable cause but no more successful than the people who think they can set up their own trip to Mars by training in the Arctic desert and calling themselves astronauts.

**Epsilon.**

V1#5 has a story by James Hogan titled "Silver Shoes For A Princess", about a generation starship whose complex machines eventually developed sentience and accidently wiped out all the humans while optimizing the starship interior for machine operation. They teach themselves biology and resynthesize humans, the first one to be decanted being a girl they named Taya. The story is mostly a long infodump on how the situation came to be, narrated by a robot who has the task of educating Taya so that she can become the queen of the next batch of humans they are raising. Poignant, and in their dispassionate way the machines reveal their remorse for what they did and the penance they are doing by recreating humans.

We all complain about how SF novels are frequently butchered by Hollywood when converted into a movie or television series. James Gunn went through this with his novel THE IMMORTALS, which was optioned for a made-for-television movie. Gunn's day-by-day account "The Immortals From Print To Film And Back Again" documents the agony from 1966 when the novel was optioned to the death throes of the movie when it finally appeared in 1970 and quickly vanished. Gunn notes that the main problem is that those producing movies and shows want to retain absolute control, including over-riding the author, while the people financing them want control because it is, after all, their money on the line. Authors are used to being in control, with perhaps a small nod to editors, and are not temperamentally suited to dealing with committees where everyone must have their say.

**Zeta.**

V2#1 starts off with Frederik Pohl's essay "On Predicting The Future", discussing how his idea for a starbow caught the attention of physicists who then disproved it. The starbow was an idea Pohl read about in the British Interplanetary Society's magazine SPACEFLIGHT. The concept was that as a spaceship moves at relativistic speeds, the stars seem to move past the ship and change colour, producing a circular rainbow around the ship.

Alas, it isn't so, although SF movies still use the idea for spaceships going into warp drive because it makes a great visual. The paper disproving the existence of starbows, which I checked out at the university the first time I read Pohl's article is, in case anyone wants to read it: McKinley, J.M., and P. Doherty (1979) In search of the "starbow": The appearance of the starfield from a relativistic spaceship. AMERICAN JOURNAL OF PHYSICS 47:309-316

Larry Niven had a series of stories about a bartender dealing with aliens, the latest installment of which was "The Green Marauder" in this issue. An elderly alien tells her story, about how she likes to travel around the galaxy at relativistic speeds. She returned to Earth 780 million years after her previous visit, although, of course, not as much time passed for her. She tells the barkeep that on her previous visit Earth had a methane-ammonia atmosphere, and a primitive society of intelligent beings who were anaerobes. They had noticed a green microbe that excreted poisonous oxygen gas but it was so rare they ignored it until too late. The microbes were expanding exponentially. The thing about an exponential curve is that it is flat until it suddenly turns vertical. By the time the Earth proto-civilization realized the algae were a threat, it was too late, and the oxygen flood killed them off. Tectonics have churned Earth's surface many times since, so no trace is left for humans to find. After the alien leaves, the bartender wonders what she will find when she returns to Earth in another 780 million years.

This issue of DESTINIES has a special emphasis on the Dorsai mercenaries, a military SF series by Gordon R. Dickson. One of his short stories is here, followed by a fact article by Sandra Meisel on him and the Dorsai saga, then by a brief note on the Dorsai Irregulars. The latter were a group of SF fans who volunteered as security guards at SF conventions, wearing their Dorsai uniforms. The organizer was Robert Asprin, who later became a pro SF writer. The Dorsai series never caught my interest as they seemed to be a shallow version of military SF, which genre I don't like to begin with.

Decades ago, I gave my step-grandfather a selection of military SF such as the Dorsai books and Heinlein. Grandfather had served in the European theatre during WW2, and his comment on these books was that they were unrealistic about what actual war was like. He also said that it seemed likely that Heinlein had never been under enemy fire, which was a very good guess considering he knew nothing about Heinlein.

**Eta.**

V2#2 has Jerry Pournelle taking some potshots against the lack of rigor in soft academic disciplines such as the social sciences and psychology. I quite agree with him but they are easy targets and, more importantly, he is preaching to the converted. He points out the use of statistics does not convert qualitative data into quantitative results. Some of the soft disciplines like to substitute mathematical symbols for qualitative descriptions, then use basic college algebra on them as if they were genuine mathematical variables rather than synonyms.

"The Taming Of The Bear" by Norman Spinrad is a discussion of the future of the Soviet Union. I make fun of incorrect predictions so it is my duty to tip my hat to Spinrad, who correctly predicted in early 1980 that the USSR would collapse by the end of the decade. Well done, that man. He notes that the USSR could not indefinitely sustain its military spending and would be bankrupted, as indeed it was. The other problem was that the Russians were becoming a minority in the USSR because the Muslim populations were outbreeding them.

**Theta.**

V2#3 is the Robert A. Heinlein special issue. It starts off with an essay on him by his acolyte Spider Robinson, then various revised articles by RAH himself. "How To Be A Survivor" discusses the practicalities of surviving a post-nuclear war catastrophe. RAH points out that the time to learn how to hunt squirrels and start a fire without matches is before the war. Most survivors will die, especially the ones with a basement full of canned food and survival equipment, who will become targets for the mobs once the supermarkets and warehouses have been stripped clean.

The L5 Society column continues, this time complaining that an international lunar treaty would cripple the USA. Given the American government's ability to ignore treaties or international law even back then, this seems to be much ado about nothing. It has long been noted by historians that national interest supercedes all else when push comes to shove.

This issue continues a trend of fact and speculative articles gradually encroaching on the fiction, even allowing for the RAH material. The fiction is forgettable and has been forgotten.

**Iota.**

V2#4 is basically the same as the previous issue. RAH has another essay, and various columns continue as they did. The fiction is again military SF and spotweld-that-busbar stories. The cover art is something Chesley Bonestell would have done in the early 1950s.

**Kappa.**

V3#1 rebalances the content a little better, and even has a more up-to-date cover artist. The issue starts off with Gregory Benford's story "Shall We Take A Little Walk?" which is set on Ganymede. The moon is in the preliminary stages of being terraformed. Two of the maintenance men are Matt and Yuri, who hate each other but must cooperate to survive. They find an alien artifact which in later years becomes the focus of a new religion. The artifact swallows up Yuri whole but has never harmed anyone else, so it must have taken him for research purposes. Matt is honoured on a plaque as the discoverer of the artifact but what rankles him is that Yuri got a giant statue for being a martyr.

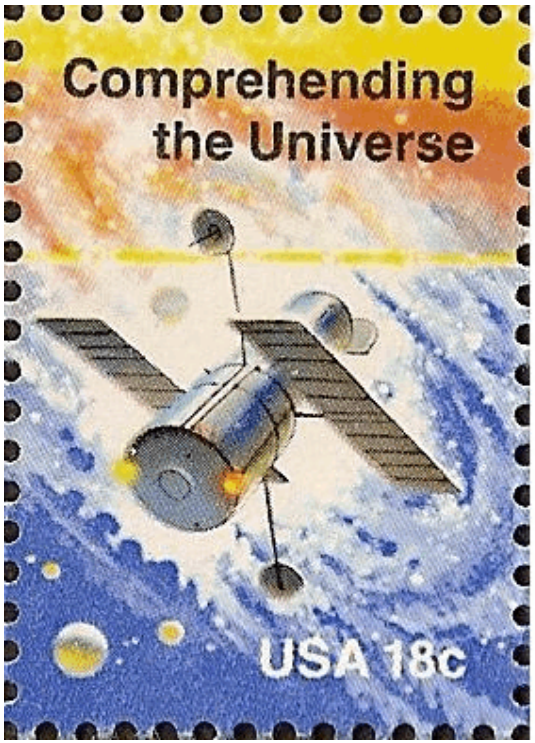
"Humans As Machines" by Robert Silverberg is an essay on one of the most dangerous minefields in science, that of sociobiology. It is all very well to analyze the behaviour of animal societies, but anyone collecting statistics that show identifiable human groups behave differently from each other will be shouted down as a racist. The phrase "politically correct" hadn't yet come into use, but sociobiology is one field where many researchers prefer to remain silent because of it.

Richard Sean McEnroe's story "A Death In Real Time" takes at face value the claim by video game players that it prepares them for war, and shows one important fallacy. The story is about a missile operator on an American warship during a battle with Soviet ships. The operator grew up on video games, had no other skills, and thinks of the battle only in terms of spots of light on a computer screen to be blocked or deployed. Except that one of those spots slams into his ship and kills him, with no possibility of reboot or a new game.

When this issue of DESTINIES was published in 1981, the teaching of science fiction was still in its infancy. Elizabeth Ann Hull writes about the practical difficulties of university teachers faced with finding a reading list and other course materials suitable for university classes. Although much knowledge is contained in fanzines, they are not suitable resources for academia, which insists on peer-reviewed journals. Hull mentions three: EXTRAPOLATION, SCIENCE FICTION STUDIES, and JOURNAL OF POPULAR CULTURE. Sadly, all these years later I can only add FOUNDATION to the major peer-reviewed journals, although other periodicals now run articles occasionally.

**Lambda.**

V3#2 was the final issue of DESTINIES. Jim Baen editorialized that while the title was selling well, it required six or seven times more work than a paperback novel of the same size. He could justify it out of his own time but once he left Ace Books for another publisher, no one else would carry the load.




"Looking About In Space" by Charles Sheffield and Yoji Kondo is a factual essay on space telescopes, present and future. Size matters in telescopes but there is a limit to Earth-based instruments because the micro-turbulence of the atmosphere makes it impossible to resolve objects beyond a certain point. Space-based telescopes are much better but they are not a panacea for deep-field photography because one needs a target. Dark cold objects are almost impossible to spot, which is why new comets are not detected until they come in closer and start fizzing off gases. Having said that, there are countless objects we do know about, which will take centuries to study: known comets, planets, variable stars, supernova remnants and their associated gas clouds, and more things in heaven than Horatio ever dreamt about.

"Summertide" by Charles Sheffield takes place in the Eta Cassiopeiae A system on a double planet, Quake and Egg. A space elevator has been built to connect the two planets, which rotate around each other in resonance. (Earth and the Moon are also a double planet in resonance, although even the most optimistic

SF writer hasn't postulated a space elevator between them.) Egg is stable but Quake is subject to massive tectonic disturbances once a year from tidal stress, and thus is not permanently settled. A government agent shows up from the home office on the trail of twin sisters. The women ran for Quake, and must be retrieved just as the earthquake and volcano season begins. The hero goes along with the agent to show him how things are done out here. They could have just sat on Egg and waited out the summertide season on Quake, but no, they had to go there just in time for disaster. The idiot plot is required to show off all the infodumps about tidal stresses and planetary geology.

"Time Safari" by David Drake is a rewrite of those cautionary tales of dinosaur hunters going back in time and getting into trouble. The plot is mostly cliched, with the Great White Hunter leading a group of hunting tourists back into the Cretaceous for some *T. rex* shooting. Various alarums as you might expect, all hope is abandoned when the time machine is wrecked, and then a *deus ex machina* ending. Lots of tough talk about what kind of ammunition to use against dinosaurs, how to take your shot, so on and so forth. The story would probably have had a better audience in FIELD AND STREAM.

**Mu.**

PROTEUS was a one-shot paperback in the same format as DESTINIES, edited by Richard S. McEnroe. The cover blurb said "A DESTINIES SPECIAL", and McEnroe specifically states inside the book that the stories were unused leavings of the DESTINIES series.

In glancing over the table of contents, I only recognized a few authors' names. The rest have vanished into obscurity. The stories are workmanlike but forgettable. None of them were worth a review.

**Nu.**

FAR FRONTIERS #1 started off the new series in 1985, published by Baen Books and with pretty much the same mix of stories and essays as DESTINIES. Baen knew what he liked, and he liked Campbell's ANALOG, only more so. That isn't a criticism; I like that sort of SF as well, which is why I stopped reading the digest magazines like ASIMOV'S and MF&SF decades ago when the Ivy League litcrit crowd took over.

"The Warm Space" by David Brin is a spotweld-that-busbar puzzle story. In a distant future, humans have been displaced by their own creations. Artificial intelligences and robots have politely but firmly shunted humans off to the side and taken over space exploration. The AIs have developed prototype faster-than-light starships which jump through hyperspace to a far distant destination. The first few starships, crewed only by AIs, never returned. The next few were programmed with simple electromechanical devices to turn the starship about at the far end and come back. They do, but all the AIs are dead.

The AIs have to swallow their pride, not that they have emotions, and ask Jason Forbs, a lowly human, to go along on the next jump. As the starship travels through hyperspace, he sees that it is filled with a glowing infinite light. That light heats up the starship, which has no place to dump the heat. All the AIs and robots run on cryo-helium brains, which are fried into mush, although humans can withstand the heat because their brains were designed to run hot. In the blackness of normal space, radiators of spacecraft can dump excess heat overboard into shadowed areas, but in hyperspace the light is all around and there is no place to dump heat. So the good news at the conclusion of this story is that only humans will inherit the stars, while the AIs have to stay at home or else travel through normal space in generation starships. John W. Campbell Jr would be so proud.

Robert L. Forward has an essay "The Paradox Of Interstellar Transport" which looks at possible types of spacecraft to travel the distances between stars. He then asks the question that many have before and since, known as the Fermi Paradox. There are so many countless stars and planets even in one galaxy that sapient life should have developed many times and gone traveling into deep space, if not with crewed starships then at least with robot probes. But where are those probes?

This is where I disagree with one assumption made by those analyzing the Fermi Paradox. They all assume that Earth must be a young civilization and that many others must have developed long before us. I submit to you that we are the elders. There are countless gas giants, but no wannabe-spacefaring civilizations could escape their gravity wells or have the necessary metals to build spaceships. Earth is a rare planet with a relatively small gravity well and a good supply of metal. The odds are that <u>we</u> are the elder gods.

"Pride" by Poul Anderson is about an expedition to Nemesis, a dark star that is the Sun's companion but so far away and so dark that it wasn't detected until

the distant future. It is a brown dwarf, which intermittently ignites as a star but quickly quenches itself because it doesn't have enough fuel to keep fusion going continuously. A research team is out there exploring it with robot probes when it suddenly ignites again, for the first time in human history. Various alarums and excursions develop, which would have been more exciting if there weren't so many infodumps, all of them "*As you know, Professor ...*" lectures. I think this story sets a record for infodumps. An interesting concept based on real-life speculation that there may be a dark object about two light years away in orbit around the Sun that every 26 megayears loops in close enough to perturb comets out of their orbits and send some of them crashing into the inner planets.

**Xi.**

FF #2 has as its theme the then fashionable concept of nuclear winter. This was the idea that a full-scale global thermonuclear war would kick up so much dust into the stratosphere that Earth would be plunged into several years or decades of cold weather. It would only take one global crop failure to trigger Armageddon, so SF writers went to town on this.

"Nuclear Autumn" by Ben Bova is a short-short about a weak-willed American President who is facing an ultimatum from the Soviets. As she talks to the Soviet leader, he informs her that he has begun nuking targets in Europe and missile silos in the USA. He informs her that the Soviet nukes were calculated to raise enough dust just below the threshold for nuclear winter. If the Americans retaliate with nukes, they will boost the dust level high enough to start a nuclear winter, one that the Soviets are equipped to survive but the Americans are not.

John Brunner's "Talion" is set in a postwar Britain whose population is down to 285,000 after a nuclear war and the subsequent winter. A pair of bureaucrats in the surviving government are searching for survivors when they come across a village that made it through. Unfortunately the civil servants can't keep their mouths shut about how they are from the government and we're here to help you. They are lynched for just cause.

Edward P. Hughes's "A Cure For Croup" is set in an Irish village in a post-apocalypse world where most of the human race is sterile. Only one man in the village is fertile, so he becomes the lord of the manor and is given the privilege of *droit du seigneur*. All the children in the village are his, since all the other men are sterile. Then he dies and the search is on for the next lord of the manor.

Rory Harper has a neat idea with "Petrogypsies", combining bioengineering with drilling technology. A giant beastie has been bred, or decanted as the case may be, which is a mobile drilling rig. It is its own seismic crew, stomping the ground to create seismic vibrations, then sensing the ground waves to feel out the subsurface geology. It has a long rotating tongue that drills for water or oil. Inside it is living quarters for the crew. Trotting from one job to another, the crew earn their income as petrogypsies.

**Omicron.**

FF #3 didn't have anything in the way of memorable stories. The first story in this issue is Vernor Vinge's "The Ungoverned", about a libertarian utopia where good ole boys drive out a Mexican resorgimento army. Not believable. Libertarianism is no more tenable than socialism, but fortunately has never been implemented except in minor failed states with no law but the point of a gun. Socialism, unfortunately, has been and still is being implemented, although it eventually fails when the government runs out of other people's money, but not before causing great misery.

"Out Of The North A Giant" by John Dalmas is a monster story with good ole boys hunting down a pair of alien humanoids and killing them. The protagonist feels guilty afterwards, and goes into service on board a spaceship with the idea of helping them out on their home planet.

Charles Pelligrino discusses "The Ultimate Whodunit", the causes of mass extinctions throughout the geological past. The problem is that many proposed explanations do not synchronize with the actual extinctions. Dinosaurs were already fading away when that Mexican asteroid hit, and many extinctions do not match the dates of iridium layers that are a signature of extraterrestrial bolides. More research since this article was published in 1985 shows there is no simplistic one-size-fits-all explanation for mass extinctions. The rest of the speculative fact articles in this issue have mostly been made obsolete by the passage of time.

**Pi.**

FF #4 has the frequent problem of no stories worth remembering. It was made worse by the editor's blurbs, which basically hailed each story as a landmark in libertarian fiction even if it wasn't a landmark in anything.

Gregory Benford evens the score somewhat with an essay on "Reactionary Utopias". He points out that few people would actually want to live in utopias, and the majority are unrealistic about human nature and how they would establish themselves.

But first a digression. I was born and raised and have spent my entire life in Alberta. My father was a livestock veterinarian and when I was a boy I used to ride out with him on farm calls. Some of his clients were Hutterites, a German anabaptist sect that settled in the Canadian prairies a century ago. There are numerous Hutterite colonies throughout Alberta. I met many Hutterites and they were an impressive people, although I would never want to live as one.

If you're not familiar with them, think of them as Amish with the most advanced farm technology. The Hutterites are a communal sect, and establish colonies in rural areas. They specialize depending on the local climate and economy. Southeast of Calgary is one colony that has about twenty hog barns, each the size of a hockey arena, and producing hundreds of hogs per day for market, which are hauled to the packing plant in their own semi-trailers, dozens of them.

During the Sixties, lots of hippies established communes, where everyone was to produce according to their abilities and receive according to their needs. These utopias quickly degenerated and failed because the parasites became the majority and those who did the actual work gave up in disgust.

The Hutterites have been successful because long ago they established strict rules and procedures. Everyone must pull their weight. The men work in the fields and barns, and the women cook and raise children. Everyone attends church, not the church of their choice, but the anabaptist church of the colony. No political correctness or cultural diversity allowed. Dissenters must leave the colony and make their own way in the big city; few succeed. Having seen what a successful utopia looks like, I prefer the chaos of the outside world.

Back to Benford's article. He notes several problems with literary utopias. Firstly, lack of cultural diversity on a planetary scale. The utopias are usually static in time, never changing much. They are based on nostalgia and technophobic; rural utopias dominate the literature. There is an authority figure, often a prophet, and the people are kept in line by social guilt. In particular, Benford slags reactionary writers such as Ursula Le Guin for their utopias.

**Rho.**

FF #5 has several columns on ICBMs, government regulation of private rockets, and other issues that are now pretty much obsolete in our era of suicide bombers and billionaires launching their own rockets. Charles Sheffield, of space elevator fame, writes on a variation thereof, the skyhook. A skyhook would not reach down to Earth but just to a lower orbit and help lift cargoes up without so much fuel expenditure and with more safety.

The fiction is the usual mix of military and libertarian SF, with one humourous interlude, that of Retief, the fighting diplomat who doesn't take diplomats seriously (see OPUNTIA #298).

**Sigma.**

FF #6 starts off with "The Tank Lords" by David Drake, set in his series about Col. Alois Hammer and his mercenary Slammers. They roam from planet to planet for paying jobs, a freelance tank corps that is the epitome of military SF. They drive giant hovertanks (they must have a good energy supply) with iridium-alloy plating. I'm not a metallurgist but I doubt that iridium would be the ultimate in armour plate. It does sound exotic though.

Dave Smeds has an interesting concept in his story "Tournament", about deep-space dwellers who have martial arts contests in zero-gee. The contestants duel in three dimensions inside a clear plastic sphere. It wouldn't work for football or baseball, if only because no space station could have an arena big enough. That got me thinking. Hockey would be out of the question but basketball could be done in 3-D, assuming of course that a big enough space station could be built. Gymnastics would be a natural, but it is not a popular spectator sport.

**Tau.**

FF #7 begins with Charles Sheffield writing "On Timeline Singularities, Space, And Human History". The singularities are the major discontinuities in human history. He lists them as the controlled use of fire, agriculture, the scientific method, the ability to record information for future generations, and global war that involves people who had no connection to the initial trigger. An interesting discussion.

The only story that caught my attention (that is, I read it through without skipping pages) was "The Armistice" by Robert Reed. It is set in an era when the machines have won out and humans are scarce on the ground. One of them, a soldier named Forbes, comes across a robot called the Professor, who lectures him about stromatolites. These are mats of algae, the first multicellular forms of life which still exist in some places today like Australia and are very abundant in the Precambrian fossil record. When two mats touched edges, one would try to grow over the other or kill it back with secreted chemicals. After millions of years of war, stromatolites learned to simply stop growing at the edges making contact with each other. In Forbes' time, AI machines have developed close-packed towers that warred endlessly with each other as they covered Earth's surface. The analogy is obvious. Forbes realizes they have established a peace and are trying to communicate that with him through the Professor robot.

**Upsilon.**

NEW DESTINIES #1 is a name change only, as the format, publisher, and content style are exactly as they were in FAR FRONTIERS. Lots of military SF and several fact essays that are now obsolete. Timothy Zahn starts off with "Point Man", about a hard-luck spaceman who always happens to be in the wrong place at the wrong time. His ship tangles with a hive mind species that seems invincible because no matter how many individuals of the hive mind are killed, more keep coming. The answer is not to kill them but to wound them, so that the hive mind is soon overwhelmed by pain.

In his essay "Magic Matter", Robert Forward discusses the engineering difficulties in producing anti-matter. He notes that anti-matter bombs are unlikely because even with the best engineering practices, it would cost about 1% of the USA economy to produce one anti-matter bomb. Much cheaper to stick with nuclear bombs. However, anti-matter would be cost-efficient for space travel since the price of lifting a given amount of anti-matter into space orbit is cheaper than the cost of lifting the equivalent chemical fuel.

**Phi.**

ND #2 has an essay "Was Frankenstein Simply Einstein Being Frank?" by Gregory Benford, which looks at how Hollywood and the mass media depict scientists. Throughout history, very few scientists have lived in gothic castles doing things man was not meant to know. Most work in academia or industry on incremental research without any urge to rule the world, bwaah ha ha! The image of scientists held by the public was formed from their ancestors, the alchemists and astrologers, then successively modified by screenwriters and mundane authors who didn't actually know any real scientists (or real science). In the same way that Haitian zombies were perverted by Hollywood into undead shamblers, the cliche of the mad scientist developed because it made for better visuals. Alternatively, scientists are depicted as soulless technicians whose main function is to provide infodumps to the leading man in the movie.

Harry Turtledove's "The Irvhank Effect" could have come straight from the pages of any 1950s SF pulp. Two technicians accidently discover a device that can neutralize any atomic explosion anywhere on Earth. They deploy it in the naive hope that it will end all wars. Eventually they are tracked down by the powers that be. A hit man is sent to kill them and destroy the device and its plans. Before he kills them, he tells them they have made the situation worse because now warmongers will switch to biochemwarfare or just plain old-fashioned bombing and invasions.

**Chi.**

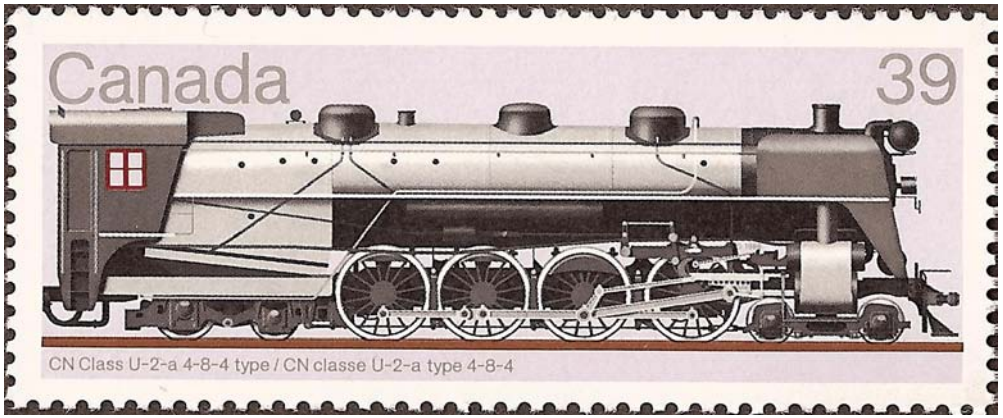
ND #3 had no fiction that I could finish. There are several fact columns, some obsolete, and others still reasonably good. An example of the latter is Charles Sheffield (again; he was a good science writer) with "The Winding Road", a history of superconductivity. The ancients could only cool things by mixing salt and ice to lower the temperature a little bit further. In the early 1800s, scientists discovered that liquefying gases by compression then pumping them through a large chamber lowered temperatures considerably, because the expanding gases drain heat from their surroundings. If the input line of gases to the compressor is run through the chamber, a feedback cycle is set up that cools things even lower. The refrigerator is based on this concept. Constant modifications enable scientists to lower the temperature down to -273.16ºC, known as absolute zero. Temperature measures how fast atoms or molecules are vibrating; at absolute zero there is no motion.

**Psi.**

ND #4 has one story that I particularly liked, "Turning Of The Wheel" by Evan Sayers. It is set in modern India, where a railway superintendent, Mr. Chatterji, has received orders to ship some old steam engines to the Calcutta docks for export as scrap metal. The problem is that an elderly and long retired engine driver, Mr. Prabhana, has been living in one of the abandoned engines. He

started with the railway as a young boy in the age of steam and is now waiting to die. Chatterji has to get the engines to Calcutta within thirty days but is not entirely unfeeling of Prabhana's love for the old ways and things. He tries to convince him to leave but the problem is solved when Prabhana dies of old age in the engine.

The story then jumps to a future where Australia has a mass driver that uses a continent-spanning catapult to hurl supply spacecraft into Earth orbit. The catapult drive belts have to be regularly serviced but one of them never needs repair. Those operating it can't figure out why. They don't know the story behind it, that the drive belt was made from scrap metal out of India and Prabhana's karma is with it.




The rest of this issue was the usual mix of obsolete fact articles and stories that I couldn't finish.

**Omega.**

ND #6 isn't the last issue but the omega can be applied to Robert A. Heinlein, who died a few months before this issue. It is therefore a tribute to him, reprinting some of his short stories, gushing by fanboys, and some miscellaneous items. It has extracts from the Lazarus Long notebooks, a collection of trite epigrams by RAH that supposedly represent wisdom but come off more as the gleanings from old Reader's Digests. The completist RAH collector will need a copy of this issue.

**Digamma.**

ND #7 has a good concept story by Poul Anderson, "Origin", which alternates between proto-human times and the present-day. Two men of our time are discussing whether or not a very close passage by a comet could have triggered worldwide mythologies among ancient peoples. Certainly individual comets have triggered prophecies but the men are discussing a very close passage to Earth that would turn the night sky into an awe-inspiring view that lasted for several days then vanished. However there are no historical records or even legends which suggested such a thing happened. The truth in the story though, was that it did happen in proto-human days. Flashbacks show how such a passage would have spurred the idea that fire could be artificially created and transported, the first step of human evolution that lifted us above the apes.

Charles Sheffield has a science history article "Classical Nightmares" about the development of quantum mechanics and why it threw everyone who dealt with it into a tizzy, even the quantum physicists themselves. The basic premise is simple to understand: energy is not a smooth continuum but a grainy substrate made of quanta. From there, logical extrapolations, confirmed by experiments, lead to a wonderland that had Einstein openly disbelieving quantum mechanics. Those who did believe it had to tie themselves into knots to explain why light is both a particle and a wave. Energy can only exist in discrete packets, but if so, electrons and other subatomic particles adding or losing energy have to make the change instantaneously with no intermediate levels.

Dean Ing writes about how animals communicate with other species in "Dialogues In The Zoo". Since the majority of mammals we see in daily life have far better senses of smell and hearing than we do, humans are often unaware that animals are communicating directly with each other, not just sniffing each other. Being a farm boy, I appreciated this article because I often saw such things. A barn cat prowling through a hay rack for mice would pause momentarily to sniff and be sniffed by a cow munching hay. Farm kids are taught to never get between a cow and her calf, but the dogs knew that from the subsonic growls the cow emitted if they came too close.

**Koppa.**

ND #8 didn't have any fiction that I could finish. Many of the science fact columns were interesting, although the march of time has rendered some of them obsolete. James P. Hogan discusses the post-Apollo downfall of NASA

in terms of the long-wave dynamics that the world economy was going through. SF writers have generally had a blind spot about economics; they either ignore it or do a lot of handwaving and wishful thinking about what the real costs of space travel are. Hogan points out that NASA did not have a constituency among the American general public who were willing to pay the extra taxes for it on top of the Vietnam War expenditures. The SF writers and fans preach to each other about space travel but Joe Sixpack down at the loading dock doesn't care.

**Sampi.**


ND #9 completes the long strange journey of the paperback magazine in late 1990. Some average fiction and columns.

"Tiger Hunt" by John Dalmas is a story that is funnier to southern Albertans such as myself than the average reader. It is a future world where Pleistocene animals have been revived and now roam the prairies of Montana and Alberta. Dalmas gives shout-outs to the city of Medicine Hat and the nearby military base of CFB Suffield (which he doesn't realize is actually a British Army base, loaned to them as part of NATO obligations). I'm surprised Dalmas missed Seven Persons, Manyberries, and Onefour. The President wants to hunt a Pleistocene tiger and things must be arranged, offering an excuse for a guided tour of an improbable Government of North America, with plenty of infodumps.

John Gribbin's story "Defense Initiative" is about an alien message that first copies itself into Earth's computer and communication systems as what we would call a computer virus today, although in 1990 the Internet was only just being born. After shutting down military computers, the Message sits and waits for the next step as its mother ship moves into the Solar System. A very fresh idea for that time, that the aliens would first infiltrate the world's computer networks before their ships arrive.

Charles Sheffield's article "The Unlicked Bear Whelp" is a look at chaos theory, also just being born about then. It is based on the discovery that simple equations do not necessarily have simple solutions if they are iterated, that is, the answer from the previous trial is used as the input for the next repetition of the equation. The patterns seem to follow no logical order, yet seem to be patterns anyway. The best known application of chaos theory is the fractal, very popular as brightly-coloured art.

**Finis.**

And so the series comes to an end. It is impossible to remember exactly what I thought of these books thirty years ago, but the fact that I bought them all as they were published indicates that I thought them good value. The military SF is left to those who like that sort of stuff, but there were enough good stories to keep me interested. I definitely read the science fact columns, cutting edge back then, although obsolete now as the march of science moves on.

At the same time I was buying these books, I was cutting back on the digest SF magazines because I found fewer and fewer stories of interest. ANALOG hewed to the true faith but the other magazines were printing mundane stories that belonged in small-press magazines.

Jim Baen's publishing company lives on after him, but that is another story for someone else to tell. He was an innovator all his life, especially in ebooks. These paperback magazines stand as part of his monument.

**WORLD WIDE PARTY ON JUNE 21**

2015 will be the 21nd year of the World Wide Party. At 21h00 local time on June 21, everyone is invited to raise a glass and toast fellow members of the Papernet around the world. It is important to have it exactly at 21h00 your time. The idea is to get a wave of fellowship circling the planet. Rescheduling it to a club meeting or more convenient time negates the idea of a wave of celebration by SF fans and zinesters circling the globe. At 21h00, face to the east and salute those who have already celebrated. Then face north, then south, and toast those in your time zone who are celebrating as you do. Finally, face west and raise a glass to those who will celebrate WWP in the next hour.

**CALGARY PUBLIC ART**
photos by Dale Speirs

At left is a wooden stack of books in Tomkins Park at 17 Avenue SW and 8 Street. It originally came from a secondhand bookstore that used it outside the front door as advertising. The owner donated it to the City when he went out of business. There is only one secondhand bookstore left in Calgary. Back in the 1980s, there were dozens, and I used to spend my Saturdays driving around to just the better ones, an all-day task.

About thirty years from now, after I am dead and gone, a young mum will be walking with her child through the park. They will pause in front of the statue and the child will ask what it is. The mother will explain that is a stack of books. The child will respond "What's a book, Mummy?"

The horse statues below are on City Hall Plaza. Calgary is nicknamed Cowtown because it was the capital of the ranching industry back in the late 1800s.

## 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.]

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

[SF means science fiction. An apazine is a zine for an amateur press association distro, a perzine is a personal zine, sercon is serious-constructive, and a genzine is a general zine.]

OSFS STATEMENT #432 (The Usual from Ottawa Science Fiction Society, 1568 Merivale Road #304, Ottawa, Ontario K2G 5Y7) SF clubzine with club news and listings, and lots of science news. This time around not just the usual astronomy news but goings-on in palaeontology, specifically the brontosaurus controversy.

## WHEN WORDS COLLIDE 2015

Calgary's annual readercon When Words Collide returns on the weekend of August 14 to 16, 2015, at a new and bigger location, the Delta Calgary South Hotel on Southland Drive SE, just east of Macleod Trail. There have been SF conventions at this hotel in previous years, and the building is a good venue. More details at: www.whenwordscollide.org

This is a literary convention designed to cross genres, with author Guests of Honour from fantasy, science, fiction, mystery, romance, and young adults. The convention has become very popular with literary agents, editors, and publishers, who take rooms for pitch sessions and private negotiations.

The panels are mostly literary but there is a strong science track. For mystery writers and readers, the Calgary Police Service usually send an officer out to explain the real-life procedures of detective work. The dealer bourse is almost entirely small-press publishers and a couple of book dealers.

## SEEN IN THE LITERATURE

Farahbod, A.M., et al (2015) **Investigation of regional seismicity before and after hydraulic fracturing in the Horn River Basin, northeast British Columbia.** CANADIAN JOURNAL OF EARTH SCIENCES 52:112–122

Authors' abstract: "*We systematically re-analyzed historical seismograms to verify the existence of background seismicity in the Horn River Basin (HRB) of northeast British Columbia before the start of regional shale gas development. We also carefully relocated local earthquakes that occurred between December 2006 and December 2011 to delineate their spatiotemporal relationship with hydraulic fracturing (HF) operations in the region. Scattered seismic events were detected in the Horn River Basin throughout the study periods. The located seismicity within 100 km of the Fort Nelson seismic station had a clearly increasing trend, specifically in the Etsho area where most local HF operations were performed. The number of events was increased from 24 in 2002–2003 (prior to HF operations) to 131 in 2011 (peak period of HF operations). In addition, maximum magnitude of the events was shifted from ML 2.9 to ML 3.6 as the scale of HF operation expanded from 2006–2007 to 2011. Based on our relocated earthquake catalog, the overall b value is estimated at 1.21, which is higher than the average of tectonic/natural earthquakes of about 1.0. Our observations highly support the likelihood of a physical relationship between HF operation and induced seismicity in the Horn River Basin. Unfortunately, due to the sparse station density in the region, depth resolution is poor for the vast majority of events in our study area. As new seismograph stations are established in northeast British Columbia, both epicentral mislocation and depth uncertainty for future events are expected to improve significantly.*"

"*... In the HRB, limited HF operations started in late November 2006, became much more active in 2009 as the shale gas development expanded, and increased again in 2010 and 2011 (British Columbia Oil and Gas Commission 2012). In terms of regional seismicity, earthquake catalogues compiled by Natural Resources Canada (NRCan) indicate that the HRB area had only one event before 2009 (15 February 2004, ML 2.4). Since then, however, more than 40 local earthquakes have been detected and reported. Among them, seven events in 2010 were determined with ML = 3. Such a dramatic change in the pattern of background seismicity is unusual. Moreover, areas immediately to the north or west of the HRB, where no shale gas HF was performed, show no discernible variation.*"