Lincroft-Holmdel Science Fiction Club
Club Notice - 2/26/86 -- Vol. 4, No. 32

MEETINGS UPCOMING:

Unless otherwise stated, all meetings are on Wednesdays at noon.
   LZ meetings are in LZ 3A-206; HO meetings are in HO 2N-523.

  _D_A_T_E   _T_O_P_I_C

03/19   HO: "Chronicles of Narnia" by C. S. Lewis
04/09   HO: AT THE MOUNTAINS OF MADNESS by H. P. Lovecraft

HO Chair is John Jetzt, HO 4F-528A (834-1563). LZ Chair is Rob
Mitchell, LZ 1B-306 (576-6106). MT Chair is Mark Leeper, MT 3G-434
(957-5619). HO Librarian is Tim Schroeder, HO 2G-427A (949-5866).
LZ Librarian is Lance Larsen, LZ 3C-219 (576-2668).
Jill-of-all-trades is Evelyn Leeper, MT 1F-329 (957-2070).

1. Judy Lynn Del Rey died last Thursday. She did an excellent job
with Del Rey Books and we'll miss her. [-ecl]

2. As you may notice, there are no more meetings listed for
Lincroft. Since I presume that Lincroft is still alive and
kicking, would someone please send me the new schedule? [-ecl]

3 This is being sent out mostly because people have come to expect
it. There obviously isn't much to say. [-ecl]

                    Mark Leeper
                    MT 3G-434 957-5619
                     ...mtgzz!leeper

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NOMINATE MARK R. LEEPER FOR HUGO FOR BEST FAN WRITER

_N_O_T_E_S_F_R_O_M_T_H_E_N_E_T

Subject: Saberhagen's Frankenstein
Path: bellcore!decvax!genrad!mit-eddie!think!harvard!bu-cs!bucsb!odin
Date: Fri, 14-Feb-86 16:22:10 EST

This book, although (not suprisingly) well written, does not have the
same je ne sais quoi as his Dracula books. It is, in short, just
another story. In it, Dr. Frankenstein is portrayed as a dupe of both
fate, and his immoral compatriots, while his "creation" turns out to be
a creature from another planet sent to observe Earth and caught with his
pants down by a bolt of electricity. It is difficult for me to believe
that Dr. Frankenstein could be conducting the advanced (for the time)
experiments that he was, and still be as naive as he had to be to
actually believe that the experiments he was conducting could actually
produce life. I definitely do not recommend this book, although I would
highly recommend his Dracula series for those who have not read it.

        Ben Page.

Subject: SECOND NATURE by Cherry Wilder (mild spoiler)
Path: mtuxo!houxm!whuxl!whuxlm!akgua!gatech!seismo!hao!noao!terak!anasazi!duane
Date: Tue, 18-Feb-86 12:55:23 EST

The jacket reads:

> "In the darkest corner of the universe -- a band of explorers
> search for an ancient past...
>
> A rain of burning fragments and a giant fireball streak across the
> dark sky over the strange land of Rhomary -- the distant outpost
> inhabited by descendants of a crew from Earth, shipwrecked nearly
> two centuries before.
>
> Now, watched over by the Vail -- the wise monsters of the great
> Western Sea -- Maxim Bro, collector of information about past
> worlds and lives, sets out with his band of followers across an
> incredible landscape to find the answer to a dream prophecy -- that
> men from Earth will some day come again in a rain of fire!"

The description about didn't entice me to buy the book; I had read THE
LUCK OF BRIN'S FIVE by the same author and liked it enough to take a
chance on this one.

The setting is as follows. Two hundred or so years before the main story
begins, a spacecraft from Earth crashlands on a planet. The survivors

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set up housekeeping, but the high technology devices eventually fail and
cannot be replaced. Some time later a few people make contact with an
alien life form which they call "the Vail"; a new religion is
established, though not everyone believes the aliens really exist.

The book starts out with a rather confused account of the initial
contacts with the Vail -- confused because the reader doesn't know the
context yet (that comes later). Then the scene switches to Maxim Bro,
newly-appointed Dator ("historian"), who leaves the planet's primary
city to investigate reports of a new spacecraft crash.

There are many subplots in this book, and the transition between them isn't always smooth. A number of times I got interested in following one subplot only to have another take over for 20 or 30 pages. On the other hand, all of the subplots are interesting, and they all tie together, so the transitions didn't bother me as much as they might have.

I liked the book a lot. Unlike many "lost colony" books in which the inhabitants quickly revert to barbarism and forget their origins, the people in this book do know where they came from and are trying to keep as high a level of civilization as possible. Further, there aren't any villains, per se; rather, conflicts arise out of natural circumstance (the weather, lack of information, etc.), personal inclinations and ambitions, and motivations of aliens that are, not surprisingly, alien.

The story moves along quickly, and you get a better-than-average feel for the planet and its people. I gives this book 3.0 stars (very good) and look forward to more from this author.

Duane Morse   ...!noao!terak!anasazi!duane

Subject: Forward is Backward
Path: mtuxo!houxm!mhuxt!mhuxr!ulysses!ucbvax!brahms!gsmith
Date: Thu, 20-Feb-86 08:08:57 EST

A while back I posted a comment that I found the math in Robert L. Forward's _The Flight of the Dragonfly_ to be hilarious. Since there seems to be a least a little interest out in net.land as to what might be wrong with it, I post this to clear the problem up. The article is long because of extensive quotes from Forward, which should provide plenty of yucks for any mathematicians out there with nasty senses of humor.

The book introduces "flouwen", creatures with IQ's many times that of humans (whatever that is supposed to mean). We come across a very old and wise one, who has been thinking for years about a difficult research problem:

Sour#Sapphire#Coo had taken for his research project the derivation of an example of the fifth cardinal infinity. It had been twelve seasons of the visitation of Warm since the massive blue elder had left the pod and traveled to the Islands of Thought. [156]

[All page references are to the Baen Books paperback edition. The non-ASCII orthography (stars, diamonds, etc.) is rendered with #,$,@ etc.]

Now what are we to make of this? It certainly seems that this brilliant mathematician is trying to find an example of aleph_four. But this problem was solved by Cantor: aleph_four is itself an example of something with aleph_four elements in it (aleph_four is an ordinal number, as well as a cardinal). What *can* he be thinking about? It certainly appears he is an idiot, working on a non-problem. But more later.

> "One of the unsolved problems of human mathematics was conjectured by the human Fermat. There are many solutions to $X^2 + Y^2 = Z^2$. But there is no solution to $X^3 + Y^3 = Z^3$, even if 3 is any number."
> $That not problem! Deep Purple graveled.$
> @That's a DUMB problem@ the red cloud exploded. @That problem not said right. I say right way. $X^2 + Y^2 = Z^2$ has many solutions. Is there a solution for $U^3 + V^3 + W^3 = Z^3$? That makes more sense. You have two things X and Y. You multiply two times. You add two times. You get same as Z multiplied two times. Two things three times is DUMB!! If you multiply three times, then you should add three times!@ [236-237]

Now what? The human asks a problem about the existence of rational points on a class of curves, and Red Cloud thinks the problem should be about hypersurfaces. But why? If Red Cloud was 1/10th as smart as he is supposed to be, he would know that $U^3 + V^3 + W^3 = Z^3$ is a rational surface with an infinite number of points on it, with an easy parametrization analogous to that of $X^2 + Y^2 = Z^2$. Euler proved this, whereas his proof that $X^3 + Y^3 = Z^3$ has no non-trivial solutions had to be patched up. Why? Because it's a harder problem. But the generalization is worse. It is easy to find counterexamples with n > 3; and since the arithmetic genus is 0 it would seem to make more sense to conjecture there is always an infinity of solutions for each n, not that there are none. But this is not only a completely different problem, it looks like a much easier one. I might try asking people about it; it wouldn't suprise me if someone has solved this Fermat hypersurface problem. One the other hand, the Fermat curve, which is supposed to be so dumb, is a natural one to look at as soon as you start thinking about rational points on curves. It is connected to cyclotomicity and lots of neat things, and the flouwen are only showing how ignorant they are by not having thought of it and then dismissing it as dumb. DUMB flouwen!

Besides, the current status of the Fermat problem is extremely bright. It has almost been reduced to the Weil-Taniyama conjecture. In light of

Faltings' recent brilliant and unexpected solution to the Mordell conjecture, it seems highly plausible that by the time us DUMB humans reach these aliens, the problem will no longer be a problem.

^What were you thinking about?^
%The fourth infinity.%
^Tell me about it!^
%Well ... I will someday. But first you have to learn about the second infinity.%
^Tell me! Tell me!^
A yellow tendril poked a hole in the muddy bottom.
%Feel, youngling. There is a point.%
A delicate blue tendril felt into the murky bottom.
^That is a hole in the mud, older Warm*Amber*Resonance.^
There was a long pause as the yellow cloud rippled in annoyance. However, the tone that resumed after the pause had all the warm patience that it had contained previously.
%Imagine it is a point, with no dimensions.%
^Yes, older.^
The yellow tendril touched the surface of the soft mud again, leaving another tiny spot in the smooth surface close to the first one. %Here is another point.%
%Here is another.%
%Here is another.%
The line of close-spaced points grew.
%Imagine.%
%Imagine points so close they make a line. Infinitely long.%
There was a pause as the young one absorbed the sounds. Its blue cloud enveloped the motions of the yellow wisp making a long string of tiny dots in the ocean bottom.
^Infinite in both directions, older Warm*Amber*Resonance?^
=Yes. Very good, youngling.=
=Now ... Imagine a point not on the line.=
=Here is one.=
=Here is another.=
Soon a number of isolated spots were scattered above and below the dotted line on the muddy sea floor.
=Imagine an infinite number of them.=
There was a slight pause.
=Are there more points *off* the line than *on* the line?=
The youngling thought carefully before answering, its wisps of

azure clumping and dissolving randomly. The older waited patiently.
Finally the youngling answered.
^No! They are the same.^
=Right!=
^That was too easy. Give me a harder one.^
=All right. Draw a line through any of those points I made.=
The blue cloud formed a tendril of its own and made a streak
through one of the isolated spots in the mud.
=Draw another through the same point. Make it wriggly if you want
to.=

A wriggly line joined the streak.
=Draw more.=
Dainty^Blue^Warble concentrated, and soon dozens of distinctly
different lines were drawn through the same point. Then came the
question.
=Imagine you did that to each point. Are there more wriggly lines
than points?=
The blue cloud stopped moving as it started to think. [246-248]

Now the awful truth emerges! The flouwen appear to assume, with
absolutely no justification, that the continuum hypothesis (which Paul
Cohen showed in 1962 is independent of ZFC) is true. This is clearly the
case, as he is giving an example of the second infinity, ie, aleph_one,
but as was discovered by Solomon Feferman and Robert Solovay, the only
generally definable subsets of the real line are denumerable and
continuum. (While it is consistent, for example, that V=HOD yet CH is
false, giving explicitly definable uncountable subcontinuum sets, this
depends on the model.) If the generalized continuum hypothesis is
assumed by the flouwen, which apparently is the case, then the nit-
witted Sour#Sapphire#Coo was trying to find an example of aleph_two,
assuming the GCH!! Certainly the collection of all order types of sets
of cardinality at most aleph_one is the more natural collection to
consider. Indeed, the collection of "curves" through a point is
aleph_two sized if one considers in addition to the GCH the notion of
arbitrary function, not just continuous functions. Any being who could
spend years doing this is not cut out to be a mathematician. Also, this
"teacher" never even makes clear that the points on the line are
anything more than dense, so they could be countable for all
Dainty^Blue^Warble could tell. I was mystified as to where Forward was

getting all this silly junk about set theory from, until my colleague
Matthew Wiener pointed out to me that George Gamow's _One, Two, Three
... Infinity_ appears to have been the high-powered reference work
Forward relied on. For example, GG has a chapter on set theory with the
exact same misconceptions that the flouwen have. The one science
fictional advance Forward postulates is that the fourth infinity (ie
aleph_three) has been found (GG says it was an open problem.) This is a
wonderful book for bright ten year olds, and everyone should read it at
the right time in life ... but it isn't a substitute even for the naive
set theory all mathematicians (which should include flouwen) have to
know. To confuse this with *real* set theory is like mixing up first
grade arithmetic with number theory. (And to see what a mathematician
means by the word "arithmetic" look up J P Serre _A Course in
Arithmetic_.)

#I have solved the motion of the lights in the sky!#
Even the big circle?
#All the lights except big circle. It is a swimmer of the light. It
is like us. Its motions are not that of logic.#
$But you can know the motions of all the rest? You can know the
risings of Hot and the fadings of Warm and the tenacity of
Sky@Rock?$

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#All,# said White Whistler with confidence.
~How can you be sure?~
#The humans gave me the rule for simple spherical masses.
The rule was very simple. Yet it seemed complex when the rule was
used on more than two spheres. After some thinking, I found the
simple rule for many spheres.#
~Was it difficult?~
#No. A simple variable substitution combined with an interesting
coordinate transformation.#
$Let me taste.$
Me too!
^Me too!!!^
 ...
Warm%Amber%Resonance reveled in the cleanness of it. ~One complex
variable transformation, and then that simple, yet unobvious,
coordinate transformation! An nth-root dimension,
indeed!   [249-250]

But there are no first integrals to the n-body problem! They are quite off the mark here. Intelligent aliens can't find solutions; they should obviously have piped up with something plausible. For example, in the restricted 3-body problem, with parameter ratio of heavy body to heavier body, the nondegeneracy condition is not fulfilled when the parameter is zero (hopefully this is clear as it reduces to a two body problem) but isoenergetic nondegeneracy IS fulfilled. So a simple application of Kolmogorov's theorem gives that almost all invariant tori with irrational frequency ratios are preserved for small values of the parameter. Now that is interesting. And true. As opposed to DUMB, DUMB!!!

To give them credit, the reference to nth-root dimensions might be the rudiments of K-theory, or some other generalized cohomology theory.

Then on pages 251-252 the Fermat conjecture is solved. (#Easy# the lavender cloud responded. ... #DUMB problem#. That was the cue for Loud Red. #I told you! DUMB problem!! DUMB!!!#). We then learn that the flouwen can't even understand a point as elementary as why prove Fermat up to a certain exponent. Apparently it doesn't occur to them that until it is proven, it might be false; and if it is false, it might have a counter-example. DUMB aliens, DUMB!!!

There are other things funny about this book like the use of tensor product and diamond (math symbols both) inside of flouwen names. Another boffo point is that the humans never even have any evidence other than the word of a "semi-intelligent" computer and the unsupported assertions of aliens who talk like brain-damaged teen surfers ("I could surf if I had a surfboard," said Karin, her thoughts going back over six lightyears and forty time years. [237]) that the flouwen are any good at mathematics at all. I think if the human team had had a mathematician on it, he would have concluded that the flouwen are retards. Maybe Forward should write a sequel where this emerges?

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From the back cover: "The man damn well knows what he is talking about." -- Larry Niven. Dumb quote, DUMB!!! Dumb book, Dumb aliens, Dumb everything. DUMB DUMB DUMB DUMB ... but you get the idea, I'm sure.

ucbvax!brahms!weemba   Matthew P Wiener/UCB Math Dept/Berkeley CA 94720

ucbvax!brahms!gsmith   Gene Ward Smith/UCB Math Dept/Berkeley CA 94720

Subject: Lady Jane
Path: bellcore!decvax!decwrl!pyramid!hplabs!sdcrdcf!berco
Date: Tue, 18-Feb-86 14:12:36 EST

I understand "Lady Jane" is ending its short run this weekend, at least
here in LA. I had the pleasure of catching it yesterday and reccomend
it highly -- especially to anyone who is interested in the history of
the time. The title character is Lady Jane Grey, grand-daughter of
Henry VIII's sister Mary, and third in line for the throne (after
Edward). Through a conspiracy on the parts of her parents and father-
in-law (Dudley, Earl of Northumberland) she is crowned queen for 9 days
following the death of Edward. The director is from the Royal
Shakespearean Theater and does a wonderful job with this story as a
romantic epic. It was beautifully shot and the casting and acting was
well done. My only complaint is that it was too long (~2 1/2 hours) and
could have been cut down a bit. This is a good movie to see if you can
get to it before it leaves.

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NOMINATE MARK R. LEEPER FOR HUGO FOR BEST FAN WRITER