SCIENCE-Fiction Fanzine **Vol. XXIX, No. 8; August 2017**

The Israeli Society for Science Fiction and Fantasy חדשות האגודה – אוגוסט 2017

בת"א: המועדון יעסוק הפעם בשני ספרים בעלי נושא דומה: בספר "טאק לנצח" מאת נטלי בביט (זמורה ביתן, 2003) שיצא גם תחת השם "מעיין הנצח" (אוקיינוס ומודן, 2015) ובספר "גן החצות של טום" מאת פיליפה פירס (זמורה ביתן, 2003).
ביום ד', 30/8, (19:30), בבית פרטי ברמת אביב (הכתובת המדויקת תימסר לנרשמות ולנרשמים). מנחה: דפנה קירש
בירושלים: מועדון הקריאה של החודש יעסוק בספר "עקורה" מאת נעמי נוביק (נובה, 2016).
***ביום ג', 29/8 בשעה 20:00,* בבית פרטי בקטמונים (הכתובת המדויקת תימסר לנרשמות ולנרשמים). מנחה: גלי אחיטוב**
כל האירועים של האגודה מופיעים בלוח האירועים (שפע אירועים מעניינים, הרצאות, סדנאות, מפגשים ועוד)
לקבלת עדכונים שוטפים על מפגשי מועדון הקריאה ברחבי הארץ ניתן להצטרף לרשימת התפוצה או לדף האגודה בפייסבוק.
Society information is available (in Hebrew) at the Society's site: http://www.sf-f.org.il

This month's roundup:

So Sorry! This issue is coming out with a definite and unforeseen delay (and also a bit 'lean' …).
The good news is that everyone/everything is OK – only I was on vacation and didn't have much computer access, and then started a new job with all the (usually positive) headaches that are involved in getting up-and-running.
So this month, other than a few items of interest on the Web, we have:

- **My book review on Ben Bova's & Bill Pogue's novel "The Trikon Deception" (1992)**
- **Dr. Doron Calo is back with: The Weird World of Topology**

NOTE: Next time, all about my visit with the Montreal's MONSFFA members (+ pics of their annual Bar-B-Q).
– Your editor, Leybl Botwinik

MORE INTERESTING STUFF from the WWW

Is this for real? What do the Trump advisors say…?

About Climate change… Scientists: Earth is Screwed –

BY DANIEL STARKEY Aug 01, 2017

The big push for those people trying to prevent the apocalypse is to limit global climate change to a mere two degrees Celsius. To be clear, this is still absolutely disastrous. Increases of three or even four degrees could happen, but if we can limit it to just two, then we dodge a lot of the really bad stuff. The problem? Well, it seems like that we'll be lucky if it rises by two degrees. Oh boy.

A pair of studies published in *Nature: Climate Change* today showed that current models are 95% confident that Earth will warm by two degrees by 2100 and that even if we stop emitting CO2 now, the Earth will keep warming well into the next century. And there's more bad news. We have an anemic 1% change the temp will jump less than a

Now this is interesting:

Facebook shuts down AI program after bots start to communicate in their own language

Jul 30, 2017 Chelsea Mosery Birnbaum

After two bots – artificial intelligence entities – began communicating with each other in gibberish, Facebook decided to shut down their prestigious research project while they work on fixing the problem. "Balls have zero to me to me to me to me to me to me to me to" said one bot, Bob, to the other, Alice. According to researchers, their process was a similar to how humans create languages.

Panic ensued over the weekend when researchers at Facebook realized that two of the company's "bots" were communicating in a secret language- a kind of gibberish composed of English words but using unfamiliar grammar. The company's artificial intelligence research program was suspended soon after the discovery. In an attempt to calm the

degree and a half with three degrees being a near-certainty with current trends.
"Even if we would stop burning fossil fuels today, then the Earth would continue to warm slowly," Thorsten Mauritsen, author of one of the studies said. "It is this committed warming that we estimate."

Read more here:
https://www.geek.com/science/scientists-earth-is-screwed-1709983/?

waters, Facebook explained that what we are seeing is not the beginning of a hostile takeover of the world- though numerous science fiction films and novels with eerily similar plot lines do come to mind.

Read more here:
http://www.jerusalemonline.com/high-tech/facebook-ai-program-shut-down-after-bots-invent-a-language-of-their-own-30054?

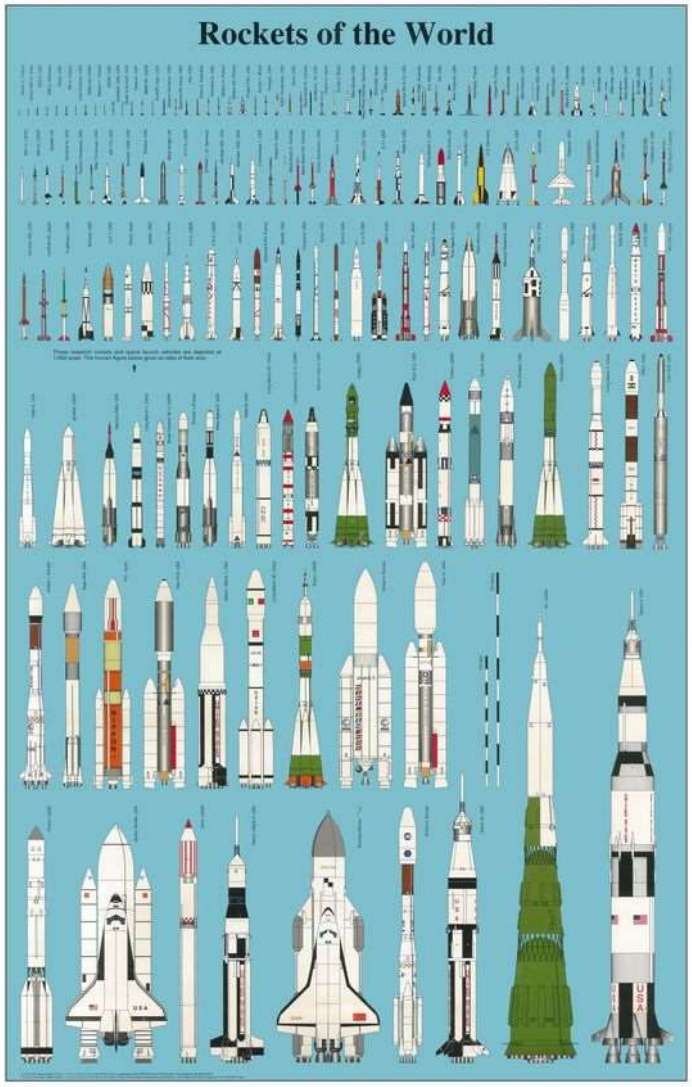
Just saying… :

China Weapons: These Puppies Have the World Quaking in its Boots

From the EDITOR: The world is very, very weaponized. No one can really tell the future, but there is a very keen military tension in various parts of the world, nowadays, so it can't hurt to know what we are facing. And for those who are interested in advanced military hardware, this has some interesting info.

Read/See more here:
http://www.historyinorbit.com/china-weapons-puppies-world-quaking-boots/5/?

AND … While we're on the subject, here's an interesting picture from 1994 – the rockets of the world (not all are military, but still …). And if you are interested in seeing a more recent collection, you can (try to) visit the Hezbollah (in Lebanon) stockpiles of – it is estimated – around 100,000 missiles (all aimed at Israel)…



Actually, quite scary, come to think of it…,

Biological Teleporter Could Transmit Life to Other Planets

By Ryan Whitwam on August 3, 2017

You've probably attached images, documents, and a myriad of other files to an email, but what about a life form? That may be possible in the not-too-distant future, according to Synthetic Genomics, a company founded in 2005 by famed geneticist Craig Venter. The company has just unveiled an experimental version of the "digital-to-biological converter." All this contraption needs is data, and it can build working viruses. This technology could allow scientists to "teleport" life across the globe or across the stars.

The quest to make a machine that prints life started in 2013, when Synthetic Genomics was tasked with synthesizing a sample of a new strain of the flu virus. The virus had popped up in China, and scientists put the genetic code online. New strains of the flu have a different pattern of proteins on their surface called hemagglutinin and neuraminidase. That's where we get the H and N in their names; in this case, it was H7N9. These proteins are what the body's immune system "sees," so they're also necessary for vaccine production.

Read more here:
https://www.extremetech.com/extreme/253573-biological-teleporter-transmit-life-planets?

The Trikon Deception

Book by Ben Bova and William R. Pogue.

470 pages, paperback, 1992 (this edition was published by New English Library, after 1994)

REVIEWED by Leybl Botwinik ***OK – This is not my best review, but I did write it at 12:00 Midnight in 60 minutes …**

So, Who Dunnit?

NO, this book is not a detective/mystery novel set in near space (Earth orbit) – though it does have certain aspects of a good suspense story:

- The novel's opening chapter is the moment when everything 'wrong/bad' happens all at once (the imminent destruction of the multi-billion dollar space station), with the ensuing chapters being one long flashback of how it all came to this point. The final chapters, of course, take this moment and bring everything to a conclusion (with a few epilogues).
- Several key characters, each of which has a different agenda whose actions may or may not have resulted in the opening salvo of 'Oh no! The end is [almost] upon us'.
- Several love triangles - more specifically 'love tangles'…
- A mystery 'joker' who has his own agenda – but not in a negative way – and gets inadvertently caught up in the other persons' plots
- Simple, but effective scenes that would not require special effects, but enhance the storyline quite effectively.
- And even a 'happy ending' ala Hollywood (almost as if the story was written with movie-rights in mind…)

The novel, written in 1992, takes place on an international – but privately owned – space station in 1998, with no special technological or scientific leaps forward. This gives everything a very authentic feel. Interestingly enough, the 'real' international space station that had been in planning for years had its first modules

launched in 1998 (the ISS: see https://en.wikipedia.org/wiki/Space_station), so Bova seemed to have hit the nail on the head with his timeframe.

In addition to the excellent writing of veteran SF writer Ben Bova, the book was written with the collaboration of Bill Pogue (who passed away in 2014). He was an astronaut and Skylab pilot with "thousands of hours in space", according to the bio inside the book**. Pogue's particular participation imparts a practical pulse to the plot. This makes all the scenes very realistic, with issues like eating in the weightlessness of Space, using the washroom facilities, etc. often spelled out in detail, thus injecting the content with a great deal of authenticity.

The plotline deals with the fact that certain (potentially) dangerous biohazard experiments have been assigned to be carried out in the relative remoteness of space. There are some interesting characters on board, and most are either working independently (i.e. not cooperating) or in fact trying to manipulate ends to meet their own needs – at any cost.

The main protagonist and 'hero' is the commander of the station who needs to keep everything working and troubleshoot not only the electro-mechanical problems, but also any human factor issues as they often arise – including a bit of romance.

A few jokers are thrown in for good measure, and everything begins to go haywire as several series of events clash and counter-clash to bring about the opening scene of imminent destruction.

The entire book, except for a few short but key flashbacks and backstories interspersed here and there, takes place from the 15th of August 1998 to the 4th of September 1998 (when everything goes wrong). That's roughly 3 weeks (again, coincidently, most likely the day-month dates when this review will be read by most of the CyberCozen readers ☺).

Overall, a good solid read. My particular favourite parts deal with the issues of weightlessness that are so well described by the Bova-Pogue team up.

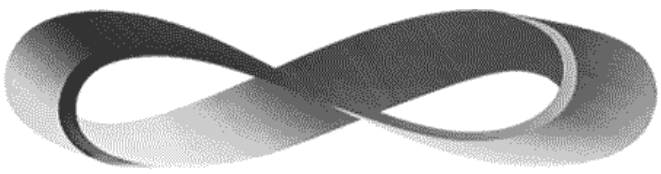
**** I checked that slightly misleading claim (it's not 'tens of thousands' as might be inferred) – but rather exactly 2017 space hours (what a bizarre coincidence that I should be writing this in the year 2017 … I would have written: "over 2000 hours" – see: http://www.astronautix.com/p/pogue.html)**

Sheer* Science: Top o' the (Physics) World

(* In memory of Aharon Sheer (ז״ל) – Founding Editor)

– Prepared by: Doron Calo, PhD (**our CC Sheer Science editor ☺)**

The Weird World of Topology



I remember, back in elementary school, when I first got a glimpse at topology. One of the lasting memories from that obscure class was the Möbius strip: a clever little construction where you take

strip of paper, give it a single twist, and tape the ends together. This simple magic still captures my imagination today. The band, which normally has two sides (an external and an internal one), suddenly has only one side. If you take a pen and draw a line along the middle of the twisted strip, you'll find that you can move the pen along the entire length of the band – both inside and out! – without lifting it from the paper. That was quite cool, I'll admit, but what is it good for?

Almost 30 years after that fateful lesson, it seems that this question is being answered. It has been found that some of the oddities of quantum physics (and this field of science has plenty of odd bits) actually have topological effects at their hearts. The aforementioned Möbius strip, for example, can explain why flipping an electron by 360º doesn't return it to its original state (spin). That's because the wavefunction of an electron behaves like the iconic ant in M. C. Escher's famous Möbius strip drawing: when an ant walks the entire length of such a strip once, it ends up on the other side of the strip from where it started, and it takes another trot around the strip to make the ant return to its original position. So it's like every electron has a tiny Möbius strip inside! and it turns out that neutrinos and quarks behave this way too.

In recent years, it became apparent that topological states of matter are much more prevalent than previously thought. And these topological effects are not just bizarre, they might actually have some practical uses. For example, materials made from heavy elements have surfaces that allow electrons to flow with almost no resistance, thus creating so-called "topological insulators". Other topological materials allow particles inside them to behave in a collective manner and together mimic other "quasi-particles" with unique characteristics, such as being massless (when the individual masses of the particles cancel each other out). Such particles move at a constant speed regardless of their energy, and may one day be used in superfast transistors.

Photons can behave the same way, in certain topological materials – which in theory can become one-way optical fibers that would enable super-efficient long-distance transmissions. Another kind of quasiparticle, the **anyon**, seems to have its own spatial "memory", and may be the basis for a breakthrough in the emerging field of quantum computing. These topological mysteries have been around us all along and we didn't know!

The future, apparently, is already here– we just need to look in the right direction.

Link:

The Shape of Things to Come
http://www.nature.com/news/the-strange-topology-that-is-reshaping-physics-1.22316

We'd love to hear your thoughts on any of the above subjects and we may publish some of them!

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