



Science-Fiction Fanzine

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The Israeli Society for Science Fiction and Fantasy

FantasyCon 2002 will be held **March 31 - April 2** in Mofet Hall (Ramat Gan)
(אולם מופת, בית ההסתדרות, רח' הרצל 13 פינת קריניצי, רמת גן)

The Con will include **fantasy movies** and **TV series**, **lectures**, **chats with writers** and **more**. Many of the movies and TV series have never been shown in Israel.

For more information please visit the Con website:

<http://fantasy.sf-f.org.il/main.html>

Barefoot in Middle-earth by Aharon Sheer

As I watched the film *The Fellowship of the Ring*, part 1 of *The Lord of the Rings*, I was struck by the fact that all the **Hobbits** were barefoot. This was quite right, as it should be. But as the film went on, my sympathy went out to those poor barefoot actors. They jumped on stones, climbed over jagged rocks, walked through thickets of sharp branches, all barefoot. Most astoundingly, they even walked in snow, barefoot. And then, afterwards, as I thought about it, I was struck by how large those Hobbit actors' bare feet were. What big feet you have, you Hobbits! This was also quite right, as it should be.

Finally the light dawned. Those human actors, playing hobbits, were wearing **SHOES!** That must be it. Those were shoes in the shape of very large bare hobbit feet. The only problem they might have had would be being a little clumsy, with such big shoes, their big fake toes sticking

out in front. They wouldn't freeze in the snow, or scrape on the rocks. But the actors would have had to be very careful not to catch those big feet on something, and fall flat on their faces. What fun! Yet it is wrong!

A quote from **Tolkien** will clarify. In the Prologue to *The Lord of the Rings* Tolkien writes that the Hobbits "... seldom wore shoes, since their feet had tough leathery soles and were clad in a thick curling hair, much like the hair of their heads, which was commonly brown." (p. 14). Did anyone watching the movie see **BROWN HAIR** covering the Hobbits' bare feet? Those fake shoesy movie bare feet were hairless, just like **HUMAN** feet. So we have a double fake: Not only were the actors not actually barefoot like Hobbits, their fake bare feet were fake human feet, and not fake Hobbit feet. That's cinema!

A Comparison between Bin Laden and Jules Verne's "Captain Nemo"
by **Eli Eshed**

Since the 11th of September, the world is in a nightmarish battle with terrorist organizations. It seems that there is nothing they might not be willing to use, including biological, chemical, and perhaps even nuclear weapons, which have been until now exclusively owned by highly developed nations.

In truth, there is nothing new in this scenario; we find it in popular literature for well over a century. In 1870 French author **Jules Verne** [1828 - 1905] published his book *Twenty Thousand Leagues under the Sea*. One of that book's heroes was **Captain Nemo**. This hero was extraordinary and quite original in the context of

the popular literature of that period. He was in fact a terrorist who used highly advanced technology, including a sophisticated submarine, to attack ships, and especially British ships.

Originally Verne intended to explain Nemo's origins, and to describe him as a nationalist Pole fighting the Russians, who had conquered his country. Under pressure from his publishers, who did not want to anger the Russians, these details were left out of the book, and Nemo's motives for his attacks on shipping were left unclear.

In a later book, *The Mysterious Island* [1874-75], Verne explained that Nemo was a

Prince from India, a freedom fighter against the conquering British. In this way a new figure appeared in literature: a man from a country considered backward politically and scientifically, who uses astounding technological methods to fight the conquerors of his country, creating what we would call continuous terror.

Later on Verne created a parallel character, the scientist **Robur**, who, using his flying machine (essentially a helicopter), carries out bloody worldwide terrorist attacks. In the book *Master of the World* [1904], Robur does not act from political motives but simply from megalomania. Here again Verne showed how technological methods, in the hands of a single man, or a small group, can threaten the greatest world powers.

The idea of terrorists using the most highly developed technology to threaten the world became a common subject in adventure tales and science fiction in the early decades of the Twentieth Century, almost a cliché. Every hero worth his salt in popular literature fought against enemies of this type.

However, after the Second World War, in the forties and fifties, the world moved to a conflict between two super-powers, the U.S. and Russia. The idea that an individual or small group that does not work for one of the two great superpowers (or perhaps for China), could threaten the world, seemed absurd. The lone terrorist controlling super-weapons vanished completely from serious science fiction. Such terrorists did continue to appear in sensationalist spy stories such as **James Bond**, and its imitators. In such spy stories they appeared as international crime organizations using the most advanced technology for their nefarious crime activities, or even for the purpose of conquering the world, but not for the purpose of aiding one of the superpowers.

However, spy literature was taken over by realistic, "serious", authors, such as **John LeCarre**, who described the world of spies as a

battle between gray agents of the super-powers. There were no more perfect heroic and sexy heroes, fighting against crafty but insane arch-criminals. Thus, here too the super-terrorists with their crime organizations disappeared from the novels.

Super-terrorists continued to appear from time to time in James Bond movies, and in **comics**. Only in such extravagant and unrealistic fantasies was it possible in the 1980s and 1990s to find insane millionaires threatening world peace with their astounding technological devices. Here we had stories of international crime and terror organizations so well-organized that if you cut off one head, ten new heads would grow in its place, and continue to threaten the peace of the whole world (for example, the "**Hydra**" organization of the well-known comics series about secret agent "Nick Perry").

But in recent years things which were thought in the past to be crazy fantasies suitable only to comic books have turned into horrifying reality. Today there are international crime syndicates whose abilities match those of many countries, using the most advanced technologies such as were described in James Bond novels. These organizations are loyal only to themselves. Two examples: drug cartels, and the Russian Mafia. And there are also organizations whose ideology requires them to achieve world domination for a certain set of beliefs, such as "Al Qaeda" of **Bin Laden**.

Bin Laden, the billionaire terrorist who has the most advanced technologies, including perhaps even the possibility of using biological and nuclear weapons, reminds us of Captain Nemo, who was also a Third World character who went out to fight the Western powers using their own weapons, and even more advanced versions.

Here, sadly, we have another example of something once thought of as a childish and fanciful imaginative tale, turning into reality.

Book Review – The Source Story for the Movie **AI** by Aharon Sheer

Supertoys Last All Summer Long by Brian Aldiss (2001), 232 pages.

This is a collection of mostly relatively new (1994 – 1999) short stories by sf Grand Master Brian Aldiss. Two things attracted me to the book, however. One was the title story, "Supertoys Last All Summer Long" (1969) which was the basis for the Stanley Kubrick / Steven Spielberg movie **AI** (2001). The other was Aldiss's accompanying article "Foreword: Attempting to Please", in which Aldiss tells of his

long, exhausting relationship with Kubrick in trying to make a movie out of this story. "Supertoys Last All Summer Long" is only 2000 words (11 pages). It's hard to see how such a short story could be the basis for a full-length film. Kubrick's argument was that he had taken a 2000 word story, "The Sentinel", by Arthur C. Clarke, and made a full-length movie out of it (2001), so why not in this case too. It took Aldiss some time

to understand the speciousness of this argument. "The Sentinel" tells the story of a monument found by man on the moon, which, on being discovered, broadcasts a signal into space – an announcement to someone out there that mankind has developed a technology sufficient to get it to the moon. "The Sentinel", therefore, is a story which both looks backward ("Who put the sentinel on the moon? When and why did they do it?") and forward ("What is going to happen because of this signal?"). But "Supertoys Last All Summer Long" is an introspective story. It looks inward. It has no unexpected past, and no unexpected future. Kubrick's solution had two parts: 1) To invent a future that does not come out of the story (an ecological disaster). 2) To retell the Pinocchio fairy tale, with the Blue Fairy who could make his android a real boy. The latter did not please Aldiss at all. "Never consciously rewrite old fairy stories..." he tried to tell Kubrick, to no avail. Ignoring Kubrick's solutions, Aldiss has supplied two additional short stories here, which are his own continuations of his 1969 original story. One of the two, "Supertoys in Other Seasons", contains an idea which was sold to Steven Spielberg and was used in the final version of AI – the idea of the little boy android meeting a thousand replicas of himself. But Aldiss' continuations of the story otherwise bears no relation to *AI*.

Almost all of the stories in this book are *depressing*. This is the most depressing sf book I've read since *The Way to Heaven* by Gail Hareven.

Furthermore, most of the stories are sex stories. In one story, the women have "lars" and the men "pregos", instead of the usual human

sexual apparatus (the women have wings too). The sex is not described in detail (we are not told exactly what a "lar" is, or a "prego"). In another story, the women (fully human here, living in India) have "yonis" and the men "lingams". And again, the sex is not described in detail, but we are given enough information to be sure what a "yoni" is. Sex is a part of almost all of these stories. Just when you think that one of the stories is going to finish without a sex act, there it almost always comes bursting in.

I would also say that most of these stories qualify as fantasy, and not as sf. It's not enough to mention technological features of life which do not yet exist, but perhaps will exist in the future, to make a story sf. There has to be some relevance to these features besides serving as background. When one of these stories does deal with the future, it is usually a depressing take on future ecological or human destruction, more of a lecture than a story with a plot. In Aldiss' futures, bright young technologists do not save the world. Just the opposite.

In the whole book there were only two stories that I considered sf stories, with a plot, and which I also liked (even though they, too, were depressing); neither contained a sex act. One was "Talking Cubes", a six-page story of love lost at a time of war. The "talking cubes" are three-dimensional talking messages sent by each of the lovers to the other at different times during the war. The other was "Steppenpferd", a moving tale of a monk trapped in an alien conquest of his monastery.

I do not recommend this book to anyone.

Commentary: Helium 3 - All the Power We Need – For Centuries? by Aharon Sheer

The Once and Future Moon by Paul D. Spudis (1996), 308 pages.

Recommended by Yaakov Macales. A detailed discussion of the past exploration of the Moon, and the Moon's geological origins, followed by speculations about possible future settlement and development of the Moon. (Spudis always capitalizes the names Moon and Earth.)

Commentary: Most of the world's energy today is provided by oil. Some is provided by burning coal, but that is a very dirty source. A small amount is provided by burning wood, mostly in backwoods areas. Hydroelectric sources provide a bit more, geothermal a little bit more. But when the oil is almost all burned up, which will happen within a few decades, it will become so expensive that its use will be prohibitive. Air travel will be impossible. (Maybe you can have electric cars, but not electric jet planes -- you can't get the acceleration needed.) If the modern world cannot find alternate sources of energy, there is going to be a dramatic collapse of modern civilization. Think about the things done with oil today: Water is pumped, tractors are driven, crops are raised, and then shipped in oil-driven ships all over the world. Food goes between countries today by oil-driven ship. Exported food supplies a major part of the world's diet. Ships carry rice and wheat. What will happen to the Israeli diet when imported rice and wheat are no longer available, or become much more expensive? Agricultural countries which today depend on their exports for their incomes will be in trouble too. You can expect a dramatic collapse of the

world's population, as more and more countries find themselves in the position of Africa today. Africa no longer has a population growth problem as the death rate there now matches the birth rate. After the oil runs out, I expect that the world's death rate will rise much above the birth rate as a result of massive starvation.

Societies that depend on air conditioning and heating via oil and gas will have to go back to the old dirty methods of generating energy – coal and wood. London will once again have its killing fogs. Coal will eventually run out too, as it is also a non-renewable resource. Israelis will be lucky if they can cool their houses and offices with little electric fans. Heating in the winter in Israel will be a thing of the past, since even kerosene stoves will be too expensive to use. We will go back to transporting food from one part of Israel to another via horse and wagon, as in Roman times. Today's life style will be gone forever.

May there may be a solution, if we start working on it now? Maybe we can use Helium-3 brought from the Moon, and fusion power, and generate all the energy the world needs for centuries. And maybe by the time the Moon's Helium-3 is all gone, physicists will have found an alternate way of generating cheap electricity.

Here is some information about Helium-3 from *The Once and Future Moon*:

“Some scientists think that a rare isotope of helium (^3He , whose nucleus contains only one neutron instead of the two neutrons carried by typical helium atoms) may be used as fuel in advanced fusion reactors to produce commercial power here on Earth. Although ^3He is extremely rare on Earth, it occurs naturally on the Moon at about the solar abundance, relative to hydrogen (at the still tiny concentration of about 4-5 parts per billion of ^3He in mare soils). The mining of ^3He would [use] solar thermal heating of the [soil] to liberate the adsorbed solar gases. The scale of operations ... would be [large], owing to the extremely small concentration of ^3He . For example, at 100 percent extraction efficiency, 200 million tons of soil would have to be processed to get 1 ton of ^3He . Such a mining prospect corresponds to an area 10 km [about 6.25 mile] square, strip-mined to a depth of 2 m (6 feet). To extract enough ^3He to provide the energy needs of the United States for a year, 25 tons of ^3He would be needed. Thus we would need to strip-mine an area on the Moon roughly 50 km square (to a depth of 2 m), which roughly corresponds to an area about the size of metropolitan Chicago. Such a mining prospect would be visible from Earth through a telescope but would not significantly alter the appearance of the Moon. The fusion reactors in which the ^3He would be used do not yet exist, even conceptually. However, within the next 50 years or so, the commercial production of power using ^3He fusion is well within the realm of possibilities.” (p. 100-101)

In order to eventually use ^3He from the Moon to produce energy for the Earth, we should be putting our first colonies on the Moon now. We can expect that within a few decades such colonies will be relatively independent economically, using solar energy, and hydrogen, oxygen and other minerals available on the Moon. This will require a tremendous technological investment, but it will pay off. All this is discussed in this book, *The Once and Future Moon*. By the time the oil crunch comes, strip mining the Moon for ^3He could be a reality. (If we're bothered by the expected long-term change in the appearance of the Moon, we could start by mining the Far Side.)

There is an additional possibility with respect to ^3He , however. I reviewed the book *Back to the Moon* by Homer H. Hickam, Jr. (1999) in the October 2000 issue of *CyberCozen*. Hickam says that during the Apollo 17 flight to the Moon, some rock was found with a very high concentration of ^3He . It was found in a meteor crater called **Shorty Crater**. It seems the meteor that caused Shorty Crater three billion years ago had uncovered fire fountain debris. Hickam's explanation is as follows:

“A fire fountain is lava that contains dissolved volcanic gases. When it reaches the surface, the gas comes out of solution and sends out a spray – sort of like shaking up a bottle of soda and then popping the cap off it. The resulting spray – very hot and molten – is thrown up into the vacuum and as it falls, it forms into tiny glass beads. [Astronaut] Harrison Schmitt found a mother lode of these beads on the rim of Shorty Crater. ... When the glassy material was sprayed above the lunar surface, gas got trapped inside the spheres that formed. ... [^3He is] usually mixed in the soil and you need to heat it up to get it out. Unless, of course, it's already in its gaseous state inside fire fountain beads.” (p. 262-264)

According to Hickam, the concentration of ^3He in these glass beads which were uncovered by the

meteor is so high that you don't have to refine it at all. You can just pick it up and bring it back to the Earth as is. If Shorty Crater has such rock, there is a good chance that a lot of other meteor craters on the Moon have ^3He -rich rocks as well. We could go up to the Moon today and bring those rocks back – but we don't yet have the technology to use ^3He for generating energy on Earth!

According to Spudis, one of the reasons the Apollo 17 site was chosen was to study volcanic ash deposits, which might include fire fountain debris. What puzzled me is that Spudis' book does not mention Shorty Crater and ^3He -rich rocks at all. Why not? Well, I decided to ask Dr. Spudis himself. Yaakov Macales gave me his email address, and I wrote him and asked him.

Here is Dr Paul Spudis' reply:

"Basically, He-3 on the Moon ultimately comes from the Sun -- it's a component of the solar wind, which hits the Moon constantly because the Moon has no atmosphere or global magnetic field to deflect it.

"He-3 is present in the solar wind at solar abundance levels, i.e., there is one He-3 atom for 2400 H atoms. The gas atoms hit the Moon, bounce around a bit, and some of them become implanted on lunar dust grains. These dust grains release their implanted solar wind gases when heated to about 700 degrees C.

"Here's the problem: hydrogen is present at the part per MILLION level, about 10-15 ppm in most lunar soils, sometimes up to 90-100 ppm in exceptional cases. The soil at Shorty crater, being made up mostly of fine-grained, titanium-rich volcanic glass, is one of those exceptional cases.

"But wait!! If these soils have 100 ppm hydrogen, what's the concentration of He-3? A few parts per BILLION! So, if we want to harvest a kilogram of He-3 from lunar soil, we have to process a BILLION kg of soil -- and extract the He-3 at 100% efficiency. "The terrible ifs accumulate....

"Finally, suppose that 1) you could find a rich He-3 deposit (3-4 ppb); and 2) you developed a way to extract, gather, cryogenically freeze, store, and transport the He-3 back to Earth.....

"What would you do with it?

"We cannot reach break-even with D-T fusion. D-He3 fusion is an order of magnitude greater difficulty (higher fusion temps, more confining pressure needed, etc.) Yes, it's cleaner, but we haven't reached it yet.

"Just my opinion. Thanks for writing."

What a disappointing reply! If Spudis tells us that D- ^3He fusion is even harder than D-T [deuterium – tritium] fusion, and we can't even break-even yet with D-T fusion, why did he mention D- ^3He fusion in his book at all? And it sure looks like Harry Hickam is wrong! Which means that we don't have ^3He as a good reason for putting colonies on the Moon, now. Another dream gone....

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