

ERG

40
October 1972



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A cross in this space () indicates your sub needs renewing.

EDITORIAL

Greetings Ergbeings, in case you hadn't all ready noticed, this issue is a further milestone (or millstone) along ERG's highway. Being number 40, I succumbed to numerous requests (all from Alan Burns) and did a cover illo suitable for electrostencil reproduction, the original for which will be sold to the highest bidder. When I took the coverillo in to the dealer's, he spent ten minutes in the back room conferring with his partner, then came back and offered me a part-time job doing artwork for his firm....so electro-stencils have their uses after all.

Those of you who remember my old Cortina, will be pleased to know that it has now been replaced by a brand-new Opel 'Kadette', citrus yellow in colour, and bearing the licence number PUB 100K. Maybe I'm just lucky, but the Cortina had only one delivery fault (an unconnected air-hose on the heater), and so far, the Opel hasn't come up with anything wrong..apart from the dealer completely forgetting to put on the extras I asked for.

And now for a few requests. First off, when you have finished reading this issue, would you do two things ? 1. Write a brief LOC telling me what you liked/disliked, and 2. Pass the issue to a friend (or enemy). Now another request is to all the nice people who regularly ask me for artwork. I am only too pleased to help out where I can, but postage costs money. During the last twelve months, I mailed out 725 pieces of mail, items ranged from 2p to 25p, so my postal bill is a hefty item..... if you want artwork (or other material) then return postage will be greatly appreciated. By the same token, I regret that ERG will not be mailed to those who make no response either by trade, LOC, or cash money, apart from a few very special friends.

AUSSIEANDOM watch out. My daughter Pauline Margaret marries Martin BISHOP on July 24th (now in the past tense as you read this) and emigrated to Melbourne in August to start teaching there. By this time, they will be down under..so if any of you feel like giving them a welcome, I'll be publishing address as soon as I get it...the Jeeves are now infiltrating Australia....in the guise of Bishops.

Ian Maulo (In Maya) says he thinks Ompa, "a collection of fandom's failed fans"....Aforesaid failed fans invite you to the 1973 OMPACON in Bristol...write to, Fred Hemmings, 20 Beech Rd., Slough, Bucks SL3 7DQ, registration fee is 50p. I don't know if Ian will be there, if so, maybe he would like to explain successful fandom to the audience.. or display all four successful issues of Maya.

Bestest, Terry
(((* Cover bids to the editor...highest bid by Nov.1st, wins)))



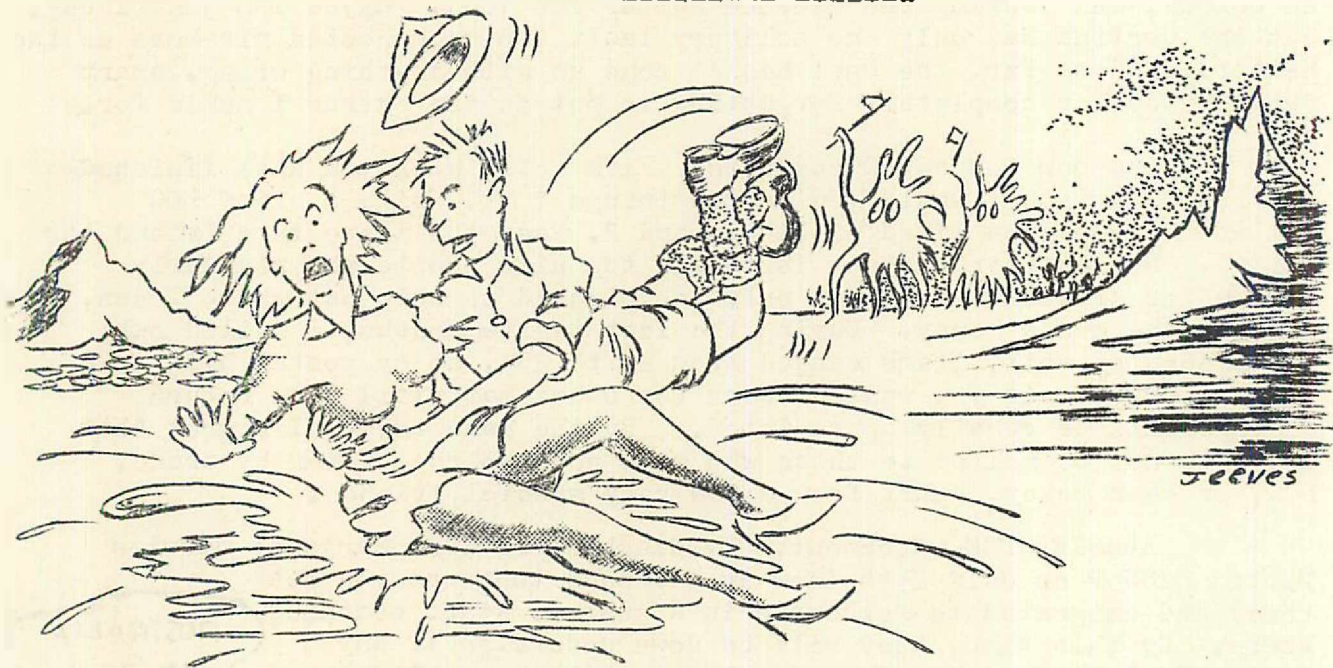
DOWN MEMORY-BANK LANE

PART 12

by
Terry Jeeves

Apart from the normal, nostalgic, run-of-the-mill memories bearing on related topics; there are numerous unrelated bits which pop to the surface only to be shoved aside as being irrelevant to the theme under discussion. For once, I'm going to indulge my grasshopper-mind, and jump hither and yon as the fancy takes me. As with most people who take a good long look after they have leaped, I shall no doubt take a few pratfalls, but this all adds to the fun of the game, so here goes. This time, the starting-off point is.....

... FAMOUS FALLACIES



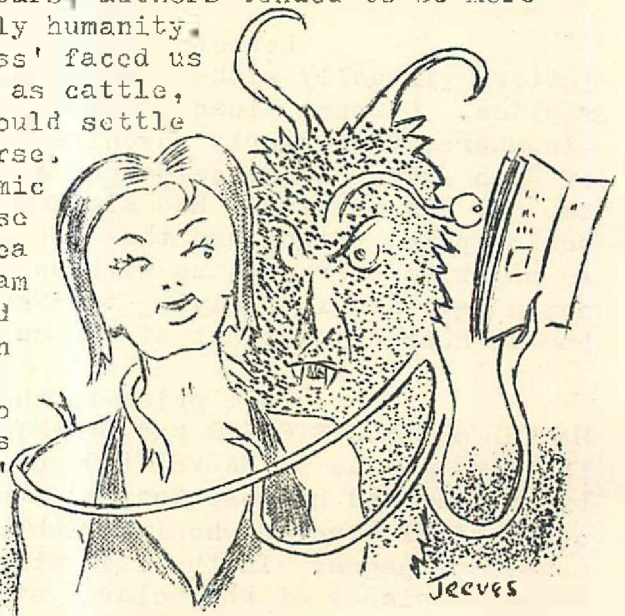
How often have we read something like, "Hank scooped the girl's recumbent form into his arms, and ran, lungs bursting....." Usually he keeps a full head of steam for a mile or so. Well mates, if any of you have ever tried the bird-lifting bit, you will be fully aware that it is a back-breaking, knee-straining chore to get her off the deck. ...and then to RUN ! Nuts. You might manage three, waddling, pregnant-ducklike staggers, and blooey ! The old knee joints fold three ways from Sunday, and down you go, ker-splaat on top of the popsy (about the only bright spot in the whole proceedings). Nevertheless, in the good old pulps no hero worthy of his salt got by without performing this minor miracle,

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in addition, he would also take pot shots at the enemy as he ran, generally bagging seven or eight with a six-shooter. I nominate this caper as Famous Fallacy No.1...and any authors out there who have ever use it should blush with shame - unless they are prepared to put on a demonstration at the next convention.

Another frequent bit of fatuousness is the intelligent life form which evolves in an environment inimical to its well-being. Typical examples are the oxygen-breathers who evolve and prosper on chlorine atmosphered planets, by working inside crystal domes or suchlike. One wonders how their lungs/gills/etc coped with the chlorine while they were busy erecting the domes. Logically, any twit daft enough to pick such a planet to do his evolving would grow up as a Cthulhu-fearing chlorine addict.

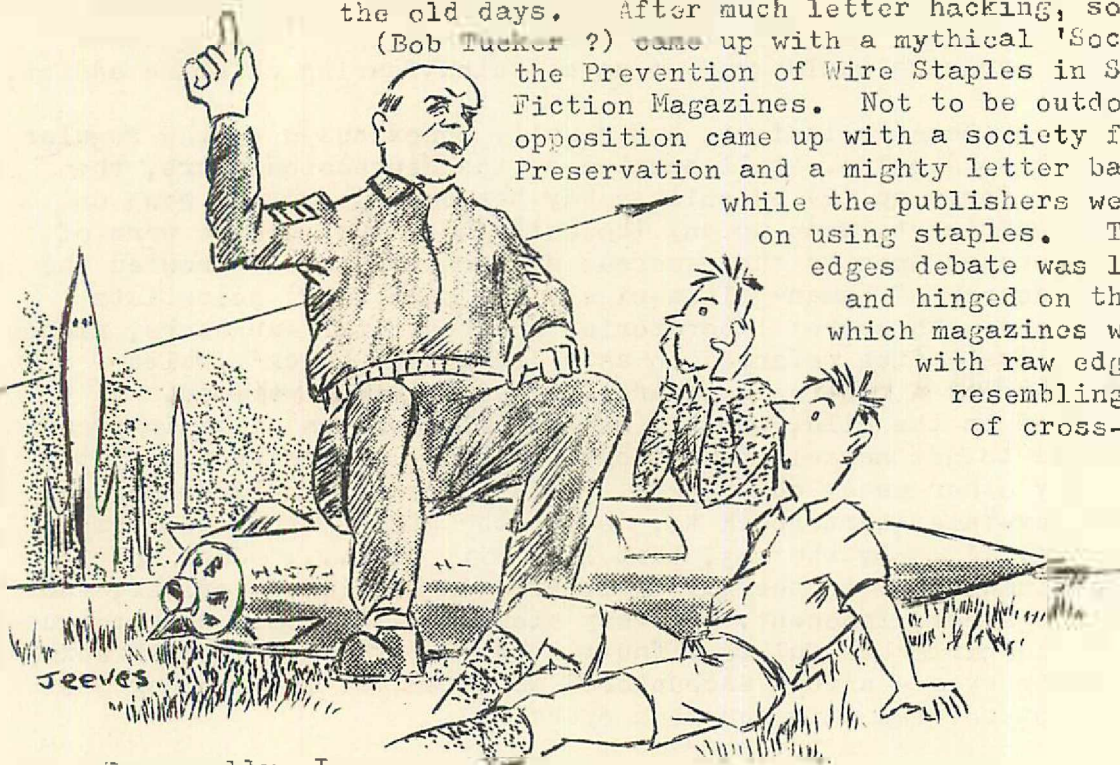
Less fallacious, but equally obnoxious were the regular stereotypes of the old pulps. Still haunted by the Depression years, the authors regularly threw up (?) ex college boy heroes temporarily down on their luck, and waiting to snap up any (honest) job. Such people were of course quickly pounced upon by the numerous mad scientists who prowled the city streets in search of human guinea-pigs. All such (mad) scientists came fully equipped with secret laboratories and beautiful daughters, nieces or wards. This lass (often referred to as a 'real true brick'..which probably meant she was a red-faced square..served a double purpose. First, she figured in the mild, watery (and utterly sexless) love interest. Secondly, she had to get herself caught by Fu Manchu, aliens from the 4th dimension, or any other nasty characters. This of course would sooner or later allow our ex-Yale quarterback to, 'scoop the girl's crumpled form into his arms and...' By the way, that last bit, "and...." does not continue with, 'tumble her in the hay', either. As mentioned earlier, the love interest was sweet, innocent, and very sickening. The men were tongue-tied oafs, and the girls bashful to a fault. Their favourite gimmick being to cast down their eyes - a feat encountered so often, it is a wonder the pavements were not covered with squashed eyeballs.

Then there was the COSMIC DISASTER as chronicled by Clifford (Hellhounds of the Cosmos) Simak, John (Dark Eternity) Russell Fearn, and many others. In more recent years, authors tended to be more picayune, with menaces which threatened only humanity. Triffids killed people, the 'Death of Grass' faced us with starvation, and the Vitons milked us as cattle, but in the days of the pulps, no writer would settle for less than the extinction of the universe. Methods varied, a favourite being the atomic experiment carried out in an ultra universe of which we were but an atom. Another idea was that our Cosmos existed only as a dream in the mind of a superbeing..who awoke and disintegrated everything..this appeared in WONDER as 'Dream's End'. Less ambitious writers brought their alien hordes down to enslave and pillage our Earth. Plutonians pirated out coal (which they called 'Bobo' in an ASTOUNDING story). but more often they wanted our women. I often wondered



6 just what a five tentacled, chlorine breathing arthropod from Sirius 4 wanted to do with the beautiful blonde, but no doubt he had ambitions.. come to that he could probably do her more good than the college eunuch.

Other trivia of the pulp era were the S.P.W.S.S.F.M. (If I've got the letters correct) and the trimmed edges war. The former arose over the practices of stapling the signatures of the magazines in the binding stage. These tended to pull through the flimsy paper so that the magazine disintegrated....yes, we had built-in obsolescence way back in the old days. After much letter hacking, somebody (Bob Tucker ?) came up with a mythical 'Society for the Prevention of Wire Staples in Science Fiction Magazines. Not to be outdone, the opposition came up with a society for their Preservation and a mighty letter battle raged while the publishers went right on using staples. The trimmed edges debate was less bitter and hinged on the way in which magazines were issued with raw edges closely resembling a stack of cross-cut saws.

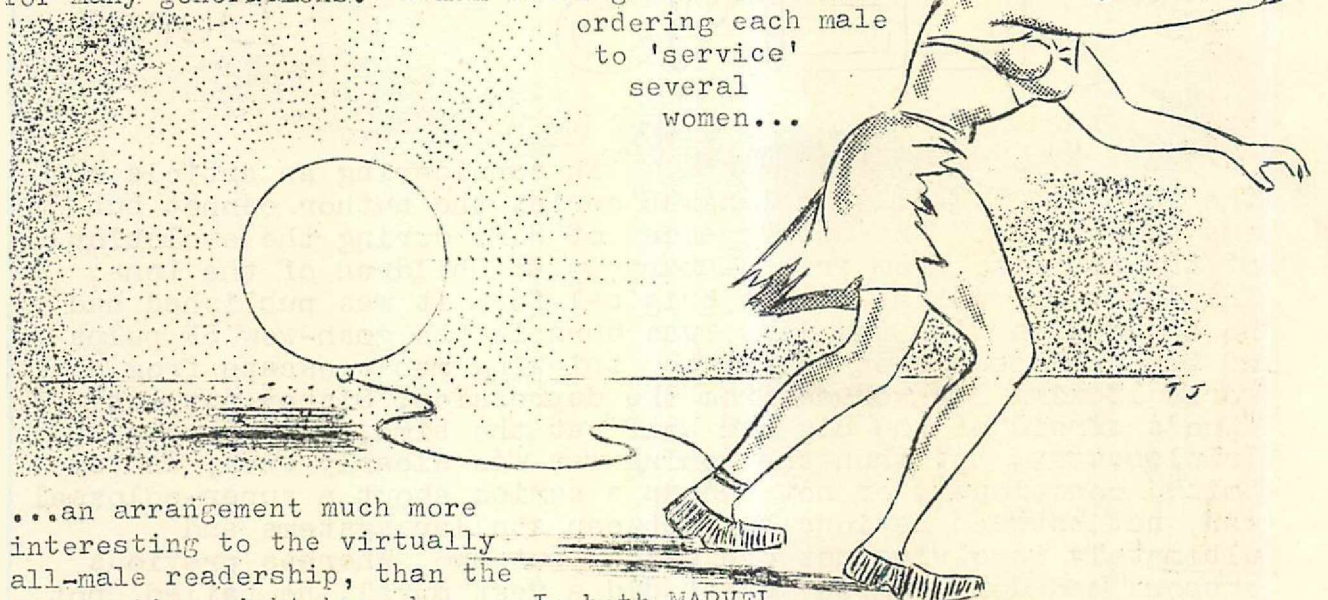


Personally, I solved the problem by using a sharp knife and a straight-edge on my magazines.....a system which gave me highly acceptable magazines.

Lettercolumns appeared everywhere. ASTOUNDING printed letters virtually without comment. In WONDER, Gernsback gave effusive replies. O'Connor Sloane in AMAZING was usually heavily pedantic, and elsewhere, the utterly juvenile 'Sergeant Saturn' ran his column full of Zeno juice and space jargon aimed at those with I.Q.'s of less than 30. The Air War magazines had similar columns, with 'hangar talk' where the senior pilot patronised the 'fledgelings' with his expertise. Surprisingly no magazine ever came up with an agony column. Imagine the fun they could have had in replying to 'Worried Blue Eyes' when she wrote to ask how to keep dry rot out of her magazine collection.

Just prior to the war, two new magazines hit the stands. MARVEL SCIENCE STORIES and DYNAMIC SCIENCE STORIES set fandom on its ears. The first issue of MARVEL (90% of which was purported to have been written by Kuttner and his pseudonyms) brought sex to s-f. Each story featured a beautiful heroine who invariably got stripped to her scanties within a couple of pages. In the lead story, she set a record by getting stripped on every planet of the Solar System, as horny carapaced, crab-like aliens

drooled over her recumbent or writhing body. However Henry was rather in a rut over his sex life (funny pun), and one quickly tired of such phrases as, "The wispy garment tore away to reveal the milky white globes of her breasts..." Had the illos been more explicit, Marvel might have kept my attention longer, but I still recall one heroine ankle-chained to a glowing red-hot ball as it chased her round an arena. DYNAMIC was less titillating but more 'Realistic'. In one yarn, the remnants of an invaded America were driven to hide in underground caverns for many generations. A man shortage led to a law ordering each male to 'service' several women...



...an arrangement much more interesting to the virtually all-male readership, than the alternative might have been. In both MARVEL and DYNAMIC, the science content could have been engraved on the head of a pin, and both magazines vanished fairly quickly from circulation.

Other outstanding items from the past were some of the great 'inventions' of s-f. Wells gave us 'Cavorite', the gravity-in-une metal which took his travellers to the moon. From Karl Capek's play R.U.R. (Rossum's Universal Robots) we got the word 'robot'. Gernsback postulated radar fairly accurately in RALPH 124C41+, together with long range TV. Arthur Clarke's 'Wireless World' article in 1948 postulated the relay satellites which made it come true. It fell to Doc Smith to come up with the greatest and most completely worked-out invention in the shape of his 'Bergenholm' which made possible and plausible the Lensman saga. What made the Bergenholm more than just a super gadget, was the allied concept of intrinsic velocity and the meticulous way in which Doc wove the whole thing into his plots. I don't know who invented the matter transmitter, but George O Smith explored its possibilities pretty thoroughly along with beam-power transmission and a few other lesser items. Frank Herbert wrote 'Under Pressure' and postulated sub-tugs, an idea which led to the invention of the 'Dracone' for oil delivery. No doubt Buck Rogers and his flying belt formed the inspiration for the 'jump-belt' recently demonstrated by the American army (and also by James Bond). Heinlein invented the 'Waldo' but the interesting thing about this naming of the mechanical hands now used in atomic research, is that Heinlein's original Waldo was the man who operated them, not the devices themselves...but the name was very quickly transferred.

END OF PART ELEVEN.

Through
The

LENS

by

Alan
Burns

In considering an article on the late Dr. E.E. Smith's Lensman series the author cannot but say something of the development of S.F. during the evolution of the stories, from Triplanetary up to Children of the Lens. Triplanetary, which, in the original form it was published had no connection with the lens, was born in the gosh-wow SF pulps of the thirties, when SF was the thinking man's escape from a world licking its wounds from the depression. Disney put out "Who's afraid of the Big Bad Wolf" at the time, Smith wrote Triplanetary. But then the coming war was clearly seen, and so Smith, consciously or not, began a series about a super-colossal war, not between nations but between stellar systems and ultimately involving not one galaxy but two. Whereas previous authors had done cameos, Smith did a vast mural. He failed, not because he was inadequate but because the task was too monumental for any author. All subsequent authors have failed, because a galaxy containing ten billion or more stellar systems cannot be portrayed other than fleetingly, just as a writing about a seashore can only mention a handful of odds and ends to be found there, and Smith himself admits this, more credit to him. But he has left us what I can only term the Galactic Concept and for that we are in his debt.

Before I go further I would just like to say that I have deliberately left out dates of story publication, anyone seeking data can find it in the Jeeves Analog checklist parts 1 & 2, with the exception of Triplanetary which appeared in Amazing Stories about the mid-thirties. All my data is drawn from the paperback series put out by Pyramid because this edition has a lot of extra material put in by the author, including inserts in the stories which gives the whole series an excellent continuity, and secondly you can get the Pyramid series in its entirety for about the price of one issue of Astounding (as Analog was then called) of the Smith period.

But to get on. Briefly the Lensman series concerns a series of conflicts between good and bad forces for domination of space. The good forces are backed by a race of fearsome mental attainments called the Arisians. The enemy of good stems from a race called the Eddorians. The Arisians

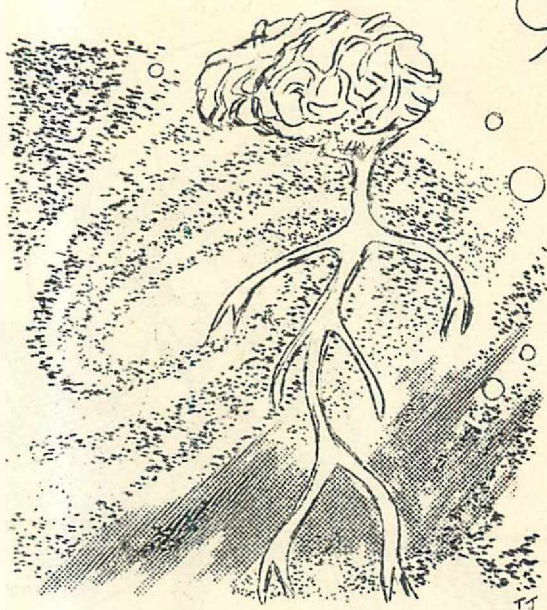
always have a slight edge over the Eddorians, probably because good always has a slight edge over evil, outside of modern novels. Now here the author skates over some decidedly thin ice. The Arisians can not overcome Eddore by their own powers, the most they can achieve is a stalemate. To beat Eddore they need the forces of civilisation. At this point the reader must take all his factual books of modern astronomical theory and lock them away, because in the story the planetary systems of this galaxy were formed when Lundmark's nebula passed through our own. Now it is only fair to Doc Smith to say that he did his best in the light of what was

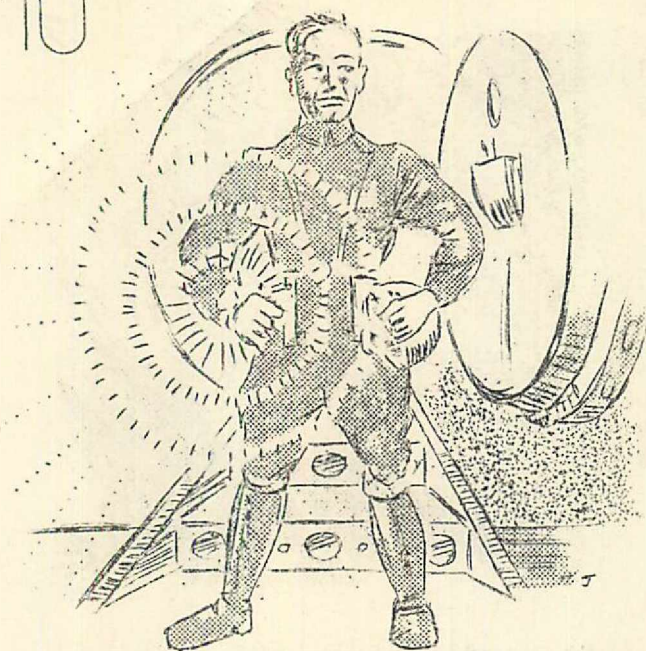
then known about the origin of planets, and whether the systems of our galaxy came into existence by galactic collision or dust coagulation makes no difference to the stories, in fact when the stories were edited for publication in books Doc probably decided to leave things as they were and the hell with perfectionists.

To get on with why Arisia needed civilisation. When the planetary systems of the galaxy were formed Arisia planted life on them, and hence when they had suitably evolved they could then do by physical means what their begetters couldn't do by mental methods, and humanoid or not they were Arisian in origin, but endowed with free will to opt for good or evil, and opt for evil many of them did. Eddore, on the other hand, were a race on a planet that had come from another space-time continuum and saw in the newly formed series of our galactic systems a golden chance to further their one aim of gaining power, and of course the Arisians smartly stepped in and held Eddore at bay until civilisation had risen to a sufficiently high standard to go in and clobber Eddore.

Now within civilisation's races Arisia had carefully preserved two bloodlines, one which would ultimately give rise to a man and the other to a woman whom he would marry, otherwise Kimball Kinnison and Clarissa McDougal, all the stories lead up to the meeting and marriage of these two and in the final story their four children take over the guidance of civilisation, thankfully no doubt, relinquished by Arisia. But inbetween---

We can skip the first story Triplanetary since in essence it merely sets the stage and go on to The First Lensman. In this book Virgil Samms who is striving to organise an interstellar guardian force finds that it is impossible to make any identifying unit which opposing





forces cannot duplicate. However Dr. Bergenholm, inventor of the interstellar drive, but actually an Arisian in disguise, tells Samms to go to Arisia whose inhabitants had created an indentifying device incapable of duplication. This was the lens, which makes possible the rise of civilisation until its ultimate settling of the Eddorians. The lens is attuned to its wearer and only he, or eventually she, can come in contact with it without an instant horrible death. It is a device of many functions, each story revealing new ones until ultimately in the Children of the Lens it becomes unnecessary.

With the lens Samms goes out into space to recruit members for his proposed Galactic Patrol, which will bring law to all space. He learns of a pirate organisation and infiltrates it, many attempts are made to kill him but all fail. Then he embarks into politics and by kicking out the bad guys takes over Earth, making the Patrol secure in its backing.

The next story, Galactic Patrol introduces Kimball Kinnison, who is to be the lead character of the following two books, Gray Lensman and Second Stage Lensmen. The books can be briefly summarised by saying that they tell how Kinnison gradually destroys more and more of the Galactic power of the Eddorian organised piracy operating under the codename Boskone. Using his lens he probes and pries and links up with three strange fellows. Tregonsee of Rigel was first contacted by Virgil Samms. Looking (in the original illos in Astounding) like a headless elephant. Worsel of Valentia is a saurian type, and Nadreck of Palain is indescribable, a sort of insect type but living in a poisonous atmosphere at a temperature of near zero. As a sideline Kinnison wooes and eventually wins the beautiful Clarissa McDougal, so are united the two bloodlines, so long protected by Arisian agents. From this union comes five children, a boy Christopher, and four girls, Constance, Katherine, Camilla and Karen. These five children are the ultimate in mental powers, incredibly greater than their father, they are the final agents of the destruction of Eddore, and its next-below the planet of Floor.

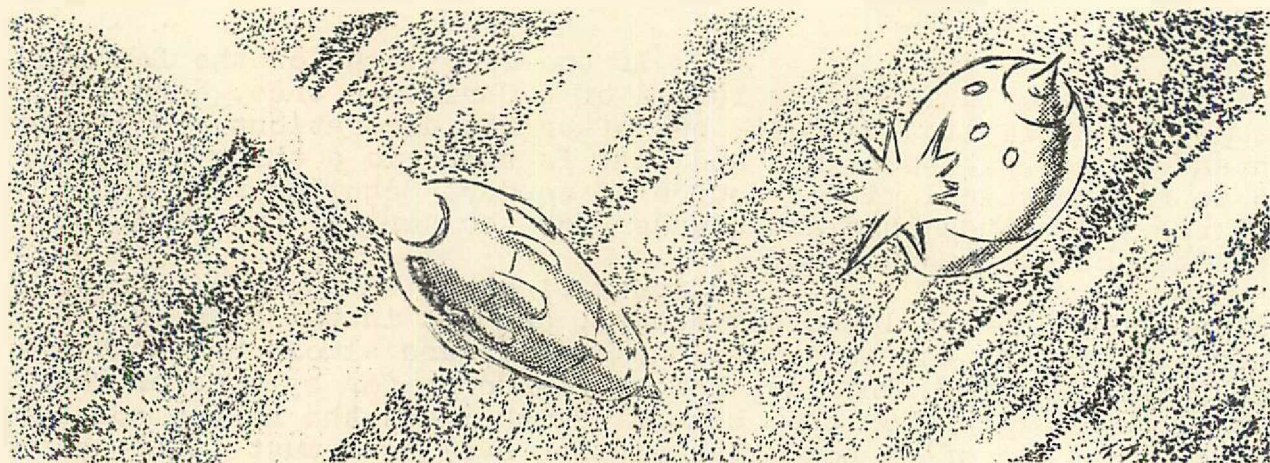
To sum up, the series end by the Kinnison children replacing the Arisians who abdicate their authority and move on, who knows where? The last book is begun and ended by a message from Christopher Kinnison, talking of a new menace. Did Doc Smith mean to write further Lensman stories? We shall never know, but he did write Master of the Vortex, a Kinnison period story, but nowhere as great as the Lensman series.



If the story-line of the Lensman series is trite it is the triteness of a Christmas tree. Seen in its pot there is little to it, but after the decorations and lights are added the triteness goes and what is there is a thing of beauty and to the uncynical mind a source of wonder. Schuyler Miller used the adjectives thud and blunder for the series, but admitted that they had a fascination.

To speak first of characters. Oh my, I'll swear Doc Smith loved boy scouts, and not in the News of the World way either. The humans in the stories are almost unbearably prissy and virtuous. This is, however, made up for by some of the most violent aggression ever beheld. Smith makes the honest concept, alas ignored too often now, that against evil good must fight to the death, with no quarter given. Hence when Kimball Kinnison, or his humanoid friend Van Buskirk from a 3G planet, or the reptilian Worsel, or the elephantine Tregonsee and the weirdo Nadreck of Palain fight the outcome is only death for the opponent. There are many characters good and bad, all carefully drawn, but with nice economy. The Arisians must have given Smith some trouble. They are all things to all men and women and are seen differently by everyone. Smith obviously culled a little from a child's vision of Heaven. The thunderous Mentor is God, Eukonidor and the others are the ministering angels. Gharlane of Eddore is drawn as Satanic in power and pride, and his minions, Holmuth, Prellin, Kandron and others are cast as minor demons. But Smith does well by the Eddorians and their satellites, they have all the vices save cowardice, and inevitably they die (humanoid or not) like men, and the Galactic patrol loses battleships and lives honestly, as it would in real life. Smith rather falls down a little on his women however. Even Clarissa McDougall, Kinnison's girl seems rather oddly sexless, and the matriarchs of Lyrane are so sexless as to be neuter almost. Still this is a very refreshing change from to-day's stories where women are women and let the whole world know it. I think of all the characters my favourite is Nadreck of Palain. The Palainians have a great respect for their skins and will not deign to be brave where cowardice will do. Nonetheless they, or rather Nadreck, does some feats of incredible derring-do, and for all his trouble usually ends of with deprecating his abilities and receiving a ticking-off from Kinnison.

But without doubt the piece-de-resistance of the whole series is the concept of thought and its uses. At first with the lens and later without it, Kinnison and his men communicate among themselves and with the most incredible aliens. Smith wisely never goes beyond telepathy in mental powers, but armed with this Kinnison can slay, paralyze, cast illusions, control all mind (except the higher echelons of Eddore) right down to those of insects and worms. His children are even better, they don't need a lens at all, simply because they could create them by mental powers, and are as far above their parents mentally as their parents are above ordinary people. I can hardly say that all subsequent psi stories stemmed from Smith's concepts, but if it were so proved I'd believe it without question.



The hardware in the stories is weird and wonderful. Primarily I think is the thought screen. Kinnison and others can block their minds by sheer will power, but the man-in-the-street can wear a mechanical thought screen of various degrees of sophistication, and of course whole planets can be shielded by such screens. But there are other screens of course, like the weapons mainly complicated force-fields. Smith wastes no time about laboured explanations of how they work, he uses them and the reader has to accept them, along with ray projectors large and small, tractor and pressor beams, shear-planes of force, a perfectly diddy little explosive called duodecaplyatamate which detonates at the speed of light and might, with a little help from Los Alamos be made almost as powerful as the hydrogen bomb. Finally there is the inertialess drive, generated by the Borgonholm (a device invented by an Arisian in disguise). This gives ships speeds of up to ninety parsecs an hour and is hellishly complicated to operate between vessels. Under inertialess conditions everything has its intrinsic velocity still and once you drop something out from an inertialess condition that velocity has to adjust itself, generally with considerable violence. I don't dare speculate how FTL travel can be accomplished by being inertialess but who cares anyway.

The multiple universe theory is trotted out and refurbished like new by Doc Smith. Eddore came into our universe from another, at the end of the series Kinnison is sent

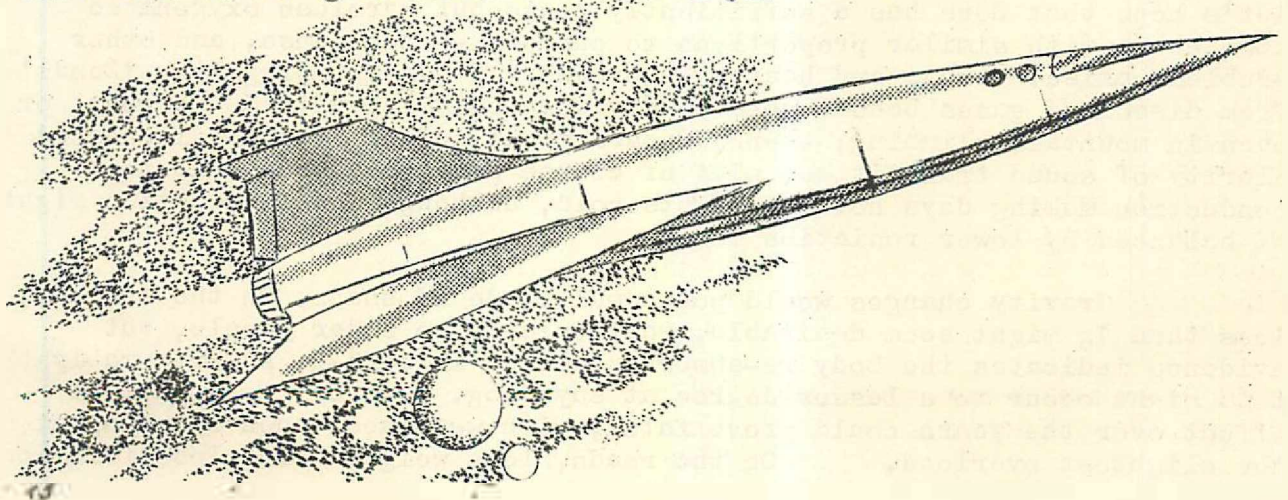
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by his enemies through an almost infinite number of universes, but is found by the power of love of his wife and lugged back to the normal universe by Arisian power, and then at the end the Arisians move on and humanity in the shape of the Kinnison children takes over.

It isn't easy to evaluate the Lensman stories, but I would say it's almost required reading for anyone interested in how SF gained maturity. It's a monumental series, probably the longest series of stories with a connected theme in SF, in fact most of the series are not complete and require you to go and obtain the later books to see how things work out. Some of the novels have a sort of synopsis that will clue you in. Now I tell you for nothing that you'll either loathe or love the Lensman series. This is definitely not a set of stories for the sick-minded long-haired howlers that we have to-day in the ranks of SF readers. There is neither promiscuity, fornication anti-heroes or the rest of the trappings put about by the Zelaznys and Spinrads who write now. These are just well-told yarns that you could safely start the youngest member of the family off on.

I can hardly end without mentioning a book that is laid in Kinnison time, this is "Master of the Vortex" and concerns the efforts of one "Storm" Cloud, a nucelonics genius to find out the cause of the curious series of atomic vortices being generated by power plants, and which are destroying everything. Needless to say he eventually succeeds in a rather incredible manner. This book is interesting because it deals in more details with the characteristics of the various races that Smith skipped lightly over in his Lensman series. It is quite a good yarn, and probably rather more sophisticated than the Kinnison series.

So there we have it. Will Doc Smith be remembered for his writings, it is probable that he will. The reason is that he doesn't try to do anything but entertain the reader. Other than that good will triumph over evil he points no moral message. He deals with no current problems, and for anyone sick of present day SF for about a pound (or three or four dollars, you can get an entertainment that will never grow stale.

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The Interplanetary Colony is it feasible ?

by
TERRY JEEVES

Planetary colonisation has long been a mainstay of s-f, but is it really a practical proposition ? For the sake of discussion, let's assume that we have space vehicles capable of carrying 100 colonists to the planet of our choice, along with a slew of pigs, fowls, cattle, grain, seeds etc. I chose 100 colonists, since that approximates almost exactly to the number of Pilgrim Fathers who made the first settlement in America. To transport so many to another star system, is way in our future - the idea of terraforming a hostile planet to our specification must be even further ahead without experience on friendly worlds, so let's see how friendly a world has to be. Right away, we need a planet sufficiently close to our own Earth in gravity, atmosphere and temperature, for men to exist on it with no special protection other than say furs for warmth.

A 'breathable' atmosphere covers a multitude of sins, as shown by a trip across open moorland, then a hike through a pig farm, into the back yard of an abattoir or chemical factory, with side trips down a coal mine or up to the top of a high mountain. Technically, the air in each place is breathable...but would you like some of those extremes for the rest of your life ?

Nominally, our air is $\frac{1}{5}$ Oxygen and $\frac{4}{5}$ Nitrogen, with traces of other gases thrown in..mostly inert unless you live in a smog-bound industrial area. The important part is that $\frac{1}{5}$ Oxygen which our lungs gulp through at umpteen cubic feet per hour. We need that minimum amount on Planet Zero, or anoxia ensues and people do the daftest things while thinking them fully rational. On the other hand, pure O_2 is also a problem and needs diluting with some harmless gas (as happens in our own air). So let's hope that Zero has a sufficiently dense but harmless oxygenated atmosphere with similar proportions to our own -- too dense, and other problems arise. Lungs and heart get overworked just pumping it. 'Bends' from dissolved gases become more likely when swimming with SCUBA gear, or even in mountain climbing; even our ears might suffer from the increased clarity of sound transmitted, plus of course greater atmospheric heat conduction making days hot and nights cold, although such conduction might be balanced by lower radiation losses.

Gravity changes would pose a multitude of snags. On the surface, less than 1g might seem desirable, particularly to older people, but evidence indicates the body re-absorbs calcium in zero-g, so presumably this might occur to a lesser degree at say 0.6g. However, a cumulative effect over the years could prove fatal, with weakened bones snapping at the slightest overload. On the roads, less weight means less friction

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traction, so that vehicles would have a load-moving problem, cars in particular tending to slide off the road on bends. Buildings however, could soar higher and more gracefully on weaker materials. Hoisting machinery, cranes and lifts would need less power - a good thing, since hydro-electric power plants would produce fewer Kw for a given water-head.

Medical experiments have indicated that reduced air pressure helps expectant mothers to produce brilliant children, so a similar effect might be a by-product of low gravity. On a high-G planet, this might be reversed and lead to a population of morons. Other results of High-G would be the broken bones as an almost inevitable result of a minor fall. Varicose veins, pulled muscles, slipped discs would abound, and child-bearing would become a nightmare, undertaken and survived only by the bravest and strongest women...a situation leading to rigid birth control and a declining population. It is doubtful whether a colony would get past its second generation on such a world. Even the humble tea-break would evolve into 15 minutes horizontal rest in every hour, with disastrous results to both productivity and working hours. Another effect would be a denser air pressure rapidly thinning with altitude thus adding to the load on a heart all ready strained by the gravity. Buildings would be low and squat, as would such everyday things as tables, chairs, shelves, lamps and even the colonials belt and braces, brassieres would be minor miracles of engineering.

It is obvious from the two factors of air and gravity alone that any colonisation will be limited to a fairly narrow gravity band of say, 0.8 to 1.2 G, with an atmospheric composition and density varying little from that of Earth. Even so, we have barely touched the problem. The human body can adjust pretty well to temperatures ranging from below zero to around 100°F given suitable protection...not so his animals and crops. These are much more demanding as to temperature..and to rainfall. To provide the latter, our planet will need fairly extensive oceans, and a reasonably balanced temperature. To provide these additional parameters, our planet will need a certain amount of axial tilt to give it seasons.. and an elliptical orbit about its primary will help. Unless the settlers are to be faced with some version of rotating shift-work, an axial spin of about 24 hours will be needed. While not essential, a 24 hour day is likely to have deep seated psychological (and possibly physiological) effects. Again, that elliptical orbit must keep the planet within the temperatures bearable by man and his ecology.

Summing up, Planet Zero should ideally have a gravity of from 0.8 to 1.2G, an atmosphere approximating to Earth's, similar temperatures, to our winter and summer ones (we can accept a Siberian winter and North African or Equatorial summer), with seasons to match. Rainfall within reasonable limits, a 24 hour day, and possibly for psychological reasons, a sun subtending a similar visual angle to Sol, not only for giving enough heat, but because a small one would not give the required light for our eyes..a large one might be blinding...and of course it has to look 'right' if we are to adjust. In other words, another Earth. Indubitably, such planets exist..but the chances of finding one are vanishingly small..and so I submit, are our chances of founding an interstellar colony, at least until 'terraforming' is a feasible proposition. But if we do find it, wouldn't it make a lovely place for the I.R.A. to live ?

RECENT READING

by

Terry Jeeves
&
Alan Burns

R is For Rocket) Ray Bradbury. Pan 25p
S is For Space) each
=====

Bradbury is very much an acquired taste which one either develops or doesn't. His saccharine prose if distilled, might well produce enough 'Picturesque Speech and Patter' for a dozen issues of Reader's Digest. He gives this technique full range in these two volumes, covering the spectrum from spacemen to vampires with side-trips for alien invasion and a few doses of sheer, homely soap-opera sentiment. Even the baddies are liberally besprinkled with sarsaparilla and the whiffs of nostalgia. Taken in large doses (unless you're an addict) Bradbury can be overpowering, more so than a diet of strawberries and cream....but if dipped into sparingly, these are two excellent helpings of his work. For those who perm cost against contents, 'R' has 17 tales, and 'S' 16, at around 2p a tale, how can you lose? Recommended for all ages, and excellent gifts for nephews. T.J.

THE DAY OF THE ROBOT. Frank Belknap Long Dobson 15/-

===== I got this one from the local library, hence the dated price-tag. In it, the 'Big Brain' denies telepathic John Tabor his request to marry with the result that this ex-Venusian miner suddenly gets enmeshed with two girls - an android made just for him, and a girl he met by chance in the computer room. A hectic chase ensues through the 'ruins' and after much thud and blunder, Tabor is rescued by the goodies. This one has enough holes to drive a truck through, and enough loose ends to make a ball of spaghetti. Characters, events, locations, all appear without much obvious reason (and vanish likewise) Where Dobson unearthed this one...or why, Ghu only knows, but it is the first time I've encountered Long in about thirty years...I hope the same time passes before our next meeting.

FANTASY AND SCIENCE-FICTION (The Saturday Evening Post Reader) 21/- from
===== Souvenir Press.

20 varied tales covering a variety of styles and authors over a period ranging from 1937 to 1964. All are good, and offhand I can't recall seeing any of them anthologised elsewhere. Providing you don't mind mixing your F with your S-F, this is an excellent book to buy if you can still find a copy at this low price, and a worthwhile addition to your hardcover collection. T.J.

===== PUBLISHERS . Review copies should be submitted to the editorial address.
=====

The Water of the Wondrous Isles: William Morris: Pan/Ballantine 40p 7

A Voyage to Arcturus: David Lindsay: Pan/Ballantine 40p

These two books have a certain amount in common. Physically they are both from the same stable and are the same price and format. Their story-line both concern a journeying and what is encountered on it, and both are quite obviously intended to be parables of a sort. They both begin with the kidnapping of the central character who is eventually sent on a kind of search but there the similarity ends. The Wondrous Isles have a heroine, Birdalone, whereas Arcturus has a kind of anti-hero called Maskull, in style rather like Conan Doyle's Professor Challenger, although without the latter's formidable scientific curiosity.

To begin with Birdalone and the Wondrous Isles. This is a book completely ruined, as was the Well at the World's end by the author's resorting to a kind of pseudo-mediaeval English which is as tedious to read as it is false. Why Morris didn't use the crisp narrative of News from Nowhere puzzles one, except that News from Nowhere was a sort of sociological document, and Morris didn't want his audience to think that his fairy-stories were more of the same. So when we have sorted out all the guff what do we have. Well a baby girl is kidnapped by a witch and is given the name of Birdalone. Like Snow White she makes friends with the animals, and eventually gets her knight-errant. However after being kidnapped by the witch, Birdalone grows up as the witch's slavey and in due course blossoms into beautiful womanhood, establishing a close relationship with a woods fairy Habundia. The witch has a magic boat in which she goes journeys. Eventually, having lost her clothes Birdalone sets off in the boat and travels to the wondrous isles. On the first isle she meets a wicked witch who has enslaved three girls and Birdalone escapes and sets off too find their swains (pinching the nicest one for herself). Adventure follows adventure but turns out all right in the end. Verdict. Not bad.

New wave readers will go wild over Arcturus. Maskull the hero meets a couple of weirdoes at a seance and joins them in a flight to Arcturus' planet Tormance. He goes to sleep on the trip and wakes up to find himself naked and abandoned in a desert. He meets a girl who sets him off on a journey whose object is to find Surtur the God of Virtue. Maskull goes on his way alone, and seems to have a propensity for murdering people by accident, all of which gives him a colossal load of guilt. He meets strange men, women, and mutants, and is alternately baked and frozen as the two suns of the planet orbit around it. To even try and describe his encounters would be quite impossible, but at last he does find Surtur, and the two weirdoes, one of whom is Krag the evil, and the other is Nightspore who is Maskull purified of all guilt and sin after death. This is a book that you just can't put down once you've started it. It is way out, and yet not so way out as to be unreadable. Verdict. Excellent.

A.B.

EFFECTS OF NUCLEAR EXPLOSIONS IN SPACE

by

ERIC LINDSAY

How many times have you picked up a science-fiction book and read something along these lines :-

"...there was a deafening, mind-shattering blast. The explosion smashed him to the floor; the concussion kept him there, stunned, sick, but alive, and conscious that those sturdy walls had survived the almost intolerable blow."

This graphic description, taken from A.E. vanVogt's classic novel 'Slan', describes the effects of a nuclear mine exploding in space. The real effects of an explosion such as this would be somewhat different.

In an atmosphere there are basically three effects. These are,

1. Blast effects, caused by air overpressures. Even relatively low pressures from 4 to 10 p.s.i. can damage most buildings. For comparison, some sonic booms can reach 2 pounds.

2. Thermal effects, the direct heat radiation from the fireball, and also the effects of the heated air in the vicinity. For our purpose, we can neglect such effects as firestorms.

3. Nuclear radiation Mostly in the form of neutrons and gamma rays. These are attenuated rapidly by any sort of shielding. Again, we can neglect such effects as fallout.

FIG.1 Shows these effects for a small explosion of 20 kilotons.

In space, these effects assume different relative dangers. Blast is no longer the main cause of damage, as there is no air to carry the shock wave. To rely on blast effects would require almost catching the

victim in the actual blast.

Thermal effects are also likely to be limited. Personnel would normally be shielded by the ship's metal hull, and while there would be a considerable heating effect, it would only be brief. For example, at about 1/3 of a mile the heat received would be about 100 cal/cm² of ship. About 70% of this would be reflected even if the surface were

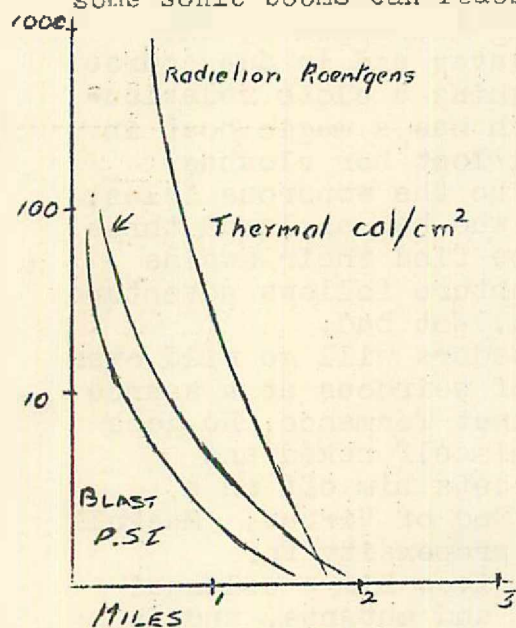


FIG 1.

unpolished. The danger of nuclear explosions in space lies mainly in the effects of radiation, which would reduce in accordance with the inverse square law and without atmospheric attenuation. Fig.2, shows the difference in dosages for a 20 kiloton weapon in air and in space. Naturally some effort could be made to provide shielding, but its efficiency is approximately proportional to its weight. To reduce radiation by half requires $1\frac{1}{2}$ inches of steel (iron being somewhat more effective than other metals) Very effective if you have thick enough walls. In E.E. SMITH's classic "Skylark of Space", the original Skylark's walls were four feet thick, giving a shielding factor of about 2^3 (4,294,967,296 unless I made a mistake) With six inch walls, the protection becomes $1/16$ and you could still pick up 100 roentgens at 6 miles from a 20 kiloton blast. And I can't imagine ships with 6" steel shields for some time yet.

In contrast a similar bomb in air is lethal from radiation alone up to 0.7 miles, but has no short-term significance over 1.4 miles. A 20 megaton bomb increases these to 2.2 and 3.3 miles respectively.

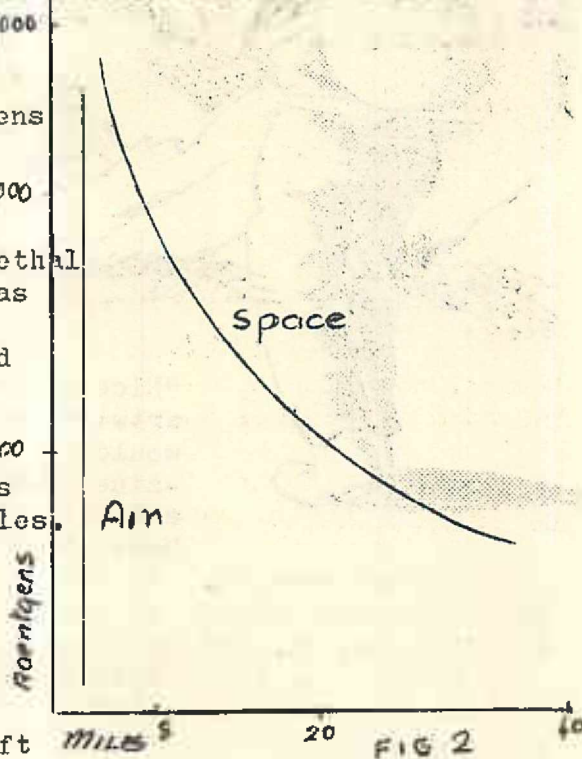
For estimating radiation from a large bomb in space, the formula $R = 4200 \frac{p}{d^2}$ gives reasonable results. R is in roentgens p, yield in k/tons and d the distance in miles.

There are other effects, 'megaton' range weapons produce untreatable retinal burns in rabbits at 400 miles. High altitude explosions effects the Heaviside layers and interfere with radar. Semiconductors are sensitive to radiation, so unmanned craft would not be safe.

The effects of various dosages on humans can be summarised as :-
5000 R will incapacitate at once, and all exposed die within a week. 600 R kill most exposed to it, but symptoms take about 4 hours to appear. For lesser dosages, varying death rates and degrees of incapacity are to be expected.

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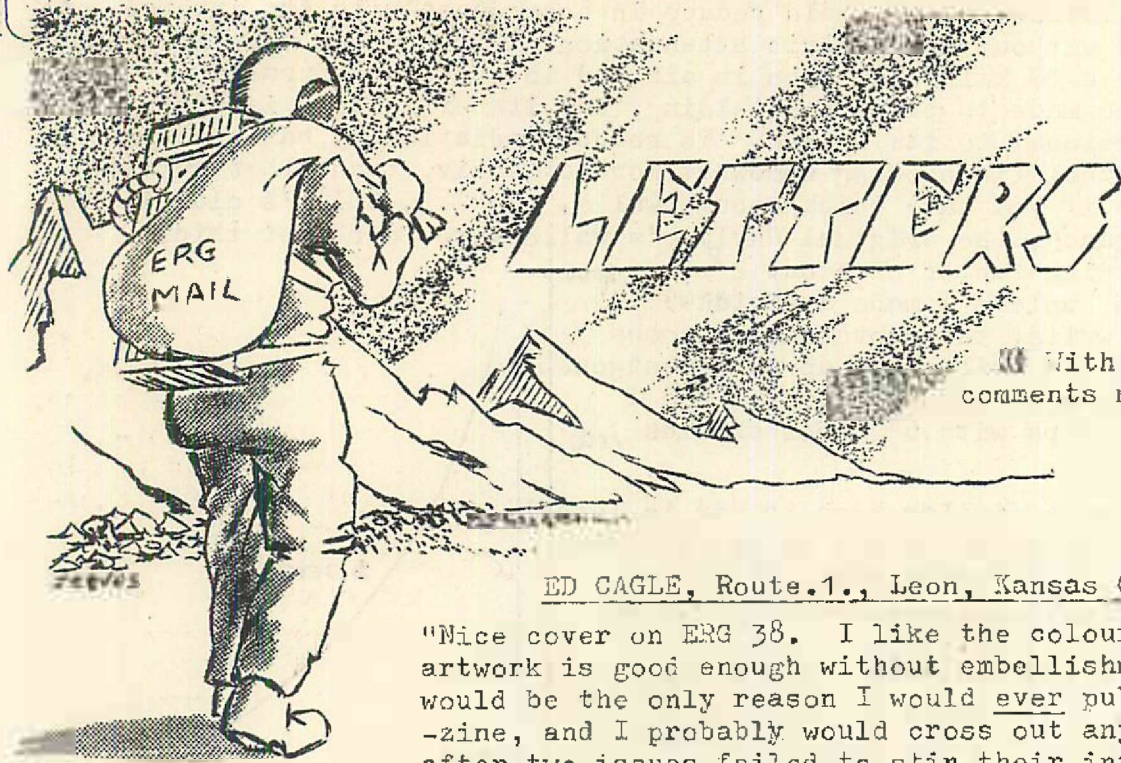
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SUBSCRIBE

TO ERG NOW!

All illustrations HAND-CUT . . . with exception of the cover



((With editorial comments marked thus)))

ED CAGLE, Route.1., Leon, Kansas 67074, U.S.A.

"Nice cover on ERG 38. I like the colour, but the artwork is good enough without embellishment. LOCs would be the only reason I would ever publish a fan-zine, and I probably would cross out anyone's name after two issues failed to stir their interest.

Money is fine to get started, but communication is much better payment. If for no other reason, because it indicates someone was interested enough to put out a little effort. (((I agree wholeheartedly and from now on, ERG is becoming harder to get))) Not only is a country only as good as the people who inhabit it, the same goes for the people who make up the police force. It can be bad either way providing the right people are in power. But it can be good too, so they say. (((It is in England))) The question is who decides what's right and what's wrong for the most people, and what do you do if things are decidedly bad ? (((Our elected representatives make the decisions..if bad, we vote 'em out at the next election...in theory))) If you're of a minority opinion, you're a rouser; and if you're with the majority, you tend to feel indignant; there is no answer to such problems. (((Likewise, there is no perfect (or nearly so) form of government...all we can try to do, is to do the best for the most..but SOME must lose out))) Add my name to Terry Hughes in the 'I'd like to see more British Fanzines Dept.' I promise a response. Judging from what I read in ERG (my first taste of British Fandom) response will be no problem. (((Thanks a lot Ed, for the two grand letters, of which the abover is but a brief synopsis. I hope that you get a goodly load of British fanzines as a result)))

ALAN BURNS 6 Goldspink Lane, Newcastle On Tyne. NE2 1NO

"Regrettably not up to the usual Jeeves' standard in several ways. First of all the duplicating got worse and worse as I read through the mag. As for the cover, well it was by far the worst you've ever done (((Ouch .))) Oddly enough, the art work greatly improved after Memory Bank Lane. In your Ergitorial, with which I agree, I think you have now made the point about the long-haired howlers (((NOT my phrase.))) not knowing what they are babbling of, so I think that can now be closed. Your suggestions

concerning fandom are eminently sensible and I concur with your idea that we should have a single award, cup or plaque and pass it around. Nartazi was amusing as it went and effectively took the miki (sorry) out of the African Jungle Stories. The article about early s-f wasn't bad and the artwork was very good. (((Alan was also the first to come up with the correct answer to the logic puzzle..but as a regular contributor, he doesn't need the free sub)))

ROD HOLDSTOCK 15 Highbury Grange, London N.5

"I can't help wondering why you send me these exquisite little illos and you put in ERG unproportioned things like that on page 14 (((Erg is hand-cut..your illos were pen-drawn))) humorous pictures (Soggies etc.) are one thing, amusing, and that I don't like them is only a sign that I'm a twit. But on the serious line, I find you a hard man to pin down - your work varies from very poor to very very good. (((My pen has a wobbly nib !))) The cover was a noble flop. I very much like this type of interlocking design. I feel this cover drawing is hasty (((Actually, it took about four times as long as ERG 38))) I LIKED your colour cover of the Erg before, and the contents were amusing coffee break reading I even quoted your editorial to several Irish people sitting with me. They agreed with you in your obvious intolerance of mass-murder tactics. But they all said, "So what's new ?" (((Brains in Belfast !)))

Charles Winstone
71 George Rd.
Erdington
BIRMINGHAM B23 7QE

"There is a strong case for the return of corporal punishment for vandals - as there is against anyone who knowingly and deliberately proceeds to create a situation whereby many innocent people are going to be killed, injured or mutilated. I hate terrorists and despise their defendants. This goes for the I.R.(T)A. (Irish Republican Terrorist Army, but also the Provisionals (((George also castigates the Catholic Church for not denouncing these yobs. I agree with him, but lack space to print it all))) 'Nartaz' of the Baboons..was deliriously funny. How long did it take you to dig up the names of the characters ? (((As I wrote, I made 'em up))) 'Three For Me'..the problem is that all one can do with other people's reminiscences is agree with them. Memory Bank Lane, like most memories these were highly personal, but the first part of the article has given me an idea for a cover for NADIR. (((So if any of you want to see his fanzine, drop Chas. a line)))

LOGIC PUZZLE WINNERS Correct solutions were sent in by Alan Burns, John Piggott, and Roger Waddington. Since Alan is on the free list as a regular contributor, the prize of two free issues goes to John, and his sub is hereby extended to ERG 42.

Stop Press...Roj Gilbert also came through with the answer, but too late for the lettercol.

=====

CHANGE OF ADDRESS ~~0212121177~~ As of now, the address of Bill and Joan Bowers (publisher and publishess of OUTWORLDS) is...

P.O. BOX 354, Wadsworth, Ohio 44281 U.S.A.

22 John Pigott, 17 Monmouth Rd., Oxford OX1 4TD

I thot this cover decidedly inferior to previous issues ((Me too)) and though I haven't said so, ((Why not ?)) I do like the colour covers. 'Nartaz' was nothing short of brilliant, and I was greatly annoyed when, at the end, you killed him off, since it may stop you from giving further episodes in his career. ((See below)) I must confess your habit of interrupting letters with your bitty comments annoys me a bit. ((Just ignore them then.)) I don't think comments should only appear at the end of letters, but they ought not to be at the end of nearly every sentence ((A valid argument, but I like to juxtapose point and comment..it makes the riposte more pithy))..((Surely you don't want me to take the pith out ?)) Con programmes ..yes, this year's was too sercon for me, too. There was no recognition on the programme for the existence of fans. O.K., so we're in the majority ((Not so, fans STARTED conventions)) but couldn't we have one little panel to ourselves ? I hope that with Ompa holding the next con, there may be more fan items. I'm told that a 'quiz' used to be held. I feel it might be a nice idea to revive it.((Me too, and I've propped quite a few fannish items to the committee, so let's hold our breath))

COMING SHORTLY!



ROGER WADSWORTH + Commercial St., Norton, Malton, Yorkshire

Memory Bank Lane launched in me the thought as to whether future generations of fans will be able to look back on this current era with such nostalgia. Maybe the first appearance of Mike Moorcock, or those brief gaudy days of the New Wave ? Will they look back as much as I do to the good old days of Journey Into Space and Dan Dare. But I'm wondering whether such current s-f manifestations will have any staying power besides pure nostalgia, any more so than the basic fiction of the thirties. How many will stand up to the cold light of day? Those three stories that Alan Burns Mentions have anyway ((But they were not from the 30's))I've just been looking them up. Don't ask me to recall some of my favourite titles, I seem to have read so many that were all outstanding! I recall two by EFR as being among them, 'The Waitabits' and 'The Hobbyist' ((One of my favourites the latter)) 'I'm in two minds about your competitions, on the one hand there's the mental exercise involved in working them out, yet on the other there's the time it takes away from fanac ((But they ARE fanac !)) An all inclusive trophy for Britfandom ? Well, I'd like to see the BSFA award for the best s-f of the year named after Ted Carnell, as he did so much to further the cause of s-f in this country. If we had a permanent headquarters I'd suggest a Roll of Honour to be set up with his name prominently displayed...but in so far as it goes, I'd place my vote behind a Cup with a roll of fen thereon. ((Well how about it ? We have lost Eric Jones, Bob Richardson, Doc Weir, Ken McIntyre and Ted Carhall to name but a few. It would be nice to salute them ALL, not just two or three...and in future years we can expect the Roll to lengthen...and we can't have an award for each, so a Roll of Honour on Cup or shield seems a sound plan))

Which is all we have space for this time, so thanks and apologies to those good LOCers who had to be squeezed out. Bestest, Terry.

MR VIEWS

for the
66th.
Mailing

Best Cover

FHTV-7

Best Magazine LURK.2 Runner Up. Hell 5

A nice hefty mailing this time, and full of excellent material, so since I'm short of space..let's at the comments.

OFF TRAILS. First off, I'm wondering whether or not I'M voted in as Pres. since there is no mention in OT. I support the sliding scale of dues, as although it makes little difference financially (to win it costs you more than you won) the idea is a nice little perk for those who regularly overproduce.

LURK A nice thick issue, and I love your crossword puzzles, even though I only got six clues in this one. Ta muchly for egoboo poll support. I enjoyed your Con rep, and the photopages really brought all the faces back to mind. For me, the best part of a con IS the mixing, and the sercon panels are just waste time. That bod who gave up his studies and blamed the 'system' for railroading him...well, if he was interested in chemistry, good teachers would naturally try to encourage that interest..and surely a job in which you have an interest is better than one you hate. But in the final analysis, WHO CHOSE CHEMISTRY..him/he and no one else. You say yoonrself you spent three years studying chemistry..to what purpose. Apart from no study being wasted, what made YOU choose that line of study? Personally, I studied chemistry, and started out as a lab assistant doing steel analysis...but I don't regret it..even when I trained as a radio W/M plus Typex code & cypher mechanic in the RAF..and finally became a teacher. It's all background.

HELL 5 Nicely drawn cover, but I just didn't go for it (Reminds me, who owes me a letter/a visit, and a badge ??? I suggest you export Lisa Conesa to Sheffield, burn that rubbish on page 12, and fill the issue with more of those superb Skel drawings. He improves by leaps and bounds. Re your combozine queries. I didn't contribute for three excellent (to me) reasons. 1. 250 pages means that only four sides costs you a ream of paper plus much work. 2. I had material in the first combozine, and it was like heaving it into a hole...no LOC, no comment, no nuffin. 3. I don't aim to waste good stuff, I save it for ERG. Does that explain it? However, if you cut down the page count to say 120, make quarto compulsory and plan the whole thing as ONE magazine..then I'll play next year. The Jazz guitar is as boring to me, as Belfast/Space Travel/etc are to many others, so no comment on this. Ta for Reamy's address..brush stencils have a special (weak) acid. Since you can't afford Australia OR USA, why not support Australia in '75 ??? Another nice hefty issue. I like Hell.

FN TV-7 Liked that experimental cover, very effective. I also liked the howler pages..the hotel ad, sounds an ideal con site. Also liked the account of how to wind up with oodles of Persil, but the farm news was definitely not up my alley. I get my colours in one go by using a Banda, but I do have a colour change (red) when I feel like using it.

THE FRENCH CONNECTION As I said above, farming bores me, but apart from a lot of spelling boobs (I assume 'substitutes' are meant to be 'subsidies' ?) I felt your comments were no entirely without bias.. Why should the French system make for high prices ? Even bad farming must produce large crops given large acreage under cultivation..and surely high subsidies mean low prices, (even if high taxes). Then again, you say that high beef prices is panic buying by dealers, not panic selling by farmers. If they didn't buy, you couldn't sell. This could also be asked 'as... if we didn't sell, they couldn't buy. Thus, the farmers obviously went for a killing and are as guilty as the next person. I fancy the real clue lies in the relative prices of beef (a) in France (b) here. If it can be bought here cheaper than in France, they will buy here..and since their rates are higher than ours, the home buyer is squeezed out.

VIEWPOINT 8 Cover a bit messy, and a size (A4) which I dislike. But a nice hefty zine. Liked the game idea. Bentcliffe and I once invented 'Panopoly' with the buying and selling of prozines and subs. I enjoyed 'Now is Forever' right up until the end when it went flat..the illo was much better without the overprinting. Also enjoyed the Vector duper collecting saga. Liked your puzzle, but it was too tough for me. Also liked the nice hefty Ompamail supplement..but why not staple it into V8 and make a full issue ? All in all, a highly entertaining package. Keep it up chum.

OSTEEN REVIEW Good old Sam (Loved your Aussie parody in EGG) and your Ompaviews were very good too. I was also taken by the Capt. Marvel bit. I suppose it had to happen (poor B...) That Feghoot..AAAAGH. I also enjoyed meeting up with you at Chester..hope you can get over for Bristol (or wherever) in '73. Lewis Vickers returns soon with a piece on the legal side of colonising.

ME..O (ARCANUM) Welcome to Ompa Jim. I was enjoying you con rep, and then found it petered out before you got there. Hope you finish it next time.

NICHOL F. RON Again welcome to Ompa, but I refuse to type out that title. Your English is as good as many faneds (and your spelling better) Mags devoted to m/cs just don't draw any more m/cs and thus all fades away. Brother in law moves to Antwerp next year..watch out for him.

FANZINE FANATIQUE How can one comment at any great length simply on other comments ? ERG hasn't changed much, 'cos I like it this way..and I only produce it because I enjoy doing it. More material next time round eh ?

SPACEWREAK. Me too a long time space buff, and phooey to the knockers. I haven't read Ringworld, so can't tackle your puzzle..

OF ON THE TRAILS. Rather faint repro. Ta for Poll support, you are a ghoud man. First Ompazines are so rare, that a new member is almost certain to win your award, even with a one page crudzine. Sheffield HAS clean air, partly because of a smokeless zone policy and partly because of numerous parks (plus industry sited down wind) I'll prive it next time you're over. AND A FINAL NOTE...PHOOEY TO ALL ONE STAPLE MAGAZINES.