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AA PPPPP AA 3333 2nd May 1991
AAAA PP PP AAAA 3 33 Editorial - John Bray
AA AA PP PP AA AA 33 Bollox (with extra Nipples!)
AA AA PPPP AA AA 333 Hyperion - Paul Marrow
AAAAA PP AAAAAA 33 Generation Starships II - Paul Marrow
AA AA PP AA AA 33 33 What is a Skeptic - Lucy Fisher
AA AA PPPP AA AA 3333 Million & Murder One - John Bray
Tarnover Two - Mark Nelson
Neo at a Lucon - Jim Trash
Where to Find a Good Book at the End of
History - Phil Raines
Godel's Theorem and Fifth - Simon McLeish
All you wanted to know about Ufology
The Whale
Nebula Award winners 1991
Adverts for:
Volgacon,
Quanta,
Glasgow in 95

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Down a Dirty Line - John Bray
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Various people have suggested I start up my much threatened column of "John's Kentish Ways", where I reveal much of the lore and trivia learnt at my parents knee. You all seem amused when I intersperse my conversation with comments like "penny buns cost sixpence", "That won't mend the baby's new coat, or buy him a new one", or even "Mama, you're so big and fat, you've got to be jelly, jam don't shake like that" (its often tricky fitting the last one in down the pub, though it's used to good effect with the other Louis Jordan songs in "5 Guys Named Mo").

But now I live in Surrey, it's not the same. There's something solid and good about Kent with oast houses and hops, while Surrey is range-rovers and net curtains. This goes along with my theory that the counties with character have coastlines, Devon, Dorset, Yorkshire and Somerset have miles of it, while [fx hunts for atlas before PMC proves me wrong] landlocked Bucks, Notts, Oxfordshire, and Warwickshire mean nothing to me. I await a

diatribe from Paul Cray, oft repeated in pubs, as to how the 1974 boundary changes were henious, with planners obsessed with counties surrounding estuaries, and bring back Rutland

But before I open the floodgates, I wonder who knows the etymology of the word 'toot', pronounced 'tut' as used in 'what a load of old toot'. I've asked many people of the years, but only 2 Londoners have known it. Does anyone else recognise it.

Anyway, this month we have Paul Marrow on Hyperion-and-on, and part II of the generation starships piece. Mark Nelson discusses military censorship, Lucy explains her brand of skepticism, Jim Trash as a neo at Lucon, me on Million and Murder One. Just making the deadline were Phil on the future of History and Simon M on Godel. Pieces from Usenet on a whale (thanks Neal), Nebula award winners, Ufology. Adverts for Volga Con, Quanta, Glasgow in 95.

Bollox this time come from Simon M, Amanda, Jim, (and Simon S, though its all irrelevant)

Promised for next time are:

Paul's Generation Starships III, and SETI from a biologists standpoint
Mel on how to read Edmund Cooper and die
Amanda on something biological (and incoherent!)
Dave with a preview of his SETI paper for JBIS
Tom Yates, but I didn't understand what he was going on about either

And that's without YOU. I've been thinking about the timing of the next issue and I reckon Alastair's party would be a good deadline. (For those of you who don't know him, Alastair's party dates are the hooks round which all our calendars are based. He is the only person who announces a party for early June in mid January, complete with tear-off reply slips (and 2 years ago a spreadsheet to calculate the logisitics of it all). But for all that, the weekends are excellent).

Anyway (cor, I am chatty tonight), the next deadline will be 6.00 pm on Thursday 30th of May. This allows me to process it all for Friday, though anything sent in early will earn loads-a-hugs-and-kisses.

So

DEADLINE FOR [quick scan along Sainsbury's shelves] is 6.00 pm, 30/5/91

More John later

Bollox (with extra Nipplez)

Simon McLeish

Mark Nelson's bit on cyberpunk:

It certainly seems to me that most cyberpunk is vastly overrated. It is also, in my opinion, not an 80s product either. It's just that the name was coined then, and it became fashionable. Several authors wrote what would probably be called cyberpunk today many years earlier. One of the best, and

most obvious, is John Brunner. His best known dystopias all have cyberpunk elements (Stand on Zanzibar, Shockwave Rider, The Sheep Look Up) though none of them is as ambivalent about technology as much cyberpunk is. Other writers who wrote cyberpunk before its time include Norman Spinrad (Bug Jack Baron, Little Heroes), KW Jeter (Dr Adder etc), and many others used elements of what became cyberpunk - Philip K. Dick's Do Androids Dream... is an excellent example. Myself, I would rather read these authors than much cyberpunk. There are still some cyberpunk novels and stories that I enjoyed reading a great deal. I quite liked Gibson - though he certainly claimed at one point not to be writing cyberpunk; I also liked Schismatrix (Sterling), Metrophage (Richard Kadrey) and the short story collection Mirrorshades (edited by Sterling). One of the contributors to that anthology, Marc Laidlaw, also wrote a parody of cyberpunk called Dad's Nuke which I enjoyed. (Keeping up with the Joneses gets somewhat out of hand when Dad buys a tactical nuclear missile for his backyard...). I certainly agree that cyberpunk has been used as a way to sell second and third rate stories - both to publishers/magazines, and the public.

Jim Trash

Thanks for mailing me the copy of 'Earth Calling Biscuit Barrel.'

I must say I was quite stunned at the thing actually happening as I'm far more accustomed to an incredible amount of apathy as regards online projects. In the Fidonet SF conference we spent some time discussing the possibility of producing an electronic SF zine and still nothing has happened almost 8 months later.

I've been involved with printing a professional quality comms magazine known as 'Comms Plus' which has recently died due to lack of interest. At it's best it had about 200 subscribers and sold about a 1000 copies an issue. The magazine went to 7 issues before we decided it was costing us too much money and folded it before the baliffs moved in.

We did receive a little feedback from our readers but not of the kind I, personally, was hoping for. We tried to focus attention on the power of comms to open doors to creative energies and a means of expression. The feedback was more along the lines of 'why aren't you printing more technical articles, notes on Hayes commands, modem and software reviews, Bulletin board lists etc. The was most discouraging for us and particularly for me as much of my contribution to the content of the magazine was concerned with the crossover between Science Fiction and computer communication. The silence on this topic from the readership was almost deafening. The few comments I did receive were mostly along the lines of 'What is Cyberspace etc'. I've seen very little of SF Fandom but I'm often amazed and gratified to find so many people beavering away at so many interesting projects. It's a whole new world to me in which I find personalities, a mass of creativity, general weirdness and fun. Once again thanks for putting it together John and thanks to all the other contributors.

Amanda Baker

Now, the BOLLUX - or, since Dave has sent you his BOLLUX, here are my NIPPLEZ.

I think we have made a promising start with the e-apa. I hope that the style settles down, and becomes a little more coherent - I found some of the references to issue 1 a little hard to place without a hardcopy of said

journal by the keyboard; but until I have contributed, let me refrain from criticism.

[Do most people print out a copy, or read on-line? JRB]

My apologies for not submitting my thoughts in time for the second issue - I was a bit busy preparing for my first observing trip (yes, yes, to Hawaii - but it was hard work and very tiring, I assure you!)

On Alvin Toffler (e-apa issue 1)

When I read 'Future Shock' last summer, I found Toffler's suggestions somewhat artificial. I could not envision individuals planning their actions to such an extent, nor living their lives in such a rigid and emotionless fashion. In the real world, people assimilate only the information which seems relevant or interesting at that time. Everyone inhabits a subset of the real world, and *no one* ever has access to 'the grand view' or 'true reality'. In that sense, people effectively protect themselves from future shock. Small villages are able to isolate at least the older generation, and ignorance or intent can allow the unwilling to be insulated from change.

However, the real world forces its attention upon some self-isolated unfortunates, or a sufficiently enquiring minds open an innocent-appearing door, and suddenly the large expanse of terrifying novelty is unavoidable.

In the midst of this disorientating whirl of change, people have quite widely abandoned tradition. The problem with this approach is that old is not necessarily good but neither is it bound to be bad. That something is enduring shows it to be worthy of contemplation before rejection. For example, rejection of religion on the grounds of truth may miss the point. Religion likely evolved from human emotional needs, and can be a very useful vehicle for introspection and moral action. The problems result when religion is taken literally, or when differences in religion lead to conflict. Interestingly, Paul Cray's contribution concerning Skeptics was for me very reminiscent of a Credo 'I believe ...'. Does everyone have a religion?

Another point raised was that of minority causes. There is definitely much greater awareness that problems exist. Still, many people only pay lip-service to the issues, and deep-seated attitudes of prejudice persist, in the most surprising of locations. For example, Friday 8 March was International Womens Day (Response request - how many of you knew about this lightly-publicised event?). Of course, the worst discrimination to deal with is often that due to people who honestly think they are being completely fair :-)

[I didn't, but I was "on the road" JRB]

Well, that is just a few thoughts which occurred to me whilst reading the original article.

Response to Dave Clements (e-apa issue 2):

Firstly, I *know* life is a bit hassled for you right now :-); but I found it *very* difficult to assimilate disjointed, ungrammatical references to something I read a month ago. Pretty please, could you help me on that one next time ???

You said :Science is a world-view which can be 'applied to *anything*' and that its "application to areas 'beyond the bounds of science' has caused

great problems with the religions it has 'trespassed' on."

Of course, that sentence contradicts itself. But anyhow, on the one hand, science *is* world-view, in that it assumes that the human mind is able to make sense of the detailed working of the world around it, and then proceeds to use that talent in a proscribed manner. On the other hand, (as I say somewhere else) even scientists are human - when you say 'I want more' you admit that. It may just be a human weakness, or it may be inevitable in evolved intelligence, but no one *I* know is free from what religious people refer to as 'a God-shaped empty space' (which we possibly created God to fill ...). But maybe, just maybe, there is more to life than that which we have created and called science ... although I doubt it is literally what we today call religion or the supernatural.

As for 'envy towards the scientific priesthood and litergy', well, that's our own problem as scientists and one-time ordinary people, for failing to explain to our fellows just why we spend their taxes on all this rubbish. There may be a case for every scientist being obliged to produce a no-nonsense explanation of what they are doing, how they are motivated as scientists and human beings, and why they deserve tax money more than hospitals, schools, infrastructure etc do. Its no good saying 'But you've gotta have scientists!!', nor even that the economic health of the nation depends upon it. People envy and hate that which they do not understand, and that which hides itself from them.

Comment re.TARNOVER CITY ONE - Mark Nelson

I enjoyed the cyberpunk I read, such a Neuromancer. However, I have heard the view expressed that much cyberpunk does not bear a second reading. That is to say, a lot rides on the immediacy and the unexpected nature of the writing, but that there may be a disappointing lack of characterisation, and of depth to the plot. I'm sure this is not true of all cyberpunk, but it may explain the fact that in many circles its popularity was short-lived.

Response to : "You Can't Get There From Here" - Paul Marrow

(*lots of gushy enthusiastic noises!!!*) I'm very glad to see some serious comment on a 'science fiction issue' by someone who isn't a physicist/engineer! As a physicist myself (who last had a biology lesson at the age of 13!) I'm becoming more and more aware of the over-optimistic, over-simplified approach 'we' tend to have towards the implications of biology on space exploration, extra-terrestrial intelligence and other 'sf' topics.

Theres a couple of points I'd like to clarify with Paul M. He said:

>Ionizing radiation is inherently damaging to genetic material forming ions
>of atoms contained in it, which can react to form new unstable
>configurations, leading possibly to new mutations.

What research has been done on the long-term effects in a population, as opposed to on individuals, of interplanetary and interstellar radiation? I suppose one could consider the fate of the children born to workers in the nuclear industry to be relevant here, and I understand there is some controversy over precisely what genetic effects occur in such situations.

If the 'crew' of a generation ship were sufficiently large, it might be possible for the breeding pool to cope with the enhanced mutation rate. As I understand it, most mutations would be non-viable, so that there might be a high rate of miscarriages and still-births. But mutation is occurring in

the population all the time, due to background radiation (natural, cosmic, Chernobyl etc), and copying errors during DNA reproduction, yet there are very few 'monsters' which mature. Surely interstellar radiation would not preferentially cause horrific but viable mutations to occur in humans?

>Technology isn't the solution to everything.

Hear, hear!!! And more people should hear a biologist telling them that!

Comments to Neal Tringham :

I have a feeling that, especially since no one has ever define satisfactorially exactly what sf **is** (and nor, therefore, what it is not ...) that ingenious writers will continue to produce interesting and thoughtful sf. Already, truth has far outstripped most fiction as regards the upheaval in 'communist Europe' and other political arena. Paul M. has pointed out that although physics may seem almost exhausted at least as far as ideas for sf go (but remember the arrogance of the Victorians!! - no one yet **really** understands quantum mechanics as far as I can tell!), the biological sciences in particular are only starting to paddle on the fringes of the great secrets of reality. Never mind what we may do with genetic engineering and so on - there is **already** far more on earth than anyone has dreamed of!

No, I have no fear that the well of inspiration is drying up - the only danger is that the writers (and publishers) may forget how to drink!

Talking Back to Paul Cray

I know a number of scientist who also are religious to different depths. I too sometimes find it hard to understand how this can be.

It is quite possible to construct a world-view in which God (speaking in a Muslim-Judeao-Christian context) created the Universe (by triggering the Big Bang, perhaps, escaping time and causal connection) which then runs largely without intervention (obeying physics, chemistry, biology etc), with occasional intervention, that is, miracles. I suspect that this would turn out to be unsatisfactory on deeper examination. But somehow, the world must seem a much more acceptable place to live in when one believes in an Almighty. OK, so terrible things happen, children starve, are explosively disassembled, tortured (why is it worst when these things happen to children?) But in the end, God is in control, and all the scores will be evened up in the afterlife. Very comforting.

Also, religion seems to be hereditary to a great degree. True, many do 'take up a new religion'; but many stick to what they were brought up with, even those who become scientists. Catch'em while they're young ...

Its worrying; but in the last assessment, even scientists are human ...

Simon Spero

[sod all to do with the APA, but I want to break 100k. JRB]

[bugger, bugger, 96k. JRB]

This has not been a good week for me and banks. Because I was in England on the first of April, I wasn't able to sign the second form needed to confirm that the previous form I'd signed was correct. As a result of this,

My salary for March was not payed in to my bank account; my bank account then went into anti-money, unbeknownst to me, until finally on Monday, the cash machine flashed something undecipherable on the screen, and eat my card - just as I was about to get the money to pay for my hotel room for that night. Of course the hotel, where I'd been staying for about 4 weeks, couldn't possibly let me pay for the room tomorrow - it was pack your backs and leave, sonny, and where's my tip. The guy was French, which probably explains a lot. Just about everybody else in the hotel were new immigrants, whose bills were being paid by the government, so the management has developed a bit of a fuck-you attitude. Shit. I'm turning into a Thatcherite at 21... HELP!.

Anyway, what with the Technion branch not being able to do anything until they could speak to the Netanya branch, and both branches opening different hours, and the Administrative unions shutting up shop for May Day (damn Commies) it took until today before Hava was actually able to get any money ("A good departmental secretary, who can find her? She is more precious than rubies").

It's amazing how long one can survive on a tin of sweet corn, and a packet of Extra Strong Mints... (tell a lie - I did stay a night with one of my colleagues -her husband is RN (retired), and they live in a Druze village just on the borders of Haifa - really nice place, just wish their nextdoor neighbour's cockerel had been set to the right timezone).

"Cock-a-doodle-do."
"Get a fucking watch."

The most annoying thing about the whole episode was that Monday was the day that I finally reached a verbal agreement on an apartment. It's a two bedroom, one bathroom jobbie - a bit more TC than SW1. , but I did manage to get the landlord to agree to paint the place before I moved in. He's an American Psychologist who lectures at the university on Literature (huh), and seems like a nice enough guy. The rent is \$435 a month, less ~\$90 housing benefit...a little better than London, but then I'm earning about a third of what I would there..

The highlight of the week was discovering a second hand bookshop that stocked SF, and had books that I would want to read. I finally got my hands on a copy of Canticle for Leibowitz, (and was quitely pleased how much of it I could actually read :)

Oh well, time to get back to work. There are four people in the Unix section. Of these, two are in the Army, one is 9 1/2 months pregnant (course it's late-Union bloody labour), and the other is me. Basic technique is to take the phone off the hook and hide.

You can forward this if you think anyone would be interested in the *real* mideast crisis this week (Saddam who?)

Paul Marrow

[Paul offers a couple more reviews, possibly destined for the OUSFG newsletter, but you saw them here first. Also, another episode in the generation starship epic drooled over by Amanda]

Hyperion, by Dan Simmons
=====

(Hugo Award Winner 1990)

On the eve of an interstellar war seven travellers arrive on the planet of Hyperion. From the space port they face a long journey to the valley of the Time Tombs, where they hope to find the answers to their various quests. To pass the time on the journey they agree to tell each other their stories. Such is a quick summary of the plot of "Hyperion". The resemblance to Chaucer is obviously intentional and at times so overt as to be irritating. However, out of this contrived setting Dan Simmons has managed to weld together a very good novel. Initially we know nothing of the main characters, who come from diverse backgrounds in the many worlds of the human Hegemony. A priest, a soldier, a poet, a starship captain, a scholar, a detective and a diplomat- they are deliberately dissimilar and yet all have things to hide.

The human Hegemony is blessed (?) with very advanced technology; instantaneous communication via the fatline, and FTL transportation via the farcasters- all overseen by the artificial intelligences of the Technocore. This has seceded from the Hegemony to an unspecified location, but still aids humanity. Hyperion, by contrast, is an 'outback' planet, with initially no farcaster contact with the rest of the Hegemony (the travellers must voyage by starship). It is of strategic importance being close to an invading Swarm of Ousters (returning humans from a diaspora into distant parts of the galaxy). However its interests for the travellers (and others) lie in the mysterious local idiosyncracies associated with the Time Tombs. These are giant monolithic structures which are surrounded by negentropic fields and appear to be travelling back in time. Associated with them is an enigmatic entity known as the Shrike, or Lord of Pain, which has the power to kill people by invisible means. This being is the object of a cult among the people of the Hegemony, and the travellers, although not exactly believers in this, have all been affected by events on Hyperion, and seek to meet the Shrike to attempt to redress their grievances.

As the travellers tell their tales, and reveal their reasons for coming to Hyperion, more is revealed of the bizarre happenings on the planet: a giant underground labyrinth constructed millions of years ago, and cruciform life-forms which have the power of resurrection. The Technocore is implicated through the personality construct of an AI/human hybrid carried by the detective- but most of the features of Hyperion itself seem too vast and organic to be anything other than religious or supernatural manifestations.

Towards the end of the book they reach their destination, but it is clear that this is not the end of the story: none has had their wishes granted and one has been unable to tell his story due to disappearing (presumably the work of the Shrike) midway through the book. The Ouster attack on Hyperion is beginning in earnest- it is clear that "Hyperion" itself is just a prologue. The structure of "Hyperion" is unsatisfactory in this respect- also with respect to the integration of the travellers' tales with the main text scenes set on Hyperion. The tales themselves are attempts to bring a number of sub-genres into the novel- crime, war, etcetera -and are a validation of the versatility of the author. I wonder whether it would have been better done as a collection of short stories.

However, the scope of the galactic civilisation described, and the grandeur of the millenia-spanning events and phenomena that inform the plot, do not fail to produce the kind of reactions one expects from the best science fiction. This is space opera at its best, but it is also much more. Whether or not it should have won the Hugo is questionable; it is, after all, hardly a complete novel. Still, considering the sort of rubbish that masquerades as the publisher's category 'science fiction' these days, there are not many books that measure up to this standard. You could do a lot worse than buy this book.

The Fall Of Hyperion, by Dan Simmons

=====

"Hyperion" (1990) won the Hugo for its versatile and galaxy-spanning tale of seven pilgrims to the eponymous planet on the eve of an interstellar war; in search of the mysterious creature known as the Shrike. At the end of that novel, six of the seven had reached their destination, the valley of the Time Tombs. Several had already encountered the Shrike, but none had achieved what they had hoped to do and had their story brought to a conclusion. The exotic human Ousters were about to land on the planet itself. It was obvious there had to be a sequel.

"The Fall of Hyperion" is that sequel, and surpasses the previous one. Simmons to a considerable extent abandons his competent, but restrictive story-telling, and reveals of the awesome preoccupations that underly it. The pilgrims' tales still have time to run, but for much of the central portions of the plot the action shifts towards the other planets of the human Hegemony- and concerns the decisions and actions of its Chief Executive Officer (or president), Meina Gladstone, and her advisors as they seek to avert conquest by the ever-advancing Ouster invasion fleet. At that is what an over-rapid reading might suggest... But things are not as they seem...

Having established our views of this convincing and detailed future civilisation in "Hyperion", in "The Fall of Hyperion" Dan Simmons strips away many features which one might have thought were obvious, and reveals the terrible truth behind them. We learned in "Hyperion" that the Technocore had constructed a replica of the 18th century poet John Keats (author of the original "Hyperion"), who had been a client (and lover), of the detective Brawne Lamia, one of the pilgrims to the Time Tombs. The replica John Keats physical persona had been destroyed during a visit to the Technocore itself. In "The Fall of Hyperion" he is back, in at least two forms, and becomes a key player in the sequence of events surrounding the Ouster war.

At first this seems to have little relevance as the war with the Ousters becomes really nasty, and entire planets are erased of life. Hegemony defence fleets are overcome, and life as we know it faces conquest: the government ponders releasing the ultimate weapon, hostile to life within a range of several light-years... This however is not in fact what is happening- for in a civilisation dependent on technology to a high degree the dependency has reached a horrific and horrible form. There are Ghosts in the Machine, and they play their own games for their own ends: humanity appears to be irrelevant. The pilgrims and all the other (human) characters are just pawns in a colossal power struggle- with the struggle not going in their favour and to which the John Keats persona unwittingly holds the key.

At the last moment the human race is fortunately saved (what else could have happened?) by- and here I am not stretching the use of metaphor to an extreme level -a deus ex machina. In fact there are two, not to mention a portion of one which has gone back in time, and the Shrike is a consequence of this. Equilibrium is restored to the human worlds, but only as a result of terrible and uncompromising losses. Hyperion (the planet) and "Hyperion" (the poem) are seen to be the nexus and the crux upon which this novel-in-two-books turns. The Time Tombs have yielded up their secrets, and granted everyone's wishes in not at all the way that they would have wished it, with a side-effect of the destruction of civilisation as they knew it. But, despite this, the ending is optimistic, affirming the power of human free will and the human ability to recover from disaster, and serving as an extended tribute to John Keats;

Anon rushed by the bright Hyperion;
His flaming robes streamed out behind his heels,
And gave a roar, as if of earthly fire,
That scared away the meek ethereal Hours,
And made their dove-wings tremble. On he flared...

"Hyperion" (perhaps questionably), won this year's Hugo- there is no doubt that "The Fall of Hyperion" is a much better work and no question that it should win in 1991. When it comes to Britain- read it!

"You Can't Get There From Here"

=====

(Part 2) Inbreeding...

The necessity of maintaining a civilisation while travelling in a generation starship, requires carrying a considerable human population. But even a comparatively large population, say 1000, much larger than that carried by present-day spacecraft, causes biological problems.

A generation starship is truly isolated. Population genetics theory tells us that isolated small populations have many consequences. The first of these is limited genetic variation- if the travellers are selected specially they may represent a good proportion of the genetic types found in the contemporary human population. But it is quite possible that whatever happens rare genetic variants found only in minority populations will be left out; and then, since our starship travellers can have no contact with other humans (except perhaps by radio) while travelling, the genetic variation will remain at, or below that level for the rest of the voyage.

Why should this be a problem? Over evolutionary time it would not be problematical because there might not be sufficient variation present to adapt to whatever new selective pressures might arise, and this would lead to a loss of adaptedness and ultimately to extinction. However on a generation starship we would not normally be thinking about the timescales of extinction; but inbreeding could have adverse effects and this would be much more immediate.

The population of our generation starship would be entirely inbred: but only in the sense that all breeding would have to take place within the group. Over a few generations even for a fairly large population, matings would begin to occur between relatives, and this would lead to actual loss of genetic variation because each individual (of course) only contributes half of its genes to any offspring. Over centuries inbreeding could reduce the level of variation considerably, as more and more copies of the same genes (from the same people) were represented in the population.

[Is this due to dominant and recessive genes, or just that your 3 children combined will only contain 7/8 of your genes ?. JRB]

Limited genetic variation, and hence inbreeding, or incest, seems to be a bad thing, in mammals and birds (which have been most thoroughly studied) at least. Natural populations with almost no genetic variation (such as cheetahs) suffer genetically-related illnesses, probably from the effect of reinforcing recessive genes, as can occur in offspring of close relatives.

Notwithstanding Theodore Sturgeon's "If All Men Were Brothers, Would You Let One Marry Your Sister?", inbreeding seems medically harmful in human beings in many cases. Everyone of us, on average should carry several mutated genes, which may have very severe effects if two copies are present, but are masked by the other normal ones being present. Children

of close relatives stand the risk of receiving two copies of such harmful genes, which could have lethal effects. In the future when generation starships travel, there may be further advances in medical science enabling the effects of more genetic diseases to be alleviated but inbreeding is still a potential problem. This has occasionally been realised by descriptors of spaceborne human cultures: Robert Heinlein in "Citizen of the Galaxy" has the space traders undergoing exchanges of women between spacecraft, which has the effect of bringing more genetic variation into the population.

In order to ensure that the harmful effects of inbreeding don't occur the prospective generation starship mission planner must make sure that a minimum viable population (MVP) is present on the craft. What is an MVP? This is simply the smallest population needed to maintain the current level of genetic variation, and thus persist indefinitely, without any harmful genetic effects. Currently this concept is of considerable importance in animal and plant conservation. Zoos and botanical gardens worldwide have realized that we cannot guarantee the persistence of any part of the natural environment under human pressure over the next century or so, and are thus trying to preserve representative populations of the species that will be wiped out (especially the large and cuddly ones). The ones that are most likely to go first are the large and spectacular animals, which need large areas of wild habitat, and also have very low rates of reproduction; so they cannot be expected to make up their losses, unlike rats for example, or locusts. These, of course, are the animals that we like most to see in zoos. It's a pity then that very few are preserved in sufficient numbers to endure... there's just not enough space.

How big is an MVP? Of course one can only make estimates, but from consideration of theoretical population genetics and knowledge of the breeding patterns of typical populations, a 'magic number' of 500 has often been quoted. This figure is much in dispute- after all no biologists have been around long enough to find out. There is some evidence that it could be much higher- perhaps an order of magnitude or more so.

Anyway we can guess that about this number (unrelated) humans would be needed to avoid harmful genetic effects; but with humans we are really guessing because of the great difficulty of finding out reliable information about reproductive behaviour (AIDS is a case in point). In general, preserving lots of genetic variation is a good idea (in contrast to the Rule of the Norm in Samuel R. Delaney's "The Ballad of Beta 2"- or the end of Norman Spinrad's Hitlerian pastiche "The Iron Dream" where the universe is about to be colonised by millions of identical clones of the dictator!)

Incest is not best!

[That was excellent Paul, I'm looking forward to part 3. JRB]

Lucy Fisher

What is a Skeptic

Skepticism is not the flipside of faith, as some people think. Skeptics don't disbelieve everything, faith and belief have nothing to do with it. Skeptics want to *know*, so they do their best to find out what the truth is. And you don't have to make up your mind until you have at least some evidence. Skeptics are often accused of having a closed mind but this is not an argument, it's just namecalling. (Having an open mind sounds better, and an open minded person sounds more attractive.) But won't you even

admit the possibility of what? That there are giant worms on the seventh moon of Aldebaran? That I'm really a butterfly dreaming I'm me? Possible/impossible is not the same as yes/no. If something is not impossible, there are degrees of probability that it's true. Physicists say some things are physically impossible because they deny the laws of conservation of energy or whatever. As a non scientist, I have to take this on trust. But my own brain tells me that some things are logically impossible. Telepathy is not logically impossible, but prediction and time travel are logically impossible. This has nothing to do with a priestly caste protecting scientific orthodoxy a little thought will show you the answer. Cause always precedes effect. So could you go back in time and kill your grandfather? Even if you didn't kill grandpa and snuff yourself out, if you went back in time you'd get caught in a time loop and keep going round and round and never get past the point at which you went back. There is a position called 'total skepticism' which consists of doubting that anything, including yourself, exists. But this would be pretty dull, and you'd never be able to progress to wondering about the truth of anything else since it would just be a waste of time. As for toleration (the Quaker stance), again where does it end? Do you tolerate Saddam Hussein? Religious toleration is a Quaker mainstay. They were severely persecuted in their early days, and so were other dissenting religious groups at that time. But tolerating the members of a religious group (ie you don't persecute them, and allow them the same freedoms and respect as the rest of society) doesn't mean that you have to 'tolerate' their views. They can't all be true, after all. I respect human beings, not their views. I respect them too much to tolerate their silly, erroneous, damaging beliefs for example Christian Scientists who let their babies die. ('The truth shall set you free' Jesus Christ, quoted out of context.) A skeptic is someone who wants to find out the truth about everything, and then tell everybody to save the world from its folly.

BUT.....?

Do I *want* the paranormal to be false?

No, I'd like it to be true. I'd like it to be possible for everyone to have what they want by wishing for it, thinking beautiful thoughts or whatever. I'd like eternal youth and beauty, immense riches, beautiful lovers, love, health, world peace etc. Notice altruism comes way down the list. What I can't understand is why anyone would want evil aliens and international conspiracies to exist. I suppose the attraction of paranoia might be that if everyone hates you at least they're all concentrating on you.

These are the views of one skeptic. I am a member of the Wessex Skeptics (contact Robin Allen 0703 592084). The above skates over such difficulties as the concept of free will, the problem of knowledge, the implications of the Einstein Podolsky Rosen paradox for the deterministic or probabilistic nature of the universe. The rule of thumb has to be show me. *Is* there a phenomenon?

PSYCHEDELIC FASCISM

A lot of New Agery is psychedelic fascism salvation is only for the few, and there is no need to struggle for political or practical solutions because we're all going to come back after death as someone else and have another go, and anyway nothing is real, man. Which makes it all the more distressing that New Agery has become identified with the Left. PS If anyone wants to know how to bend spoons, I can give lessons.

John Bray

Million

'Million: The Magazine of Popular Fiction' was launched at Christmas by David Pringle of Interzone, and I reckon he's hit his market spot-on.

I'm not a fan of the review pages of the national papers. I find the choice of books and the attitudes of the reviewers frustrating. They, their books and their reviews are frequently pretentious, obscurantist and obsessed with the new, biased towards biography and 'the arts'. When we used to get the Sunday Times, I found the only interest in the books section was the best sellers ratings, which always cocked a snoot at the waffle (I was about to put drivel, but it wasn't badly crafted, or dull, just irrelevant) before.

I know what I like, well crafted, unpretentious books. Plot should be strong, and if not linear, clearly interwoven. Characters developed through actions rather than description, ideas can act as heroes.

So I read Ian (no M) Banks, Nevil Shute, C S Forester, Desmond Bagley, Tom Sharpe, David Lodge, Walter M Miller, John Steinbeck, Bob Shaw, PG Woodhouse ...

And THESE are the types of authors who appear in Million. I picked up issue 2, with pieces on George MacDonald Fraser, Kurt Vonnegut, Colin Forbes, all of whom I've known for years, and others on Judith Krantz, Loren Estleman, Baroness Orczy, P.C Wren. I might not go out to read the latter (well actually almost certainly given the descriptions), but I've heard of their characters Beau Geste and Scarlet Pimpernel, and was curious to find out more.

Also included was a short story from Brian Stableford, an article on non-Doyle Sherlock Holmes, and columns on horror, comics, SF, romantic fiction and crime.

While you wouldn't expect your interests to match it all, the style with its interviews, articles, walk-throughs of bibliographies, reviews and boxed asides blends well. More fiction would be a mistake, as Million's strength is its description of good books and established authors. Any attempt to commission work by known writers would cause financial havoc, and any attempt to copy Interzone's new authors policy would spoil to comfort of dealing with people I would really read.

Pringle must also avoid becoming a critical journal. While the writing is currently intelligent, thankfully it can still be skimmed. Any magazine dealing with popular fiction must be written in a popular style, so please keep John Clute away.

Murder One

I bought my copy of Million in Murder One, newly reopened in the red brick arcading just north of Leicester Square on Charing Cross Road. The shop dovetails well with the magazine, with sections on Crime, Science Fiction, Horror, Fantasy and Romance.

I shot down to the New Worlds cellar, a spacious and brightly lit square room. None of the crowds of FP, no media and comics (thank God), just a good selection of British SF, American imports, magazines. Piles of new releases, some remainders (I got a hardback Use of Weapons for 2.95, so I can put an 'M' in my reading, but no Zool yet).

My knowledge of book publishing is limited, so I can't give a detailed appreciation of the coverage, but it's probably similar or slightly less

comprehensive than FP. But on the other hand, its so much pleasanter to walk around surrounded by white paper and black ink, not celuloid and crayon. I'll certainly go there rather than FP from now on.

Mark Nelson

TARNOVER CITY ISSUE TWO (26-4-91)

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This is WEST RIDING PRESS PUBLICATION 165

Sigh. I suppose it is inevitable that the amount of time between issues in which to prepare a contribution is somehow always filled by a need to do pressing work regardless of the length between issues. My last contribution was typed on a morning before going to Cambridge for a week and this is being typed the evening before going to Derby for a week. How does John always manage to find the most annoying time for his deadline?

Hmmm. Since I have not had time to read anything this month I'll just have to fall back on some other material...

It is not suprising that the recent Oil War has resulted in comments by editors, writers and loccers in fanzines. It's an event that has raised a number of interesting political issues and so we would, perhapes be shocked if there had been no coverage.

But strangely whilst fen see nothing wrong in such comments being made in fanzines there have been some comments made as to the suitability for such comments in semi-prozines, or those fanzines that aspire to this end of the market. Particularly when there is no attempt to even TRY and link political comment with good ol'e SF.

Thankfully I'm not even going to consider the suitability of current affairs in such magazines, although I pause to note that some of the prozines see little wrong in commenting on current affairs and their implications and I doubt that any of the complainers would consider writing a letter to a prozine moaning about editorial comments.

However the War did bring to mind some SF comments. Perhapes the most interesting part of the war was the propaganda war between the two sides. It has been interesting following not only which methods were used, but how the other side has reported the oppositions own propaganda.

A casual read through many of the British papers would not lead one to the conclusion that we were subject to much censorship. Indeed being a 'mature' country we realize that in time of war there is going to be 'necessary' grounds for censorship of battlefield details. But at least we can be content in the knowledge that our news is more accurate than that given out to the opposition. But how sure are we that we have been given a 'fair' deal?

It's interesting (and certainly not something I'd even considered) that as the onwards march of technology gives correspondents an ever increasing ability to broadcast news direct from trouble-spots straight to the audience that it is becoming increasingly easier to control the flow of information. This certainly seems strange. SF set in a future with galactic-style Empires seem remarkable free in their exchange of information. Yet perhapes information is more likely to become an illicit

material that is traded in a black market away from ever increasing Governmental power to control information for the 'common good'.

The only war which we have been involved in where there was no Government censorship was the first war to have Press reporters at the front; back in the days where most mail went by hand in some form or the other. Since then the increasing ability of reports to mail back up-to-date information as been matched by an increasing level of cunningness on the part of the Government, perhapes to safe-guard us from things we don't want to know or perhapes mindfull of the fact that the only free Press coverage of a war resulted in the downfall of the Government of the day.

Something else that strikes me about the war is that the ever increasing sophestication of weaponry has seemingly reduced the level of personal involvement in a war, down to that akin of playing a computer game. This is particular the case in the field of aviation. This leads to the idea that the control of armed forces can be reduced down to the control of pieces in a sophisticated computer-simulation. Indeed I can recall one pece of fiction based around this point. Admirals play in what to them is a mere computer-game...their orders go direct to the robotic forces in the field and the simulator records what happens.

Taken a step further we could possible even eliminate war. Idealistically we note that once war has been turned from a man-to-man confrontation on the battlefield to a two-player game fought over a simulator with robotic pieces there is no reason why we don't do away with the pieces and just fight the war over a simulator...ending the destructive aspect of war. War without injury, without death and without dammage| But perhapes that eliminates all the 'fun' from war?

This possible scenario was used as the background to an episode of Blake's Seven, and doubtless many other pieces of SF (although I can't think of anything else offhand).

One classic book on censorship is Bradbury's "Fahrenheit 451" although I have to admitt to being very dissapointed by it. I don't know, perhapes I was expecting to much from it but whilst the ideas (as presented in the conversations) was worthy of consideration I thought that the book was...well dull, uninteresting, slow....

If anything, "Fahrenheit 451" reminded me of Dickins' "The History of Mr Polly" which I had the misfortune to study many years ago as a set book in English Literature. Both seem to trundle along at the same slow pace and achieve the same level of thankfullness at the end of the book.

I don't know why but I had always assumed that this book was originall published in the 1950's or 1960's so the given date of 1976 came as something as a shock.

There was I about to mention Bradbury's foresight in recognizing the "dangers" of the increasing level of soap on the TV when I discover that he was writing comparitively recently. The idea of the all-controlling power of soaps to drug a population is also contained in Craig Herbetson's "Soap 7" which appears in the current issue of the small press WORKS (\$1.60 from Dave W Hughes, 12 Blakestones Road, Slaithwaite, HUDDERSFIELD. HD7 5UQ). Although here there are more sinister forces at play than mere human mind-control.

Soaps. However much one condemns them as being mindless drivel... you always get caught watching them as you had "nothing better to do". Despite knowing that you should be spending your time doing somethig more productive (subversive) you put it to one side so that you can watch the latest thrillig episode of whatever you have become addicted to.

Religion is no longer the opium of the masses that it once was, perhaps its role has been taken-over by the never-ending progression of soaps and sit-coms that come across our screens. (Not that I would know anything about these you understand...I've got to do some research for my articles...got to know thy enemy....got to know it's time to turn the television on....)

Jim Trash

LUCONtinued, my first visit to a science fiction convention.

What did I expect from the conference ?

I tried particularly hard to have no expectations whatsoever. Obviously one or two preconceived notions will have crept in but I hope I approached the con in a reasonably objective frame of mind.

What did I want from the conference ?

Well this is not an easy question to answer as I wasn't absolutely clear on my reasons for going. I'd heard about science fiction conventions, this one was in my home town, it was only six pounds for admission so basically I thought 'why not'.

Unfortunately when I first arrived the corridors were empty and there were no signs of activity at all. There's something not quite right here I thought so I stood and listened. Yes there it was, a sound emanating from one of the rooms to my right. Like a bloodhound I tracked it down and burst into the room quite startling the single occupant who was heavily absorbed in a Dr. Who video starring Tom Baker. Well it's a start, I figured, Dr. Who is an SF type program so it's quite likely this is part of the convention. Ten minutes later the Dr. had foiled the plans of The Master and I felt it was time to move on. I soon tracked down the bar and sampled something described as a 'beery type substance'. It wasn't great but it contained alcohol and it was cheap so again I thought why not and indulged myself. Then people started to materialise in large numbers all around me. Apparently they'd been in a room down the hall and had transferred their activities to this room for the next event which was a video containing snippets from various SF films with witty dialogue supplied various people. This soon had the audience chuckling heartily. By this time I was starting to relax and enjoy myself. The atmosphere seemed reasonably warm and friendly and although I didn't actually feel completely integrated into the proceedings but I did feel sufficiently at ease to go with the flow.

The next event was unfortunately a trifle disappointing. It basically consisted of reading passages from a selection of particularly awful science fiction books. The first few were fairly amusing but by definition really badly written science fiction will sound fairly similar so it amounted to the same joke being told and re-told. The idea itself was quite an interesting one but unfortunately it didn't work in practice. Well it didn't work for me anyway. Apparently this event was known as a turkey reading with the turkey being any distinctly naff book. I stuck with the turkey readings for a while but soon found my glass quite empty so I figured this was a good excuse to make for the bar once more.

I spent the next couple of hours relaxing by the bar and soaking up the atmosphere. I spent much of this time eavesdropping on conversations and taking note of the general social pattern. This was particularly interesting as it soon came to light that there was several different groups of people.

There was the committee (the organisers of the event) but even this group was sub-divided into people whose opinions were held in high regard, general work horses (people who bustled about making sure something actually got done) and people who had perhaps only joined the committee recently. There were other groups of friends who had obviously travelled to the convention together and of course the guest of honour, Michael Scott Rohan, being interrogated on writing style by a potential author perhaps. There was of course the obligatory drunk busily falling over people and shouting drunken cliches at any group of people he happened to see. Even this rather irritating individual was tolerated by the people present in the room with remarkably good grace. They smiled good naturedly when he staggered in their direction shouting at the top of his voice about some fervently held belief and even sat and listened to his ravings til he lost track and wandered away.

The next event I visited was a talk from the guest of honour on how he got involved in writing SF and was interesting and enjoyable. Unfortunately I haven't read a great deal of his work so must admit to losing interest slightly when the questions from the audience became more book specific. Still my faith in the Con events had been restored and I looked forward to the next one. It was at this point I decided to do a little exploring and discovered a sandwich, the toilets and a bookstall. Making the most of these discoveries I bought and ate the sandwich, I peed in the receptacle provided in the toilets and I bought a book. Having achieved such an impressive collection of accomplishments (see previous sentence) I hunted down the next event which according to the supplied documentation was a talk from Tom Shippey. This talk was for me the highlight of the day. He did everything wrong as far as making a presentation is concerned. He was seated throughout, he spent time fumbling with books and yet still carried the whole thing through with a remarkably strong presence and keen literary critique. He introduced his subject matter as being either 'books I have read recently' or to sound less mundane 'current trends in modern SF'. These trends were revealed as 'Cyberpunk', 'Steampunk' and another trend which I forget the name of but involved the U.S.A. being controlled by another power. It was all quite fascinating and I could have sat and listened to him for considerably longer. After this I headed back to the bar to ponder over some of the comments made by Tom Shippey and to do a little more relaxing. I was becoming rather proficient at relaxing by this time as I'd had quite a bit of practice so I slipped easily into my lay back and take it easy mode.

To summarize then, and it's about time I did as this short description of the con is fast becoming a three volume novel. I enjoyed the convention and would probably be keen to visit any more that were held fairly locally. As far as cons further afield are concerned I doubt I would travel to them for the specific purpose of going to that event but maybe I would use them as an excuse to meet up with friends who live in different parts of the country to myself. I suspect this is probably one of the prime motives for many people who travel long distances to attend science fiction conventions. What of my previous suspicions of elitism as regards these conventions ?

Well I must admit these fears weren't entirely dispelled. I didn't really feel part of the community at any time although some of the blame for this could probably be laid at my own doorstep. I actually visited the convention with a friend of mine whose company I enjoy and took the opportunity to spend some considerable time engaged in chat with him on topics of mutual interest. Although I enjoyed this opportunity I would probably have made more of an effort to get to know the people at the convention had I been alone.

As for content I appreciated the talks/debates but was left cold by some of the more frivolous items such as the turkey readings and the make up a

science fiction drink item. The overall atmosphere of the con was friendly and informal and I felt it had been an interesting and pleasant day. If there's a LUCONTinued Strikes Back or a Return of LUCONTinued then I'll definitely be there.

[All convention organisers should consider the fate of the people new to con-going, perhaps we can discuss this at Illumination programming meetings. JRB]

Phil Raines

WHERE TO FIND A GOOD BOOK AT THE END OF HISTORY

I first noticed that history had ended back in August. Maybe if I had been paying closer attention to the media, I could have spotted the usual warning signs - appearance of false cultural messiahs (Vic Reeves), an increase in the number of unnatural incidents (England making the World Cup semi-final), inexplicable events suggesting demonic possession (Mrs. Thatcher's resignation), that sort of thing - but I was probably too busy casting runes and interpreting signs in **Twin Peaks** to bother with the, ahem, Real World.

The tip-off for me was Bush's speech at the end of August where he first made reference to the New World Order. Yawn, I thought, another silly soundbite from someone missing the talents of Reagan's speechwriter, not worth bothering with details since Bush wasn't too bothered with them. However, to my surprise, the media pundits jumped all over the phrase and proceeded to balance elaborate interpretations on a text more slender than an ex-Cambridge structuralist's filofax. In the ensuing debate - climaxing for me in the recent series of articles on the issue in **The Guardian** - what struck me was the strong note of desperation in many of the broadsides. The urgency that there **should** be a New World Order seemed to hint of an underlying sense of historical ennui and that we (the West, however defined) had reached a crucial point in history. Opportunity or crisis or whatever - what was interesting was the sense of having misplaced the future.

Tied in with this debate is the wider one about the End of History. The phrase - in its current coinage - goes back to an article written in 1989 by Francis Fukuyama, an American political scientist. Looking at the end of the Cold War, Fukuyama argued that the victory of free market capitalism and liberal democracy over Communism in the hearts-and-minds struggle that has broadly determined international politics since the end of the Second World War is the prelude to an era of global stability. In exchange for peace, love and understanding, he argued, we give up history. History for him is defined in the Hegelian/ Marxist sense as the clash between opposing Great Ideas, a constant dialectic that pushes events forward by providing individual and societal motivations for war and peace. In the last great conflict, ending in the mid-1980s with Gorbachev's accession to power, Adam Smith trounced Marx and Lenin. A few pockets of resistance have been left (or "pockets?", in the case of China), but the clear trends have been the retreat of Communism and the ascendance of democracy and free trade (apart from the odd reversal - breakdown of GATT talks, etc.).

Why does this mean the End of History? Great Ideas have triumphed in the past but not long remained unchallenged -that's the point about Hegel's cycle of thesis, antithesis, and new thesis. True, but it is then argued that in the ideological evolution of the fittest, Western capitalism and democracy are likely to face down all rivals in the near future, whether they come from religious fundamentalism or collective materialism.

Moreover, in the New World Order of the Global Village, everyone - or at least everyone that counts (ie not Africa, but who's going to bother with Africa?) - will believe in the same thing. People who share the same beliefs are not supposed to have reasons for fighting each other.

Doesn't the history of Europe suggest otherwise? Wars have been fought between people with the same basic political and religious beliefs for centuries. The reply to this is that the traditional source of non-ideological combat - nationalist ambitions - is on the wane. Wars happen between nations and societies, and in an era where political boundaries and affiliations have been weakened by increasingly complex economic ties, communities are either expanding beyond the scope of territorial aggrandizement or shrinking below a level on which such conflicts are significant. Whether nations are transcended by supra-national corporations or sub-national collectives or mere individuals, they will be bound together into a stable economic and political system that will encompass the developed world and prove resistant to the usual viruses of interlocking political units. Terrorists may blow up a town here, a national stock exchange may crash there, but ultimately the system will be self-correcting. As ideas and currencies are whizzed around the world near-instantaneously, History will get dizzy from the flurry of possibilities processed and rejected and go away to lie down. History will become something that happens in the developing world, where we will go on tours to remind ourselves what things used to be like before its End. To borrow a fashionable metaphor from chaos theory, the dynamics of History will quickly settle down into the patterns of a strange attractor: at the micro-level, you won't know what's going to happen next, but you'll know that it won't matter, because the general scheme of things won't change.

This, of course, is an exaggeration, but much of it is implicit in the debate. I apologize for going into it in this detail, but the argument does have interesting implications if enough people are sympathetic to its general assumptions, as I believe they are. It's not a theory that I give too much credence to, but it does have a seductive quality in its central image of a stable global future, neither dystopian nor utopian in its prospect. To an extent, evidence for it can be seen in the growing perceptions of inter-dependence of the developed world in the political, economic and environmental areas. Perhaps more importantly, it echoes trends that I've noticed in other fields.

Take the example of certain areas of science. The scientists reading this will be quick to point out my distortions, but there does seem to be a general feeling in the scientific community that we are close to solving all the Great Mysteries in fundamental physics. Whether the solution is in quantum gravity, hide-and-seek sub-atomic particles, or in Stephen Hawking's head, there appears to be anticipation of someone with the right GUT. Will this breakthrough excite a new generation of scientists to embark on even greater odysseys? Or will it create the myth that we know the answer to all the essential questions of the physical universe? Do people need such unanswered questions in order to imagine progress from the past to the future?

Another example might be SETI. As I understand it, by the end of the century, we'll be able to monitor for signs of alien intelligence: on all spectra, with full-sky coverage, at all times. If there's a message that can be found, it will. And if it isn't? The chances of finding such a message in foreseeable lifetimes are tiny. Without aliens or the excitement of strange new worlds to discover, will the public be willing to fund huge space programmes? In spite of Bush's promise to get to Mars by the end of the century, I have great doubts about the likelihood of the adventure given NASA's low reputation in Washington and the government's persistent budget problems. I can easily see the public getting bored with space, leaving it to current military research and future corporate

exploitation.

Boredom is said to have sapped the vitals of popular culture as well. I won't get bogged down in a discussion of this, especially since a) the NME and the Late Show have talked the death of culture to death (so to speak) and b) culture appears to be dying in public every few decades anyway. It's become very fashionable - perhaps, the only enduring aesthetic fashion of recent years - to pronounce that it's dead, Jim, rather than it's life, but not as we know it. However, this time the malaise does appear to have touched the exponents of most of the major arts, something I can't recall having happened this century. You know the sort of thing: high and low culture so thoroughly mixed that it's become a grey porridge, Gazza and Pavorotti in a pop video selling Levi's jeans. We can raid the past or other cultures for new spices, but our ravenous hunger for originality will quickly exhaust our sources of new ideas. In the retro-post-modernist chic of today's pop culture, the sense of wonder gives way to sarcasm.

All of which has some bearing on science fiction . . . By this I mean not just the ghetto hobby, but the wider science fiction that you see everywhere - movies, ads, language. If enough people believe that there's nothing new to expect, that history is over and the future has no hold on our imagination, what will happen to the popular interest in science fiction? I have a mental picture of a time traveller lost in the future, unable to work out where he is in time because each century looks the same. Has science fiction been suffering from this same creeping ennui? Is it a touch of cynicism that has fired the discussion over the origins and apparent demise of cyberpunk, or tired nostalgia for the glory days of New Worlds? Do the faces of those on State of the Art panels at cons betray looks of boredom? At this year's Eastercon panel on the perennial subject, there was more discussion about the market for sciffy than about new directions in the genre. Book sales may always have been more important than pioneering techniques and subject matter, but it was something of a surprise to hear it admitted in an arena that traditionally celebrates enthusiasm for the results rather than the economics of the field.

Whether SF is dying or not, I do think that the social conditions that gave rise to its popularity have changed. SF has always been peculiarly vulnerable to obsolescence. Its basic substance was speculation about the future and the possibilities of technology, holding up a mirror to the scientific zeals and social fears of a particular age. Its greatest assets have never been the plot devices that characterize it to most non-hobbyists - time travel, FTL engines, rayguns - but the concepts of utopia and dystopia. They functioned like dreams for society, exaggerating fears and desires by removing them from everyday life and taking them to extremes. They measured the hitherto unimaginable distance between us and the future, distorting perspective undoubtedly, but putting the distance in chronological and cultural units we could understand.

The trouble is that the distance doesn't interest anymore. We appear to be living in a time of what Tom Shone has called "future saturation - amusement at the variety of past futures, boredom with those on offer at the present." Or as JG Ballard noted: "By the year 2000, the future may not exist as a concept, just as the past virtually doesn't exist anymore. . . just a kind of contingency of design statements that one dips into as the need takes you." I believe that there is a growing (and perhaps only temporary) perception of the future as static. Partly this is a reaction to the demystification of technology as we get used to the computers and missiles littering the landscape. New technologies may be waiting to shock us - biotechnology comes to mind - but I wonder if we've become so accustomed to the novelty of high-tech that they'll come as no surprise. One of the functions of SF has been the transmission of scientific information, making familiar our dependence on technology by exploring its extremities. In recent years, the media has usurped much of this role.

Constant speculation has become one of the primary purposes of our media, a natural development from being a simple conduit of information. Teaching us how to digest what it's been feeding us, we seem to be moving from information overload to analysis overload. During the Gulf War, it was the flood of commentary that drove me away from the screen; no scrap of fact came to me without its ramifications having been exhaustively enumerated. Speculation is all around us now - if anything we're suffering from an excess of it. All futures get tried and tested so rapidly that none of them seem to be particularly real. When the future comes, I can imagine us looking around and saying, that bit's from Star Trek, that chunk's straight out of Blade Runner. What's left to SF is its traditional ability to keep one step ahead of the rest of the media by being better informed, closer to the technological cutting edge. The lag time is getting shorter though. A few years separated the cyberpunks in print from the documentaries on virtual reality. I expect the lag between biotechnology in Interzone and in lager ads to be even shorter.

The most successful sciffy is increasingly metaphor rather technology-based. Gibson was influential not for what he knew about IT but for the image of cyberspace. In a sense, this has always been the relation between literary science fiction and the sci-fi of popular culture, the images and metaphors of the former filtering into the mass media of the latter. I've long felt though that the literary side served another purpose in getting the next generation of engineers and scientists excited by the prospect of the future, that the legacy of Hugo Gernsback and John Campbell had stretched a long way after their deaths. In whatever form, science fiction has helped to inoculate people from fear of the unknown lying ahead, whether it was the hidden monsters of the gleaming futures of the Fifties or the beguiling emptinesses of the Sixties' Armageddons. As we begin to accommodate rapid technological change better, the opposite of future shock may be occurring. The technology has caught up with our imaginations. It is not that change is not happening anymore, but our expectations of change have shrunk as we have become more sensitive to its pace. We are getting too good at assimilating new ideas. The images of SF aren't necessary any longer - they aren't popular because they make sense of complex ideas, but because they look pretty on our walls. Are we becoming more and more like Japan, a country whose recent history has been built on all the classic SF scenarios - rapid industrial revolution, nuclear catastrophe, Blade Runner urban nightmare, arguably even alien contact when the first Westerners in centuries landed in Japan in the mid-19th century - and whose science fiction repeats all the Western cliches with better graphics?

So what will I be reading the morning after the end of the millenium? Will I have abandoned science fiction for a surreal fantasy that allows me to pick my technologies without regard to credibility or likelihood, another Jerry Cornelius flicking through designer futures and virtual realities to match my wardrobe? Will it be pirate stories as in Alan Moore's *Watchmen*? Will I be looking to Third World science fiction that recapitulates the traumas of Western industrialization with a different cultural flavour, or turning back to the sciffy of my youth, nostalgia ad infinitum? Will I be drinking whiskey and rye with them good ol' boys, remembering the heady feeling when the world was running away from me, the blissful lack of control as I got hooked on the speed of change?

Or will I be looking back on this article in embarrassment? Ah well. My apologies if you've heard it all before.

Simon McLeish

[Simon thought it might be too technical, and suggested I edit it, but given it arrived on a Ton evening, you're getting it straight]

How Does Godel's Incompleteness Theorem Relate To Physics

This consists merely of my opinions of the moment about this subject. I disclaim any reliability in the following utterances, being an expert neither on Godel nor on GUT (by which throughout this I will mean a physical theory which accounts for the interactions of the four forces). I am merely speaking about them as someone from a background in mathematical logic who is interested in the philosophical implications of such questions.

The reason I'm writing this is that so many physicists of my acquaintance talk total rubbish about Godel's Theorem - they reason using imperfect statements of the theorem and imperfect understanding of how (loosely speaking) the universe could be considered a system to which the theorem can be applied. I could say that this is in turn due to the universal lack of brains among physicists (they didn't, after all, do mathematics), but I don't want to be lynched next time I meet any physicists who might read this.

So the first thing that needs to be made clear is what Godel's Theorem actually says. The sort of statements people bandy about in pubs over their second or third pint usually fall into the following form. 'There are statements which are true but which cannot be proved using mathematics.' This may do as a start, but it leads straight away to misleading applications of the result. A better way to write the theorem out which does not fall into such complicated technicalities as Godel numbering would be: 'In any mathematical system of sufficient power there is a statement which is true but which cannot be proved inside this system.' You should immediately notice the vagueness of this statement - I haven't defined what a mathematical system is, or what a statement is, or what truth is, or proof; and 'of sufficient power' is just about as vague a phrase as could be written.

-THE NEXT THREE PARAGRAPHS ARE SOMEWHAT TECHNICAL - BE WARNED-The problem in the way in which the theorem is used by physicists stems from a lack of knowledge of these definitions, and their consequent use of vague intuitive notions of what is meant by truth or proof and so on.

A mathematical system consists of several objects. These are language, structure, truth and proof. The language contains sets of constants, functions and relations (some of which may be empty), as well as variables, and a syntax (symbols for not, implies etc. along with rules for their use and for bracketing). The structure will be some set, which has interpretations of all the functions, relations and constants from the language being used; and the notion of truth will be that of Tarski - a sentence from the language is true in the structure if its interpretation (the mathematical statement about the structure obtained by interpreting the symbols of the language) is true in the structure. The idea of proof is almost totally separate from this. A proof system consists of a consistent (i.e. non-self-contradictory) set of axioms, sentences in the language being used, and some rules for manipulating sentences, such as that known as modus ponens (from A and $A \Rightarrow B$ we deduce B). A proof is a finite set of sentences, each of which is an axiom, or which is derived from sentences appearing earlier in the proof by using the rules for manipulating sentences. The final sentence in such a set is called a theorem. This may seem tedious to physicists; in fact, it probably seems tedious to all those who are not logicians. It is important to be clear about what the ideas of truth and proof really mean, before throwing them around in contexts to which they are not applicable.

Most mathematical systems are set up to be sound and consistent. These are

technical terms, and mean respectively that in the system all the axioms are true, and that the rules for manipulating sentences to form proofs preserve truth (i.e. theorems are always true); and that if a sentence can be proved, its negation cannot. Without these restrictions, it becomes almost impossible to conceive of the meaning of the mathematical system, particularly since it is quite easy to show that in an inconsistent system, it is possible to prove that every sentence is a theorem - this is clearly not very desirable.

Now we come on to what is meant by 'sufficiently powerful'. This seems to me to mean that the language of the system includes a notion of 'provable in the system' - there is a formula which can be interpreted as saying 'A is provable', when A is a subformula. A given language and structure can quite easily be extended to include this idea by the use of the (extremely technical) idea of Godel numbering. Also, the system must also include an interpretation of the natural numbers - or else the inclusion of the notion of provability using Godel numbering is not possible. It is, however, perfectly possible to extend any system to make it this

The problem, as far as applications of Godel's theorem to GUT are concerned, is whether the mathematical system it describes really works like those described technically above. In most cosmological systems, the major mathematical notion used is that of the topological space. This is not a first-order concept - that is, a topological space contains more than one kind of object (open sets as well as points). So it is difficult to see how a theorem of first-order logic such as Godel's theorem can actually apply to it directly. This problem can be overcome, but only by looking at another structure (which contains both the set of points and the set of open sets, along with some kind of relation to distinguish them. The problem here is that you are then looking at a totally different kind of mathematical structure, whose properties might be very different to those of the original topological space (it will not be a topological space itself, for example; also there will be problems caused by the use of infinite intersections, which will force some of the sentences in the language to have infinite length). Already it becomes difficult to see how it could be possible to even talk of the theorem applying.

How will the GUT 'describe itself'? One physicist once said to me that a grand unified theory would describe the paper and ink with which it was written, and therefore Godel's theorem would apply to it. This is plainly nonsense (what would happen if it was written out in French words instead of mathematical symbols), and is merely evidence for the remark I made earlier about the brains of physicists. Even if it is extended in the way touched on earlier to describe provability as it would need to be, it would cease to be the same theory; the Godel sentences that came exist could fail to be part of the GUT itself.

What would the philosophical implications be if Godel's theorem did in some way apply to GUT? From my point of view (a practicing Christian) it would be superficially nice if one of the Godel sentences for the universe turned out to be 'God exists'. This however is not the kind of statement GUT is even designed to prove or disprove; most physicists would claim that it falls outside what physics should even be investigating. Apart from this, it would mean that there could be an equally valid universe in which the sentence was false, so God would not be necessary to the universe - a slight problem to belief!

So would the Godel sentences of GUT be things outside the province of physics? This may seem like a way of chickening out of the question of what these sentences could be, but there is very little that can be said about the Godel sentences associated with a theory which nobody yet knows much, if anything, about. Most Godel sentences will be extremely dull (they would amount to 'This sentence is true but not provable in GUT') and say

absolutely nothing useful about the universe. Some would be constructive (or else life would be very dull indeed); but they cannot be of fundamental significance, since there are equally valid universes in which they do not hold.

The conclusion, then, is that it is extremely doubtful that Godel's theorem would apply to a GUT, and also that even if it did, the sentences which came out of it would be of little value. So physicists should stop worrying their little heads about this question, and try doing some physics; leave the mathematics to those of us who care nothing for the real applications of their work.

THE LESSER-KNOWN PROGRAMMING LANGUAGES #18: FIFTH

FIFTH is a precision mathematical language in which the data types refer to quantity. The data types range from CC, OUNCE, SHOT, and JIGGER to FIFTH (hence the name of the language), LITER, MAGNUM and BLOTTO. Commands refer to ingredients such as CHABLIS, CHARDONNAY, CABERNET, GIN, VERMOUTH, VODKA, SCOTCH, and WHATEVER SAROUND.

The many versions of the FIFTH language reflect the sophistication and financial status of its users. Commands in the ELITE dialect include VSOP and LAFITE, while commands in the GUTTER dialect include HOOTCH and RIPPLE. The latter is a favorite of frustrated FORTH programmers who end up using this language.

Somewhere on Usenet

All you wanted to know about ufology

How can the assassination of President Kennedy/MJ-12/The Council of Foreign Relations/The Joint Alien, U.S., U.S.S.R/The Deaths and or disappearance of prominent civilian and military people and the manned base on the moon connect?

Simple. The moon base is the first of a series of Holiday Spas/Global Warming shelters created to house the members of the Trilateral Commission in the lap of luxury during the Third World War. The plans for the place are all laid out in the Protocols of the Elders of Zion. The first development contracts were awarded almost 80 years ago, in 1913, to Count Zaharoff and another even shadier arms merchant. George Bernard Shaw learned the secret, but was murdered a scant 22 years after writing Major Barbara in an attempt to expose the plot.

The moonbase is financed by 15% of all money-center bank earnings, supplemented by satellite enterprises like international drug sales, romance novel publishing, zero-money-down real estate tape learning kits, AMWAY distributorships, and Mount Shasta condo timeshares.

A cadre of Freemasons built and maintain the moonbase. They were trained in zero-g underground facilities in Nevada, where they learned the latest space construction and nouvelle cuisine cooking techniques. The Mormons provide the entertainment (the Osmonds). John & Robert Kennedy discovered the plot and planned to turn the place into a celestial swing club. But the Mafia and CIA liquidated them and Marilyn Monroe, too, leaving only Peter Lawford and Jimmy Hoffa to warn off inquisitive strangers.

I learned all this whilst serving as a crypto-clerk aboard HMS Indefensible, off the Galapagos Islands, in 1977. I was killed because of

what I knew, but was teleported back to this reality thanks to a top-secret US Navy experiment-gone-haywire at a clandestine facility in New Jersey. I awoke in this body, with Don King leaning over me, in the alley next to the so-called Garden State Alternator Rebuilding Company in Hackensack. Before the CIA killed me, my name was Otis T. Carr.

The only way to protect my life is to go public now. I make no claims -- I only say these things to encourage you to check them out for yourself. But if you send me \$25, I'll say a lot more of these things and send you a tape.

Is everything becoming clearer?

Cheers!

Otis (Clark)

The Whale

[thanks to Neal for this, apologies to everyone on the original mailing list. JRB]

I am absolutely not making this incident up; in fact I have it all on videotape, which I obtained from the alert father-son team of Dean and Kurt Smith. The tape is from a local TV news show in Oregon, which sent a reporter out to cover the removal of a 45-foot, eight-ton dead whale that washed up on the beach. The responsibility for getting rid of the carcass was placed upon the Oregon State Highway Division, apparently on the theory that highways and whales are very similar in the sense of being large objects.

So anyway, the highway engineers hit upon the plan -- remember, I am not making this up -- of blowing up the whale with dynamite. The thinking here was that the whale would be blown into small pieces, which would be eaten by sea gulls, and that would be that. A textbook whale removal.

So they moved the spectators back up the beach, put a half-ton of dynamite next to the whale and set it off. I am probably not guilty of understatement when I say that what follows, on the videotape, is the most wonderful event in the history of the universe. First you see the whale carcass disappear in a huge blast of smoke and flame. Then you hear the happy spectators shouting "Yayy!" and "Whee!" Then, suddenly, the crowd's tone changes. You hear a new sound like "splud." You hear a woman's voice shouting "Here come pieces of... MY GOD!" Something smears the camera lens.

Later, the reporter explains: "The humor of the entire situation suddenly gave way to a run for survival as huge chunks of whale blubber fell everywhere." One piece caved in the roof of a car parked more than a quarter of a mile away. Remaining on the beach were several rotting whale sectors the size of condominium units. There was no sign of the sea gulls, who had no doubt permanently relocated in Brazil. This is a very sobering videotape. Here at the institute we watch it often, especially at parties. But this is no time for gaiety. This is a time to get hold of the folks at the Oregon State Highway division and ask them, when they get done cleaning up the beaches, to give us an estimate on the US Capitol.

Nebula Award Winners 1991

You heard it here first (I hope). The 1991 Nebula Award Winners are:

Novel: Ursula K. Le Guin: Tehanu: the Last Book of Earthsea
Novella: Joe Haldeman: The Hemingway Hoax
Novelette: Ted Chiang: Tower of Babylon
Short Story: Terry Bisson: Bears Discover Fire

Grand Master: Lester Del Rey.

congrats to all the winners!

Chuq Von Rospach
Nebula Award Editor

Recommended: ORION IN THE DYING TIME Ben Bova (Tor, Aug, ***-);
SACRED VISIONS Greeley&Cassutt (Tor, Aug, ****+);
MEN AT WORK George Will (****); XENOCIDE Orson Scott Card (August, ****)

Adverts

Material for Quanta

[I'm not proud, you can send anything you put here to him, and I'd like a copy of anything that goes there to put here. JRB]

Dear Quanta subscribers: [well I'm not, but I'm trying. JRB]

Hi - You've probably noticed that there hasn't been an April issue of Quanta this year. The reason for this is a simple one: a lack of submissions. I need people to submit material in order to put out another issue. I'm appealing to you, the readership of Quanta, to send me your material. I know quite a lot of you have mentioned the possibility of submitting material at some later date. Well... Now would be a good time. For some reason, the rate of submissions has taken a sharp downturn.

Even if you don't write, and don't plan on submitting material, perhaps you have a friend who does. Tell them about Quanta -Encourage them to submit material. Hopefully, I will have collected enough good material to put out another issue round about the fifteenth of May.

Here's what I'm looking for:

Short Fiction - Anything with an SF bent. Submissions need not be "pure" science fiction, whatever that means. If you have a story that you consider borderline, send it along anyway.

Articles - Anything relating to science, ethics of science, speculation, writing, science fiction, etc... - Again, if you have a good idea that doesn't fit into one of these areas, send me a proposal anyway, and I'll tell you if I think it sounds interesting.

Reviews - I haven't published a lot of these (none, actually) but that's not because I didn't want to. I simply haven't received many. I'd really like to publish some reviews (books, movies, games, whatever...)

With an ever increasing readership (I've been getting on the order of 5 to 10 subscription notices a day), I hope to keep Quanta operating for a while at least. Please help me by submitting your material. Thanks!

Dan Appelquist

Ed, Quanta

[Daniel K. Appelquist] Quanta is the electronically published
[da1n+@andrew.cmu.edu] magazine of Science Fiction. Send mail
[r746da1n@vb.cc.cmu.edu] to quanta@andrew.cmu.edu to subscribe or
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Volga Con 1991

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Please, do not hesitate to contact us for further infor-mation. Our
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---((krj again))-----

Enclosed were also a bookmark and a cover letter which expresses
their address somewhat differently:

USSR Volgograd 400005 Box 202
ATOM Association. <<VolgaCon>> 91

The cover letter also says that costs of participation should be
about 750 rubles, and they'd like to hear back by July 1.

--Ken Josenhans

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Glasgow in 95

I would like to keep a record of all people who would like to receive publicity on a WorldCon bid. I got dragged into this a few months back at a Ton. The con would be in Glasgow, 95, and I have a flyer that I can email. Please get anyone to send their email addresses to worldcon 95, c/o me (alm@uk.ac.ic.doc or alm@doc.ic.ac.uk). I am only a conduit of information though. I am *NOT* organising this [not a SMOF then. JRB]. Thanks

Alex McLintock