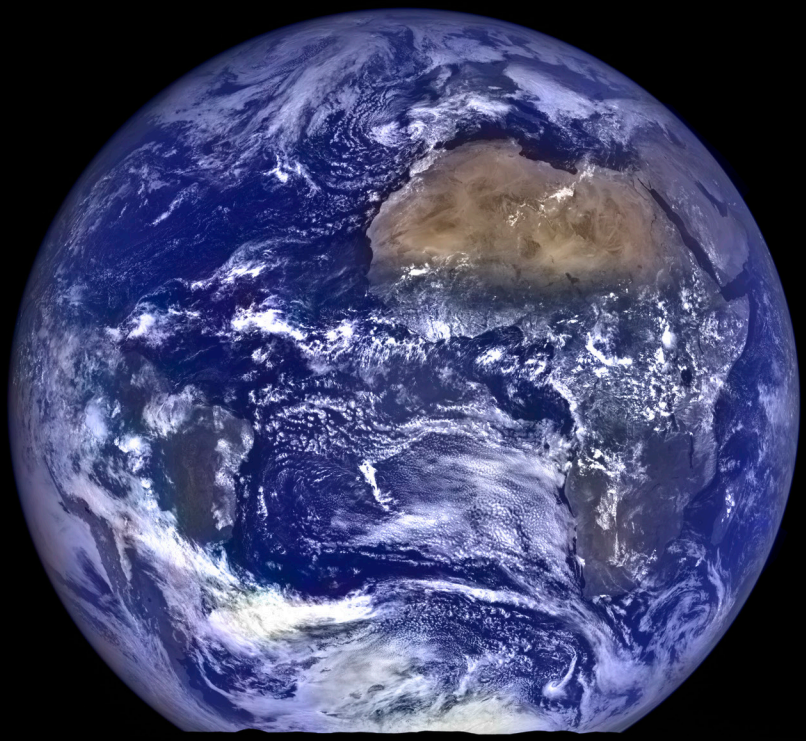
THIS IS NOT A PLACE OF HONOUR



THE (DE)EXTINCTION LETTERS

VOLUME 1

THIS IS NOT A PLACE OF HONOUR

THE (DE)EXTINCTION LETTERS

VOLUME 1

COLLECTING THE
(DE)EXTINCTION CLUB NEWSLETTER

NOV, 2014 – DEC, 2014

CONTENTS

THE FIRST RULE OF (DE)EXTINCTION CLUB IS...

(De)Extinction 101

November 14, 2014

Hello and welcome to the inaugural issue of the *(De)Extinction Club Newsletter*. All 22 of you, as of writing. Feel free to send this on to your friends, or better, enemies. This is after all TOTALLY NOT a recruitment vehicle for an Asteroid Death Cult.

So, let's start at the beginning and define some terms and add some new ones to the Extinction Aesthete Lexicon. You might might want to open a fresh browser now.

We'll start with "Extinction Aesthetic" itself – go read this post from Warren Ellis if you're unfamiliar. And via his tumblr, we have the excellent word *endling* - "an individual that is the last of its species or subspecies." It kinda sounds like a race from Middle Earth. It's not. But they had a few too. Eventually. And briefly.

Are you reading (or have already read) *In The Dust Of This Planet*? Elaborating, or rather, annotating it, is one the things we're doing on the *(De)Extinction Club* blog here. Really, this is just me thinking through Eugene Thacker's excellent tome of philosophy (and excuse to revisit a whole lot of horror movies and make GIFS). Plus, you can increase your vocab and work words like **extirpation** - "the condition of a species (or other taxon) that ceases to exist in the chosen geographic area of study, though it still exists elsewhere" - into your everyday conversation. With other people, when you go outside. You're not an endling yet. Unless you are... in which case why are you reading this anyway? You should be drinking the world's best booze and reading Mary Shelley's *The Last Man* or watching Vincent Price in *The Last Man on Earth*. Or something.

Anyway... So, De-Extinction. The resurrection of past species. It's an idea that's been tossed around for a little while now at least. I have next to me a copy of *New Scientist* from 2009 where this subject is the cover feature and they mention species from the Neanderthal to the Thylacine (Tasmanian Tiger) and Dodo.

But it's the last one that's the spookiest:

New Scientist, 10 January, 2009

A near future where the species being resurrected is one that could be saved right now.

Also from 2009, the Collector's Edition cut of *Avatar* – which I'm sure everyone watched – has Jake Sully at first on the dying earth, dressing while footage of cloned tigers plays on his wallscreen tv. I clipped it for you here if you wish to see, the few of you that didn't care to see the full extent of James Cameron's vision – don't you care about modern anthropology and hyperreligion? Dude, people were having withdrawals from Pandora...

So the idea has been percolating through culture for a while (also there's *Jurassic Park*). What people... humans... forever in denial of the truly science-fictional state of the present... don't realise is just how close to a reality the reclamation, partial or fully, of a species formerly classified as extinct is. Those paying attention are familiar with the efforts of Restore & Revive, a project from the Long Now folk, who will almost certainly be bringing back some version of the Passenger Pigeon to the skies. Or within the domed cities on a scorched earth; however it plays out.

At the recent Extinction Marathon, Stewart Brand - along with Richard Prum, Hans Ulrich Obrist and John Brockman - went through the current state of the art and examined some of the issues and ethics involved. You can watch the non-embeddable video here and read along, or listen to the audio here. This is the best part though:

> "The passenger pigeon is being worked on by Beth Shapiro's team at UC Santa Cruz, and George Church, who's one of the world's leading bioengineers at Harvard is leading what they call the Mammoth Revivalists team. *Just to give an indication of how far along they are, they have identified three genes of the woolly mammoth that were important for living in the cold climate of the arctic. One is for long, woolly, red hair; another is for six centimeters of subcutaneous fat, which would keep it warm in the cold climate; another is for hemoglobin blood cells that are well-adapted for the cold climate.* ***They have moved those genes into living elephant cell lines.***
>
> This paper has not been published yet, so you're hearing about it ahead of the publication. They are in the process of showing that those woolly mammoth genes in the living elephant genome cell line can express the traits of the woolly mammoth. We may have a mouse, which we'll show that it can grow mammoth hair. You don't go very far with that. They've already shown that you can develop the hemoglobin cell, and the next will be the subcutaneous fat. **When that set of proofs is done, then a paper comes out which will, I think, change everybody's mind about the practicality of this.**"

If you feel like celebrating that particularly piece of awesome news, why not crank up this piece of media archeology – the resurrected symphony to the Passenger Pigeon, played here for the first time in some 150 years. It's mentioned during that Extinction Marathon discussion, but they don't actually play it for you. But I found it on the YouTubes. Because I like you. Have a listen. It was written when the skies would be dark for days with the vast migratory shadow of this species. Pretty mythic stuff.

What they did do at that conference is touch on the nature of ecological restoration, and the changes occurring across habitats as species migrate, extend their range and interbred – which is how you get the awesome Coywolf. This is their story. -Law & Order music-

As Liam Heneghan argues in *Out of kilter*, it's best to take a Heralicatian view of nature. It's less about fixed, Platonic categories, and more about the never-ending flux. Put simply then: hybrid species aren't extinct species, it's just a new becoming.

It's best to take a Heralicatian view of nature. It's less about fixed, Platonic categories, and more about the never-ending flux.

So when newspapers are running headlines about the Scottish wildcat becoming extinct, you best be paying attention to their argument:

> "The report does not reveal how many wildcats are left in Scotland, but previous estimates have been as low as 35.
>
> SNH has admitted that tests carried out by the WildGenes laboratory at the Royal Zoological Society of Scotland showed "*all the wild-living cat samples collected in the last 30 years appear to have some domestic cat genetic markers.*"
>
> **The agency also warned that using the term "pure" wildcat "may not be helpful in conservation terms."**

Because if you apply that kind of genetic purity argument then there are strictly speaking no dingos in Australia, because they've long interbred with domestic dogs and are quite prevalent and also key ecological engineers that might just restore the whole continent if we let them. TEAR DOWN THE DINGO WALL!!!

Back in Scotland, it would of course be great to see efforts made to boost the population numbers of these wildcats, as is being done elsewhere in Europe for the Iberian Lynx and other species. Rewilding would be a good suggestion there.

Here, on Earth, in the midst of the Sixth Extinction it's all about raising consciousness of the very nature of extinction itself – bust out your fancy lexicon at parties to do just that. As I've found, the argument goes back and forth in the scientific journals as to humanity's exact role, climate itself is a factor in some cases, but hunting also plays an undeniable role. What they've just found in New Zealand is that the Moa (which also made it to the pages of *New Scientists*'s resurrection list) was exterminated in just under a century of human occupation, with only about 2000 people in the whole country. And the population boomed as a result. (Side note: there's also evidence "suggesting an ancient ocean migration route between Polynesia and the Americas." Advances in genetics are rewiring our understanding of the world and its possibilities in all sorts of ways.)

What that means is our ancestors didn't have to overrun a country to be agents of megafaunal extinction. Just like sailors slaughtered the Dodo, or the skies were emptied of the Passenger Pigeon, those people too probably thought the supply was endless. Until it wasn't. Tell that to the neoprimitivists and their perpetuation of the noble savage myth. Such sustainability! Very ecological! You'd have better luck getting a faux-paleo to eat the forbidden carbs though.

Because human psychology. And entitlement is a memetic virus we've been long afflicted with. -sombre face- All the more reason to read esoteric philosophy and break open our brains a bit, amirite? Cosmic pessimists, look up from your books, laptops etc and assemble! Preach unto the hipsters in the coffee shops with pseudo Lovecraftian language about the true nature of history (minus all the racism, obvz) and write coded opinion letters to the broadsheets that bypass the reality filters of their largely Boomer audience. What say ye?!

OK, to wrap things up and leave open discussion and elaboration points for future newsletters -like just why we should restore the mammoth steppe-... do you need another reason to read the new book from William Gibson, *The Peripheral*? Well, how about one of the characters being a posthuman extinction aesthete? There's more that's on-topic too, but that's plenty for now. Let's just say – and it's no surprise – Gibson is channeling the zeitgeist we're all tuned in to here and the ripples this book makes shall be interesting to observe. I may also plan to lob a stone or two wrapped in his quotes into the stream of public consciousness in the near future. But not right now.

cheers,
m1k3y

"It's about ethics in mammoth deextinction journalism..."

November 22, 2014

Welcome back for the second issue of the **(De)Extinction Club Newsletter**. We're up to 30 subscribers now, as of sending this. Which means a lot of you have been breaking the first rule of **(De)Extinction Club**. Now, could someone tell me what that is? I have no idea. OK, onwards...

Recapping the week – Monday I write my review of *The Peripheral* (up now on the DailyGrail plug plug), and as I mentioned last issue, the novel touches on the whole extinction issue, which I say on TDG is "an emergent part of the zeitgeist that is being tapped into". Tuesday morning I go out of town and afk. Wednesday I come home and find my twitter timeline full, relatively speaking, of deextinction chatter. Hooray, it's totally an emergent zeigeistical thing like I said, totally not exaggerating the conversations I presume is mostly between my like-minded friends and strangers subscribed to this list, and you know, whoever wanders into the room. Then... I click through all the links so tweeted to find they're all about the same upcoming tv special.

Which is this: *"Woolly Mammoth: The Autopsy"* – airing this Sunday night, UK time. Check your local internet vcr soonafter, hopefully. And it looks great!!! Which is why I'd already made a note of it when it first turned up on my Google Alerts. It's almost like the internet is one big echo chamber, huh.

Anyway... so, ethics of journalism first – here's two different, or to be more precise, separate, reviews both saying the same thing. Which is simply everything. Go read them if you want to get into all the stuff that will be more interesting to witness rather than read about, xor watch the show later. But after slaving away on a review myself trying to find the balance between talking about something without completely spoiling the experience of watching or reading it, well, I'm not impressed. But again, some people like things spoon fed too; their media predigested and their brains set to passive. Which is how we sleepwalk as species into a slow apocalypse.

Which is how we sleepwalk as a species into a slow apocalypse.

Here's the pull quote though, that I would have led with and little else beyond #FUCKYEAHMAMMOTHDEEXTINCTION:

> "Palaeobiologist Tori Herridge, from London's Natural History Museum, said: "As a palaeontologist, you normally have to imagine the extinct animals you work on. So actually coming face-to-face with a mammoth in the flesh, and being up to my elbows in slippery, wet, and –frankly – rather smelly mammoth liver, counts as one of the most incredible experiences of my life. It's up there with my wedding day."

Boom. "You won't believe what happens next..." etc. But you're tuning in now, right?

Tori has her own opinion piece on the ethics of mammoth deextinction in the Guardian, but first let's focus on the bit about smelly mammoth meat. Perhaps you, like me, have grown up reading stories of local peoples dining on the thawing meat of a previously frozen mammoth they'd found in the wilds of the arctic tundra. Well, according to the Great Wiki, those stories are bullshit. Which is really disappointing, because I so wanted to make a GIF of a mammoth feast.

> "Stories abound about frozen woolly mammoth meat that was consumed once defrosted, especially that of the "Berezovka mammoth", but most of these are considered dubious. The carcasses were in most cases decayed, and the stench so unbearable that only wild scavengers and the dogs accompanying the finders showed any interest in the flesh. It appears that such meat was once recommended against illness in China, and Siberian natives have occasionally cooked the meat of frozen carcasses they discovered. [REF: Lister, A. M.; Sher, A. V.; Van Essen, H.; Wei, G. (2005). "The pattern and process of mammoth evolution in Eurasia" Quaternary International.]

OK, so mostly bullshit. What's definitely almost certainly probably made up though is the legendary - mammoth feast of the 47th Explorers Club dinner.

A discussion of the eating of mammoth is definitely needed and definitely comes under the ethics hashtag. Because you just know that right after we bring back these ancient creatures, somebody will want to eat one – and it turns out Stewart Brand is totally ok with that.

Exhibit A:

The Flintstones

How weird was the childhood of GenXers and Boomers, huh?

Meanwhile, here's an actual mammoth unboxing testifying to the current state of their ability to be a tourist attraction (more deets on RT).

Back to Tori Herridge's opinions on the ethics of reanimating them. It boils down to: "no, we should save the Asian Elephant instead."

Now the Asian Elephant is the logical choice for a surrogate mother to birth any attempt to recreate the Mammoth – they've interbred over time and are more closely related than Asian and African Elephants are.

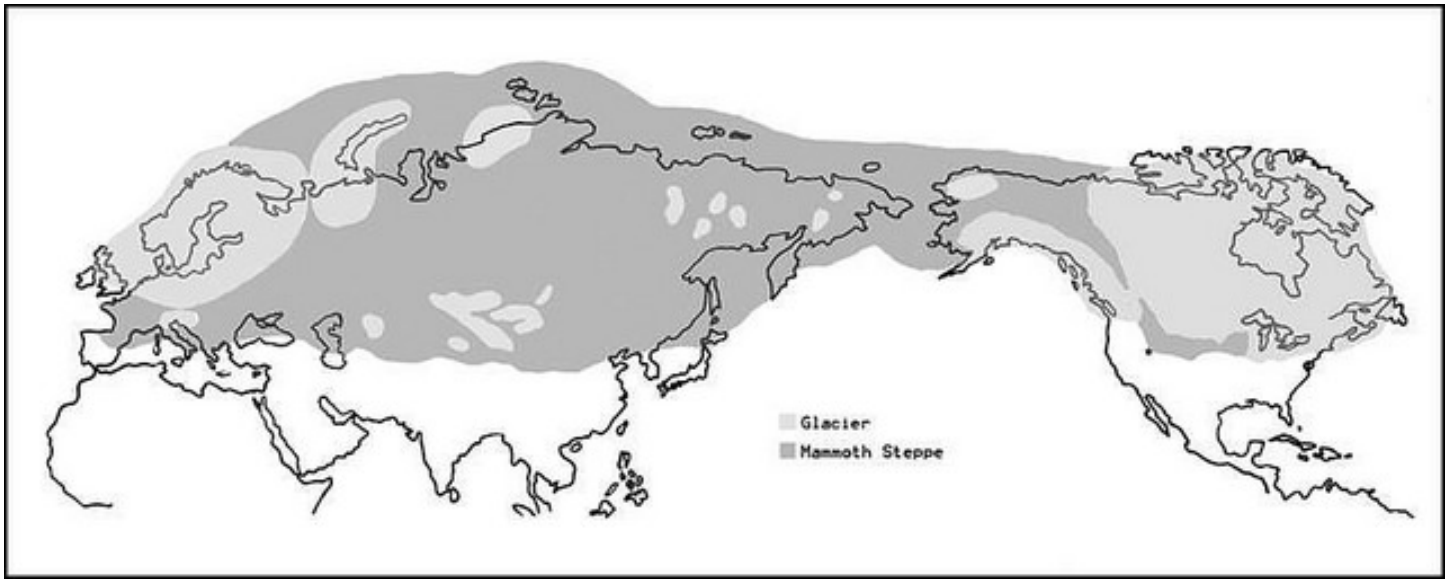
Tori Herridge views it as a cruel act:

> "Does the potential benefit to humanity of cloning a mammoth outweigh the suffering an Asian elephant surrogate mother might experience? I've yet to hear a convincing argument that it does."

This is the point where I have declare full allegiance with the George Church/Stewart Brand/Revive&Restore bioengineering a *mammoth simulacra* camp. And this is why: the current and sole alternative is the South Korean scientist with the sordid past, Insung Hwang at Sooam, who's aiming for the 100% cloning solution, using the blood they've recently been able to sample.. A method that is sure to take many iterations and result in many failed pregnancies, if it's ever to work at all and mean pain inflicted needlessly on what I think we can all agree are intelligent animals we should be protecting, not harming. For which every new birth is a gift and, as we'll see, a hedge against the future of climate chaos.

The motivation for Team Revive&Restore is not just the return of some charismatic Ice Age megafauna, but also their habitat, the mammoth steppe. We're restoring them not as toys but to put to work as ecological engineers.

Mammoth Blood.



Mammoth Steppe

This idea was outlined recently at a public lecture at Harvard:

> "Furthermore, Church said, the return of the mammoth could restore to an ecosystem a creature that played an important role by eating dead grass and clearing the way for new growth. He cited a study that indicated mammoths and other grazers may keep the tundra colder, a potentially important service in an age of global climate change, particularly when an enormous source of the greenhouse gas methane is locked up in permafrost.
>
> "Letting the tundra melt is equal to burning all the forests of the world 2½ times," Church said."

So it's about the ethics of fighting climate chaos, really. Which is a pretty compelling reason. And here's the deal – this theory is being tested independently, and in parallel, for some twenty years now, by its principal proponent Sergey A. Zimov at his Pleistocene Park, where he's using existing analogs of Pleistocene era fauna. Which is my understanding of how science works.

So it's about the ethics of fighting climate chaos, really.

Stewart Brand goes into this all in more detail in his recent keynote at Evernote. Talking about work Revive & Restore are doing to help save a near extinct population of black footed ferrets, down to only seven members, by pulling alleles from museum specimens and 'translocate genes from history' he says:

> 'if you can restore genetic variability that's referred to in conservation as "genetic rescue" and the goal is to run the extinction vortex backwards.'

The EXTINCTION VORTEX. That's a suitably epic and visual phrase. Reversing it, like crossing the streams in *Ghostbusters*. Hey, this is my mind, you clicked subscribe.

So my response to Tori Herridge is: WHY CHOOSE? We can do both. It really isn't optional. In attempting the resurrection of the mammoth the initial and primary focus has to be on the preservation and protection and growth of the dwindling population of Asian Elephants. As we said last issue, and Stewart Brand goes into more detail above, George Church and his team have identified four genetic modifications they can make so far in an attempt to move towards creating a Mammoth Analog. Now, I'm no genetic engineer, but I suspect they'd test these incrementally, albeit in parallel, to speed things up. And one tweak here or there seems far less risky or likely to cause suffering. All goes well you just get a successively mutated population of elephants ready to roam around some Siberian reservation already set aside for them. Where they can hopefully be free of poachers and return to every more massive numbers, just like the bison did in North America last century.

Personally I'd love to see them repopulate Wrangel Island too, believed to be the last place on Earth they survived. A population existing there only four thousand years ago, as the pyramids of Egypt were being constructed – to calibrate your sense of history.

In conclusion, let's echo the words of Nick Harkaway, who I came home that Wednesday night to find retweeted across my timeline:

"Because I'd like the discussion to be about "the glory of mammoth-cloning".

Amen! I mean, more properly Mammoth Analogs – but if those South Koreans scientists can figure out proper cloning via simulations or something else less stressful to the surrogates first, cool too. But the sentiment is the same, regardless. Bring back the mammoth in some form and worst case we help save the Asian Elephants in the process. Which are also important in various rewilding programs and conservation translocation efforts. Which is a topic for another time.

I'm nearly finished reading *In The Dust Of This Planet*, which means I'll soon after be shortly finished processing reading it. There will be at least one more book club post, because I want to connect UniSols with Zombies, and also Peter Watts' fantastic *Echopraxia*. Next up on the reading list is *The Conspiracy Against the Human Race* by Thomas Ligotti and *The Martian* by Andy Weir. For those who wish to read along...

Okay, that's enough for now. Stay weird!

cheers,
m1k3y

A short note on Asteroid Death Cults

November 24, 2014

Welcome new members. This newsletter's subscription has nearly doubled in the past few days. I expect it to continue to grow at a geometric rate, enabling my eventual Sith Lord futcha.

[REDACTED]

A FEW WORDS ABOUT GALACTIC ECOLOGY. Everybody knows an asteroid killed the dinosaurs. Less known is the theory of panspermia – which basically says the building blocks of life on this planet came raining down from the firey sky, a chunk of another living planet or moon. (BTW - did you know there are fossils on the Moon? They came from Earth.) As is becoming more understood, especially given the highly effective propaganda of the ESA, comets are now believed to be a major source of Earth's water. We are intricately connected to the cosmos on a scale far beyond the habitat of your local neighbourhood, city, or the daily life giving solar radiation of the local star. A scale that ranges across time and space.

We are intricately connected to the cosmos on a scale far beyond the habitat of your local neighbourhood, city, or the daily life giving solar radiation of the local star. A scale that ranges across time and space.

Some minor news meanwhile... There was an interesting follow up post from Tori Herridge where she posted the result of a conversation with George Church about the nature of his mammoth deextinction plans. They involve the construction of... mammoth... artificial wombs. Which negates her argument against the needless suffering of Asian Elephants, and increases the conservation case - by successively increasing the viable habitat of the species. BUT ALSO RAISES THE DISTURBING ISSUE OF INDUSTRIAL SCALE DEEXTINCTION.

Imagine vast Russian factories filled with artificial wombs unleashing herds of bioengineered beasts on a geoengineering scale; in the very same areas it developed under duress during World War II – Central Asia and Siberia. After the destruction of its existing base due to climate chaos events – frozen cities, unbreathable air, uncontrollable fires all cascading into a mini Collapse.

The climate threat is the new Hitler. Continual heavy weather events on an ever more destructive scale will become impossible to ignore. Makes for good coffee shop philosophy, anyway.

WE MUST SPREAD THE WORD ABOUT OUR DYING EARTH.

Talk to a stranger about Existential Risk Signs today.

But this isn't an Asteroid Death Cult. Not even a little bit.

Goodbye for now,
m1k3y

Imagine vast Russian factories filled with artificial wombs unleashing herds of bioengineered beasts on a geoengineering scale...

Many words about Extinction Culture, Nightmares of the Anthropocene, and the Horror of the Real

December 08, 2014

GOOD OLD FASHIONED "ATTENTION CONSERVATION NOTICE" / SPOILER WARNING: discussions of the plots of *Transcendence*, *Knights of Sidonia*, the *Planet of the Apes* reboot, *Firefall* series of books by Peter Watts and *Trees* comic by Warren Ellis are contained in this message.

Hi how are you? Are you well? How's the kids/pets/digital persona/partial mind upload/shadow self/tulpas and mysterious visitations by outside agencies of possibly interdimensional or extra terrestrial origin? In fine health I trust.

I'm in the process of moving house, may vanish from the net for long to short periods. Not that you'd notice. It's that time of year. That and the wildly variant weather here got me thinking about our ancestors, the so-called "cave dwellers." Did they just move in there because the climate got crazy? Did we only find traces of them there because it's so easy to look - like the old keys under the street light cliche. Were they in quite elaborate tree houses or something before that? All trace of which vanished. What was life like exactly at the end of the Ice Age and the beginning of the great deluge that serves as the beginning of recorded time? I think we're going to find out.

Hello and welcome to another issue of the **(De)Extinction Club Newsletter.**

In my latest post on Daily Grail I perform a deep reading of the film TRANSCENDENCE - perhaps giving it far more attention that it deserves - using it as vehicle to talk about the *Neanderthal Dilemma* (do you kill a superior species when it emerges and in doing so kill the future?) and *Grey Goo* (nanotech run wild over the planet) as two examples of existential threats to the (baseline) human condition: the Nightmares of the Anthropocene.

'However, the most instructive examples come from classical horror film, in particular the "creature features" of Hollywood film studios such as Universal or RKO. The proliferation of living contradictions in horror film constitutes our modern bestiary. Let us consider a hagiography of life in the relation between theology and horror: the living dead, the undead, the demon, and the phantasm.' ~ *In The Dust Of This Planet*

This being part of my ongoing online public digestion of Eugene Thacker's book *In The Dust Of This Planet* (*see also:* the (De)Extinction Club bookclub posts), and an attempt to begin to construct a twenty first century update on the 'creature feature set' that blends fiction and the fast-changing nature of living embedded in the science-fictional condition. Because that sounded like fun.

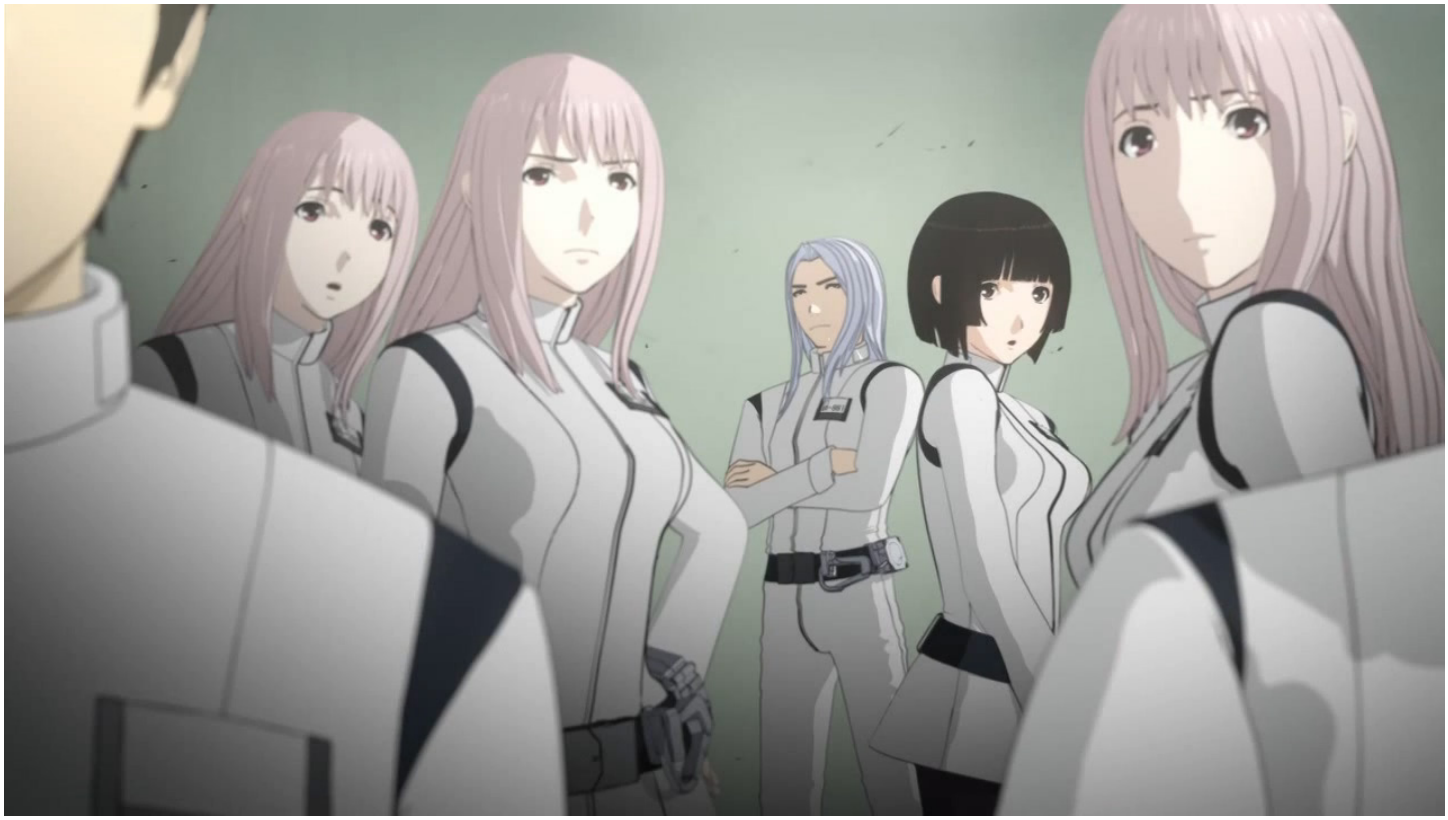
I ended that first entry bemoaning the current state of SF in Pop Culture; in film and on TV. Saying "there's very little in the way of brain busting, mind twisting speculation beyond the occasional neat time travel flick." So it was with much interest that I saw this article pop up repeatedly in my twitter feed: "When Science Fiction Stopped Caring About the Future" posted on *The Atlantic* by Noah Berlatsky. Here, I thought, is something that will bolster my argument. Activate confirmation bias! Instead, I found myself reading it and quickly mentally arguing with both the author and my past self. And not just about the elevated position of the *Star Wars* franchise in our society.

It's that argument I care to elaborate now, and in doing so broaden the scope of our inquiry to include a wider range of mediums and countries of origin beyond the Hollywood mainstream. To begin to sketch in the process something like an Extinction Fiction, or... **Extinction Culture**. Elaborating on this "emergent part of the zeitgeist" I keep talking about by mining pop culture with a wider lens, then folding in some philosophy and horror. Stir, repeat. To demonstrate that there's plenty of work being done that's a critical commentary on the present. Existing outside the "progress presented in timeless vacuum" setting written about by this Atlantean cultural critic, much as I agree with the rest of the argument presented.

'American capitalism is dedicated to the cult of growth, expansion, and the new boss ever bigger, better, and cooler than the old. It's an ideology of eternal improvement, and pop sci-fi fits that presumption neatly. Technology advances and humans mutate into X-Men without ever prompting a consideration of "alternatives to how we live now." The future, outside of time, brings empowerment but no change.'

The "Myth of Progress," as it's known - especially amongst the allied factions of anarcho-primitivists and Dark Mountaineers - is considered our secular item of faith, and reigns unquestioned. Eugene Thacker's book of philosophy is precisely about seeking to find a change in consciousness in how we see and categorise reality.

I've got four main examples that do this, each in different mediums, with plots that threaten or examine the extinction or at very least existential foundation, of humanity. All by their very definition being "*alternatives to how we live*" now.



Knights of Sidonia

The first example given in the article is the single-gendered hermaphrodites of Ursula Le Guin's fiction. In her work, *The Left Hand of Darkness*, all humans are such. In the extremely popular anime series, *Knights of Sidonia*, this is one of the options that can be chosen for a child. There are three available genders; male, female and asexual. Additionally, everyone has been genetically engineered to possess photosynthesis, to solve a food shortage. And cloning is prevalent. Quite a radical depiction for the future of the human race.

The show's setting is as far outside atemporal vacuum of Western consumer culture as one can get – the Sidonia is a ship built from one of the remnants of Planet Earth, thousands of years after its destruction by shape-shifting aliens. By something larger and incomprehensible to humanity. By the alien Other shattering the hubris of the species that thought themselves unquestioned masters of the universe. Bubble burst, Earth destroyed. Humanity scattered across the galaxy, on the run.

Bubble burst, Earth destroyed. Humanity scattered across the galaxy, on the run.

Bear of Sidonia

But not just humans. *Knights of Sidonia* also casually features an Uplifted Bear as one its principal characters with little other explanation offered.

Uplifting – bringing another, client, species into sentience, coined by the author David Brin in his series of the same name – is quickly becoming the latest addition to the science-fictional, futurepresent, postcyberpunk dystopian condition. Most recently with experiments involving injecting mouse pups with brain cells from human fetuses:

> "A battery of standard tests for mouse memory and cognition showed that the mice with human astrocytes are much smarter than their mousy peers. In one test that measures ability to remember a sound associated with a mild electric shock, for example, the humanised mice froze for four times as long as other mice when they heard the sound, suggesting their memory was about four times better. "These were whopping effects," says Goldman. "We can say they were statistically and significantly smarter than control mice."

The scientists involved may be okay with electroshocking mice, but they stopped short of injecting monkeys with the same tissue, citing ethical issues. One saying, "If you make animals more human-like, where do you stop?"

"If you make animals more human-like, where do you stop?"

Dawn of the Planet of the Apes

This is precisely the classic thought experiment territory of science-fiction, and what's explored rather well in the recent reboot of the *Planet of the Apes* series. Which I really, really like. A lot. A franchise quickly and quietly dismissed in Noah Berlatsky's article. One that I would argue is another excellent example of this genre we're sketching, that deftly handles a number of issues involved in the nature of Uplift. In the process questioning human dominance of the planet and by doing so reminding us that there being a single dominant member of the hominid line has been rarity in the full lifetime of the genus.

In the first film, *Rise of the Planet of the Apes*, the crucial acts of agency are left to the apes themselves, after the initial incident that triggers the rise in intelligence. It is Caesar, first of the uplifted apes, that chooses to release the nootropic agent (an experimental Alzheimer's cure) amongst the population of apes he'd been previously imprisoned with, to free them from cages built of iron and ignorance. And lead them to freedom, away from human intervention and interference.

Director Matt Reeves, speaking about Caesar in the sequel, says:,

> "You have to keep in mind that he is such a unique character and the world he comes from is a human background. He was raised by humans and in a way he sort of thought he was human, yet an outsider, but he is also an ape. And when he was thrown in with the apes who he later led to a revolution, he was quite different than they were because he hadn't been brought up as an ape. He was both ape and human and also neither. That made him a unique character to be a bridge between these two worlds in the story."

The second film, *Dawn of the Planet of the Apes*, teases the audience with the possibility that these two worlds could join into one larger, multi-special society. It ends up being both anti-human and unhuman: in its portrayal of humanity as an ultimately violent species that instinctively tries to destroy what it can't understand - sharing the **Neanderthal Dilemma** with *Transcendence* here – and in focusing largely on the tale of the accelerated cultural evolution of the ape society.

It opens with them hunting as Homo sapiens did at the dawn of history as we know it, herding their prey towards waiting hunters, a mere ten years after their great cognitive leap. This is **Accelerationism, Ape Edition**. A parallel to the creative destruction of Capitalism sought by many Marxists today. The Ape Scientist recapitulation of the Industrial Revolution Future awaits and perhaps their own version of the Singularity after that? Who knows..

Dawn of the Planet of the Apes

.Meanwhile the former apex predator and top of the food chain is in decline by the very act that caused their cousin primates' rise; a "simian flu" - the result of the release of the Alzeihemer's cure - having decimated humanity. More Anthropocene Horror. We tried to cure everything, conquer death and found only near-term human extinction waiting. The real tragedy of the film is that immune survivors choose to go to war against the ape population that has been living peacefully apart from them. When the alternative could have a richer, more pluralistic, multi-special group society. Which is what you get in *the Uplift series*, btw. Whales captaining star ships. It's pretty cool. But no, humans gonna human. Or hooman. Just like the baselines of *Transcendence*, all they had to loose was their Platonic ideals of what they categorised as people worth living; what constitutes a threat and what an opportunity. I've got a whole separate riff on how this stems from our formative development in the Pleistocene Savannah, that you can read the notes for here - that our pattern recognition and fear centres are entwined in our brain meat. Anyway, it will be supremely interesting to see what direction the forthcoming third film in the series takes - assuming we all live to see 2016. I would really like to be pleasantly surprised.

The real tragedy of the film is that immune survivors choose to go to war against the ape population that has been living peacefully apart from them.

Now it doesn't get much more pluralistic, post-Singular and straight up mind-bending than Peter Watts' recent alien contact duology, *Blindsight* and *Echopraxia;* now collected into a single volume as *Firefall*. This is humanity in the final stages of its Acceleration through the cultural and technological wormhole of the Singularity, interrupted by the sudden arrival of alien probes raining down upon the Earth in a brief, but reality shattering moment. In an instant humanity's - and its rapidly speciating posthuman child species (and a resurrected Pleistocene era hominid line of vampires, to boot) - position in the cosmos is re-centred. Everyone is united in looking up in a sense of wonder. For a time they act together like never before; build the greatest spaceship, assemble the finest crew of cutting edge posthumanity, embark on the greatest quest the planet has known. And so they wait for answers. And fall, naturally, back to their old ways in the interim.

To try to summarise the plots of these excellent hard sf books any more is to do them an injustice - beyond mentioning that they feature mediations on the nature of consciousness and perception, as well as our place in the universe; and that Peter Watts writes about the truer, darker side of life like no one else I've read before. (But I'm open to suggestions - reply at will). Just like his *Rifters* series before it, humanity is threatened with extinction. These are books purpose built to break open minds before the end comes for us all. Or so I read them.

*Also, pretty sure Stephen Hawking may have had his consciousness, or rather, public persona, hijacked by the AI that's allegedly just running his voice translation software. I mean, are you listening to the crap he spins? And he's got a seat at the **The Centre for Study of Existential Risk** It's an elaborate front for the Agenda of the STACKS. A world wide cultural engineering program being run through his meat, while inside his mind he's screaming, blinking furiously, while everyone looks on at him smiling. Probably. Maybe not. Who knows?! And so it goes...

"The universe seems neither benign nor hostile, merely indifferent." ~ Carl Sagan

OK, so finally, to conclude the tour: *TREES*. Written by Warren Ellis, art by Jason Howard, published by Image. Super difficult to talk about, if only because the first arc isn't even complete. You can read a preview of the first issue here. Mentioned because this is an examination of a near-future in which humanity's dominance is loudly, emphatically challenged, in a manner far more permanent and unignorable than *Fireball*'s brief light display. With menacing, gigantic towering structures of alien purpose and ominous portent.

> "Ten years after they landed. All over the world. And they did nothing, standing on the surface of the Earth like trees, exerting their silent pressure on the world, as if there were no-one here and nothing under foot. Ten years since we learned that there is intelligent life in the universe, but that they did not recognize us as intelligent or alive."

Existentially disturbing edifices. They could stand for centuries, for a thousand years, or kill everyone in an instant. Nobody knows. Everybody lives with dread. Imagine opening your door each morning to see a gigantic reminder that the universe is far stranger than you could ever conjure. What would the next generation be like to grow up in such a profoundly shaken world. A hauntological planet. An example of the markers of "Zones of Alienation," where previous notions of reality begin to break down. Something examined in other works: from late 1970s Soviet SF art film *Stalker* to recent anime series *Darker Than Black*, and Jeff VanderMeer's *Southern Reach* books released earlier this year. An area of inquiry to be further explored in greater detail at a later stage, when I've got time to finish reading and watching them all and process it. FUN!

Imagine opening your door each morning to see a gigantic reminder that the universe is far stranger than you could ever conjure.

Trees

For now though we return to Thacker's "cosmic pessimism," as he comes to name his philosophy, via Lovecraft:

> "What do we know ... of the world and the universe about us? Our means of receiving impressions are absurdly few, and our notions of surrounding objects infinitely narrow. We see things only as we are constructed to see them, and can gain no idea of their absolute nature. With five feeble senses we pretend to comprehend the boundlessly complex cosmos, yet other beings with wider, stronger, or different range of senses might not only see very differently the things we see, but might see and study whole worlds of matter, energy, and life which lie close at hand yet can never be detected with the senses we have."
> ~ H.P Lovecraft, *From Beyond*

OK I've you made it this far you clearly committed and ready to get serious. WELCOME TO THE CAUSE. So... Eugene Thacker begins his book on "the Horror of Philosophy" by defining three aspects of the world in terms of our relation to it, to "offer a new terminology for thinking about this problem of the non-human world" as a methodology attempt to think about the chief problems, challenges, of the Anthropocene Age – climate change and extinction:

> "Let us call the world in which we live the *world-for-us*. This is the world that we, as human beings, interpret and give meaning to, the world that we relate to or feel alienated from, the world that we are at once a part of and that is also separate from the human. But this world-for-us is not, of course, totally within the ambit of human wants and desires; the world often "bites back," resists, or ignores our attempts to mold it into the world-for-us. Let us call this the *world-in-itself*. This is the world in some inaccessible, already-given state, which we then turn into the world-for-us. The world-in-itself is a paradoxical concept; the moment we think it and attempt to act on it, it ceases to be the world-in-itself and becomes the world-for-us...
>
> Tragically, we are most reminded of the world-in-itself when the world-in-itself is manifest in the form of natural disasters. The discussions on the long-term impact of climate change also evoke this reminder of the world-in-itself, as the specter of extinction furtively looms over such discussions. Using advanced predictive models, we have even imagined what would happen to the world if we as human beings were to become extinct. So, while we can never experience the world-in-itself, we seem to be almost fatalistically drawn to it, perhaps as a limit that defines who we are as human beings.
>
> Let us call this spectral and speculative world the *world-without-us*. In a sense, the world-without-us allows us to think the world-in-itself, without getting caught up in a vicious circle of logical paradox. The world-in-itself may co-exist with the world-for-us – indeed the human being is defined by its impressive capacity for not recognizing this distinction. By contrast, the world-without-us cannot co-exist with the human world-for-us; the world-without-us is the subtraction of the human from the world. To say that the world-without-us is antagonistic to the human is to attempt to put things in human terms, in the terms of the world-for-us. To say that the world-without-us is neutral with respect to the human, is to attempt to put things in the terms of the world-in-itself. The world-without-us lies somewhere in between, in a nebulous zone that is at once impersonal and horrific. The world-without-us is as much a cultural concept as it is a scientific one, and, as this book attempts to show, it is in the genres of supernatural horror and science fiction that we most frequently find attempts to think about, and to confront the difficult thought of, the world-without-us."

Are you nodding your head knowingly? Good. That concludes our tour. And this is already far longer than I intended, and not even addressing the subjects sitting in my notes folder. Expect another long, ponderous newsletter soon. Ish. Depending on the vagaries of the muse and life in everyday reality of the slow apocalypse.

In conclusion: the four works we've examined in our brief tour serve as exemplars of this **Extinction Culture** as I seek to define it – various attempts to glimpse ***the-world-without-us***, or at least try to extend the concept of ***the-world-for-us*** to be closer to ***the-world-in-itself***. To negate humanity's predominant position, to mediate upon its extinction and the ongoing cost of its existence. How rethinking our role in the ecology might allow us to truly progress.

This resituation of our place in the world scales up to the galaxy. Something I attempted elsewhere in a post on Panspermia for (De)Extinction Club, citing it as:

> "one of the very core ideas of Dark Extropianism; that we are inextricably bound to the cosmos, on a grand scale that at the very least is inter-planetary. That our fate lies there as much as our origins do. That we are more than just star dust, but part of a living system that spans billions of years, who's distance is measured by the speed of light. That ecology is something that spans the galaxy. That we are not meant to stay here, that our destiny lies amongst the stars."

Which is the kind of thing I like to say. Also stuff like:

> "Saving the world as penance for the sins our fathers, building a life worth being near immortal in, then exploring the galaxy. It's a plan."

The point is to put humanity in an otherworldly, alien setting even if we never do manage to go anywhere. Expanding the breadth of our reality and identity; extending categories and shattering boundaries. Necessary work for, as I originally said on the Daily Grail our...

> "...culture at large is in denial, or retreat, about the nature of change under way, and those of us most interested in what's actually happening are arguing in the very margins of history. Which is the role genre has always played, and why I am wont to make much of otherwise dismissed films like this. Even if they only serve as a vehicle to discuss these issues in public."

The point is to put humanity in an otherworldly, alien setting even if we never do manage to go anywhere.

Ultimately coming in a complete circle in every way, to both contradict and confirm what I've been saying all along. That in fact speculative fiction's role has never been more important. That there is plenty of critical examination of the future and re-examination of the human condition. Extending our idea of identity to include an alien situation, our idea of personhood to include other species, our idea of reality to include the horror of the real and the breakdown of all previously rigid categories. Just that we need to look outside the fantastical billion dollar distraction industry and pick up a book or comic, a weird series or movie.

Right now I'm reading *The Martian,* initially published for free on Andy Weir's website. There are invaluable ideas out there waiting to be found for next to nothing. Hell, are you paying for this right now? No. Now pay it forward. It's not too late. We're still alive and are quietly having perhaps the most important cultural conversation ever.

SO TALK TO A STRANGER ABOUT ***EXTINCTION CULTURE*** AND THE END OF ALL THINGS TODAY! Thanks for reading.

You made it to the end. Good job! You deserve a prize.

Extending our idea of identity to include an alien situation, our idea of personhood to include other species, our idea of reality to include the horror of the real and the breakdown of all previously rigid categories.

Cloud Atlas

Here's a few things to open in your browser before I vanish from the public net for a while. They're each further examples of **Extinction Culture** to keep you occupied:

• The currently extinct thylacine is central in Tony Black's story, *The Last Tiger* - here's a review and a brief interview.

• *Start The Week* did a pretty good chat about Extinction and Evolution. That was last week btw. Another time we'll talk about how they're the two faces of the extra dimensional face of Janus, or whatever metaphor I choose to deploy. Can't have one without the other, is what I'm saying.

• here's a really long, theory filled talk about stuff like "the Spectacle of cloning in the zoological technosphere" by the author of *Cloning Wild Life: zoos, captivity, and the future of endangered animals* - which will go on my never ending pile of things to read.

OK, bye for now.

Be kind to one another,
m1k3y

EVERYTHING YOU NEEDED TO KNOW ABOUT GALACTIC ECOLOGICAL ENGINEERING AND FORGOT TO ASK

Galactic Ecological Engineering for Beginners

December 10, 2014

Prometheus

First a welcome to all the new subscribers who are now immediately initiated in this *Asteroid Death Cult* by virtue of reading this sentence. Please find the 3D Printing files for your ceremonial robes attached.

Now on to the meaning of the Asteroid Death Cult. The true meaning.

Are you ready?

(De)Extinction Club is *not* an Asteroid Death Cult. It's very clearly marked.

It says so everywhere, how it's TOTALLY NOT an Asteroid Death Cult.

Here's the thing: our entire species is.

<u>WE</u> ARE THE ASTEROID.

Now you have a way to to greet each other, as our numbers grow and the chance of you stumbling into each other at a party, conference, gig or protest increases. You might jokingly saying something like "Hail Hydra", and then mumble something about 'but we're totally not an Asteroid Death Cult right'. Then you make eye contact for the briefest second. If they return with "We Are The Asteroid", you know you've meet another member. And can proceed to stage 2. Whatever that is. Also, there may be a secret handshake variation on the -explosion- fist bump. We'll see. I have a team of social engineers working on this very problem.

Here's the thing about asteroids though – they give us as much as they take away, over the very long term.

<u>DEATH DEALER, LIFE GIVER, WE AWAIT YOUR HOLY JUDGEMENT.</u>
<u>PRAISE BE THE ASTEROID.</u>

Prometheus

And we return again to the subject of Panspermia. I will break protocol and refer back to a previous newsletter which was partly on the subject of Panspermia and Galactic Ecology. Which was the seed of a later Dark Extropian Report. Which I just yesterday developed further into a post on Medium*. Because I've been meaning to check out publishing on Medium, and the evidence just keeps on accumulating, so an update seemed required. From the ancient lakes of Mars, to rogue stars flying from galaxy to galaxy, it looks a lot more like a living universe every day. You just have to see it the right way. *Cosmopomorphical* like.

Which brings us to *Prometheus*. Obviously. That movie did not play well to SF fans, and then Ridley Scott had to go and say Jesus was an Engineer and now he's being a total dick with the casting of the ***Exodus*** movie and... look, let's just forget him for a second, and talk about the work itself. Which to me plays out on a mythic level, and it all starts with the Engineers. Especially if you've seen the deleted scenes, or the fan cut with those scenes all put back in. There's an elaborate ritual with ceremonial robes perhaps not unlike our own – remind me to attach that 3D Printing file – where a single Engineer walks out from a group, drinks something, then dissolves. Seeding a world from his dying body. DNA forms. Cue the montage...

Now what we can infer about these Engineers, being that they're pretty much the **Übermensch** as best we can imagine them, is that they're god-like, near-immortal beings. So it could be perfectly natural that when they've grown universe weary after many thousands years they offer themselves as a sacrifice to give life to a world. As agents, as embodiments, of directed panspermia. The Engineer dissolves as the spaceship takes off, perhaps to seed another dead world. Now that's a religion. THAT'S A DEATH CULT!

** since deleted. But because I like you I salvaged this from the Great Archive. See:* The Dark Extropian Guide to Panspermia.

Nausicaä of the Valley of the Wind

The plot of *Prometheus* is anthropocentric – "they made us", totally-not-Ripley says over and over – but dude, stopping thinking about yourself, they made the whole ecology. They're *Ecological* Engineers. Maybe some of them play at Uplift too. That's cool. And it's a myth I can really work with.

I love this photograph of the Smilodon. A lot of the others in the series are staged museum pieces, but this one's a working puppet.

There's something in that. It's like a really primitive step towards DeExtinction, bringing the barest shadow of it back to life.

Lexicon note: we Extinction Aesthete's don't say Saber-Toothed Cat, any more than we say Tasmanian Tiger. The Saber-Toothed "Cat" is a morphology, not a species. An example of convergent evolution (you know, like dolphins and sharks). *Thylacosmilus atrox* is a Saber Tooth from a marsupial-like line. How fun will it be to have them running around with the Thylacines? THAT MUCH FUN!

Smilodon fatalis

Ecological Engineers and Puppets. Giant, roaming, inhuman, monstrous muppets. How far can we take the notion of DeExtinction, once we accept that in many cases we'll only be assembling a simulcra? Can we have structural engineering departments working as hard as the genetic engineers are to build something that fulfils the function that lost megafauna once did? Perhaps taking the amazing art works of Theo Jansen – and bare in mind he's already calling them a new life form – and adapt them to this new purpose; as ecological engineers playing a key role in the distribution of nutrients within an environment. Literally shitting all over the barren landscape.

> "Glyptodon measured over 3.3 m (10.8 ft) in length and weighed up to 2 tonnes. It was covered by a protective shell composed of more than 1,000 2.5 cm-thick bony plates..."

...and reigned over the Amazon.

Massive herbivores, eating and pooping everywhere. When these giants went extinct 12,000 years ago it's estimated nutrient flow dropped 98%. If you're familiar with the argument in *1491*, you'll know that before they got massively short-changed in the Columbian Exchange and had their own apocalyptic near extinction event, the local peoples were in the process of turning the Amazon Rainforest into a vast garden.

Which is a beautiful image.

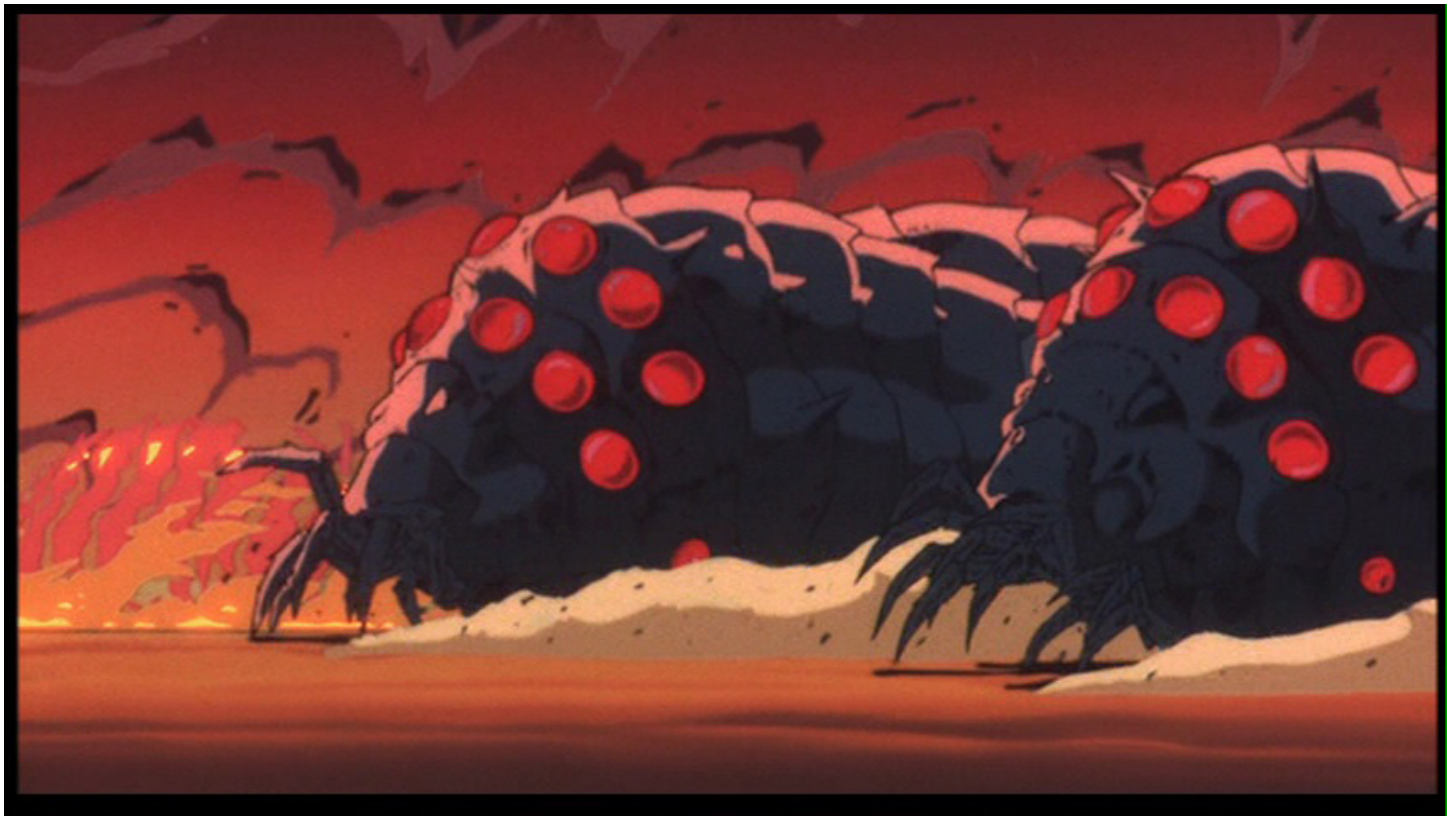
But also tells you how long it took to start getting things back to how they'd been before they megafauna had been wiped out.

Eleven thousand years, by my math.

Now imagine unleashing hordes of mechanical Glyptodons from some underground base, built to last ten thousand more years, and re-seed the de-forested Amazon Basin back to health and function. Armoured against the attacks of whatever post-Collapse society might emerge in the dark years that may lie ahead.

Are we getting mythic enough now? Are we thinking about being good ancestors yet?

Imagine unleashing hordes of mechanical Glyptodons from some underground base, built to last ten thousand more years, and re-seed the de-forested Amazon Basin back to health and function.



Nausicaä of the Valley of the Wind

There's a critique about DeExtinction that it's the worst sins of the Anthropocene; bringing things back we killed for our amusement. Think *Jurassic Park/World*. Ugh! But it doesn't have to be the case. And that's where we cycle back again to the Cosmic Pessimism of Eugene Thacker, and trying to think about *the-world-without-us*. Ecological Restoration isn't for our own vanity. A lot of the translocation strategies could make it more dangerous (and exciting!) for us; especially when we're talking about releasing lions back into parts of North America – the plans for Pleistocene ReWilding there.

We've got a ways to go before we're eligible for Galactic Engineer status. But I think we can work our way up to it.

That's enough for now.

Praise Be The Asteroid!
m1k3y

Galactic Ecological Engineering for Beginners 2

December 15, 2014

So apparently I forgot to send the attachment for the promised 3D printable ceremonial robes in the last email. I don't know what happened there. I'm sure I'll remember this time. They definitely don't involve a quest for spider-goats. Or any genetically engineered spiders with nanotech enhancements.

There is no secret initiation ritual where a swarm of bugbots rise from the ground, crawl all over you and permanently weave such a garb into your skin, which can only be shed at the moment of your death. It is definitely safe to keep reading this email. You've been here before. All of this has happened before... just stay within the eternal circle of protection.

Prometheus (deleted scene)

Our team of designers are definitely investigating furthering this design by Kinematics though, starting with it being available in vantablack, and progressing from there.

Did you read this article about life perhaps being an emergent property of the universe? Anywhere "a group of atoms is driven by an external source of energy (like the sun or chemical fuel) and surrounded by a heat bath (like the ocean or atmosphere), it will often gradually restructure itself in order to dissipate increasingly more energy. This could mean that under certain conditions, matter inexorably acquires the key physical attribute associated with life."

That's something to think about it.

Prometheus

Like what was in those jars in *Prometheus*? Did the Engineers grow matter just to the edge of living, and just have it sitting there waiting to be imprinted on whatever came along?

"He is making me think that the distinction between living and nonliving matter is not sharp," said another scientist about the theory. Talk about a break down in previously held categories and distinctions. Talk about a much needed message to the masses.

It's been one of those weeks. Like how my updated Panspermia article is already out of date! Our agent monitoring Comet 67P (codename Rosetta) has determined that, contrary to their excellent technomancer video, the Earth's water didn't come from comets, but - PRAISE THEM! - asteroids.

Are you imagining space hipsters of the future asking if the heavy water in their cocktail is from Kuiper belt objects or the Oort cloud and could they please have the most authentic early Solar System ingredients in all their drinks from now on thank you? None of that dirty asteroid belt water, c'mon!

Good, me neither.

All these signs that we're living in a larger ecology on galactic scale. Shame about the mess we've made of the planet in progressing to the point of figuring it all out. All very creative destruction, innit.

Are you imagining space hipsters of the future asking if the heavy water in their cocktail is from Kuiper belt objects or the Oort cloud and could they please have the most authentic early Solar System ingredients in all their drinks from now on thank you?

So last time we began to talk about ecological engineers. The Glyptodon's historical role in the Amazon. You know, before they were extinct. Perhaps you've already seen the video about the wolves in Yellowstone National Park, how their reintroduction has changed the shape of the rivers. For the better. This is another example of breaking down old categories; like wolves = bad. Or, as recent research has shown, that culling wolves reduces their impact on livestock – turns out that when they ramp up their numbers again, they predate on sheep and such even more. Turns out the best thing is to just leave them alone; let the packs roam and do their thing. They're pretty keen for them to go feed on the moose of Canada.

The whole 'less is more' thing is kind of hard to grasp for a by definition Industrial Society, used to micromanaging every aspect. But, as we begin to understand the nature of trophic cascade – how predators are instrumental in making the entire ecosystem thrive – we can apply this knowledge to revitalise entire damaged landscapes. Landscapes we didn't even realise were completely impoverished, because they haven't been seen in peak condition for thousands of years. Our sense of normal is limited to the cultural memory of the current generation, give or take. Since the wave of extinctions that followed the end of the Ice Age we've been watching the environment slowly starve. The Amazon Basin being a shadow of its former self.

Of course, letting predators free runs against the grain for a society and culture built on agriculture, that has been built on the bones of the species it didn't find fitting into it's new plan for life on Earth.

Bison skull pile, ~1870

And this applies equally to the oceans. George Monbiot, who made the wolf video, is promoting a similar role for the whales and seals in maintaining a healthy ecosystem there. Just like the Glyptodon, we're talking about the distribution of poo in making plant life bloom – in this case plankton.

How Whales Change Climate makes for pretty fascinating viewing. And his article extending on it breaks down the distinction between land and sea too, pointing to the demise of the Condor being linked to the lack of whale carcasses. But wait, it gets even better... linking the release of dimethyl sulphide to the formation of clouds at sea, when plankton are eaten, and of course trap carbon too as they fall deep into the abyss.

All of which amounts to a form of geoengineering. Organic Geoengineering, if you like. I like. I like that phrase a lot now, the more I use it. You know, versus our attempts at forcefully, intentionally manipulating nature.

whale fecal plume

Which so far aren't going well. This recent study of cloud seeding efforts in Wyoming said it kinda worked. Ish. They just ruled out the cases where seeding one mountain blew over to their control mountain, spoiling their data set. Classic science. The real world can be so messy, not like in test tubes.

Monbiot compares the role of whale's fecal blooms in the oceans to performing a natural function identical to the artificial attempts to seed the oceans with iron and trigger plankton blooms that way. Instead of having rogue geoengineering operations, we could accomplish the same result by simply ending all whaling, once and for all (like we should really need a reason for that anyway), and better helping them thrive again however we can.

Instead of having rogue geoengineering operations, we could accomplish the same result by simply ending all whaling, once and for all.

This is Organic Geoengineering. It goes totally against our industrial mindset, but perhaps we can fix that by the idea of Ecological Services – assigning a dollar value to the role animals and species play. Personally, I find the idea repellent and capitalism the cause, not the solution. I'm much more in favour a breakdown between the wild and civilisation, as you might have guessed, as I'll continue to elaborate on. But I'm also open to an Accelerationist methodology, where the animals end up as key stake holders in the corporations of the planet. That's a narrative that perhaps enables Uplift and whale's captaining starships, like Brin wrote about in his books. [Referring back again to the previous newsletter in this series, future scholar bots. Insert permalink]

The broad message is this: **we're only just understanding the many ways in which we've damaged the Earth.** We think it's just pumping carbon into the atmosphere, and chopping down the rainforests. But the Anthropocene project has been unbalancing the natural systems in all sorts of ways, and it's only through a better, more complex understanding of its workings that we can ever hope to repair it.

And we need to repair it for so many reasons. One of which is making our species interplanetary and dodging a whole raft of existential risk problems. Something even Stephen Hawking agrees with (as opposed to his ranting on the coming of our posthuman child species, the AI). How are we going to terraform Mars, or a nice moon, or even built a functional, long term space hab without a fuller understanding of ecology? We need to make visible the things previously dismissed as externalities. Especially by the economic world view that got us in this mess. If we could figure out how to engineer a proto-life solution, that might be one way. A companion technology to panspermia. Life-giving ooze.

Which, obviously, brings us at last to Volcanoes. Rivals to asteroids. Catastrophic companion species on a... terrifying geological taxonomy??? That works, right? Somebody invent a tabletop game for that, please.

Volcanoes - we all know one caused the 'Little Ice Age' of the 16th to 18th Centuries. Which variously gave us the tie (not a great fan) and Mary Shelley's *Frankenstein: The Modern Prometheus* (big fan, unsurprisingly) the first work of science fiction. Well, caused in part by it anyway. The Black Death of the Old World and the decimation of the New World following the arrival of Columbus, being another.

Less people means less things being killed and more things growing back. Another time a whole bunch of people were killed was around 80,000 years ago when a supervolcano caused a decade long "nuclear winter" and a thousand year cooling episode. We all come from the survivors of that event, and if history repeats itself and – chant it with me: ***WE ARE THE ASTEROID*** – glossolalia solo – or alternatively, the Super Volcano, the future of the human race will come from the stock of those who survive the years to come. The Coming Collapse.

The best thing for the planet is a lot less humans on it. (My personal choice would be exit via starship.)

Volcano in Iceland erupting alongside the Aurora Borealis

"I think, Dr. Railly, you have given your "alarmists" a bad name. Surely there is very real and very convincing data that the planet cannot survive the excesses of the human race: proliferation of atomic devices, uncontrolled breeding habits, the rape of the environment, the pollution of land, sea, and air. In this context, isn't it obvious that "Chicken Little" represents the sane vision and that Homo Sapiens' motto, "Let's go shopping!" is the cry of the true lunatic?" ~ *12 Monkeys (film)*

That's the single paragraph in the script of *12 Monkeys* that explains why the plague that the film is about preventing is unleashed. Because this guy, Dr Peters, wants to stop the asteroid from crashing into Earth or the supervolcano erupting. Figuratively speaking.

That we are the asteroid, or the disease afflicting Mother Earth, is getting more and more press. This was just in the Guardian:

> "In the end, however, the data indicate that the world is heading inexorably towards a mass extinction – which is defined as one involving a loss of 75% of species or more. This could arrive in less than a hundred years or could take a thousand, depending on extinction rates.
>
> The Earth has gone through only five previous great extinctions, all caused by geological or astronomical events. (The Cretaceous-Jurassic extinction that wiped out the dinosaurs 65 million years ago was triggered by an asteroid striking Earth, for example.) *The coming great extinction will be the work of Homo sapiens, however."*

What does it all add up to? Full climate chaos and socio-economic collapse. Water wars. Race wars. Mass deaths and local extinction events...

All being slowed down by volcanoes, as it turns out. We just weren't factoring them in to our climate models. And now we are. And now things make a bit more sense – the whole mystery of the slowing rate of global warming that the oil industry funded skeptic brigade instantly seized on and launched many a flame war. Yet the future looms ever darker still if you look elsewhere, but also brighter in places too.

Something I accidentally wrote rather a bit about this week on the Daily Grail, riffing off the new *Max Mad: Fury Road* trailer, and the "pre Jackpot Years" of Gibson's *The Peripheral*. (Don't click through if you haven't read it yet... Also, WHY HAVEN'T YOU READ IT YET??? It's really good. Seriously. Treat yourself!)

If there was an Asteroid Death Cult - which there totally isn't remember - there might also be rival Super Volcanic Secret Societies. In such an alternate reality that we don't inhabit you might be given personal instruction to infiltrate any such groups you stumble upon and report back to me with your findings. Needless to say this not all an elaborate psy-ops campaign. Or the formation of a system of 21st Century Lodges to usher in a new critical, magical way of thinking about the nature of reality and manifesting our maximal potential in affecting change in it. No. But know that it was Volcanoes and Asteroids working together that killed the Dinosaurs. Ponder that for a moment...

I drew rather a lot on the book *The Blood of the Earth*, another one I've been reading lately, in writing that Daily Grail piece. To be honest I haven't thought specifically about Peak Oil in a while, just the Collapse in general and how to avoid it - or at best, build through it. It was published in 2012, and I'd quite like to see where his thinking is at now, after I finish it. We're in this bizarre situation currently where the price of oil is at a new low, frakking is causing earthquakes, natural gas deals are being done everywhere, and... it just doesn't compute. It feels like that one mad rush at gas station before everybody gets the fuck out of town. Elon Musk sure wants to go to Mars a lot, huh. Why did everyone stop talking about the Breakaway Republic?

It feels like that one mad rush at gas station before everybody gets the fuck out of town.

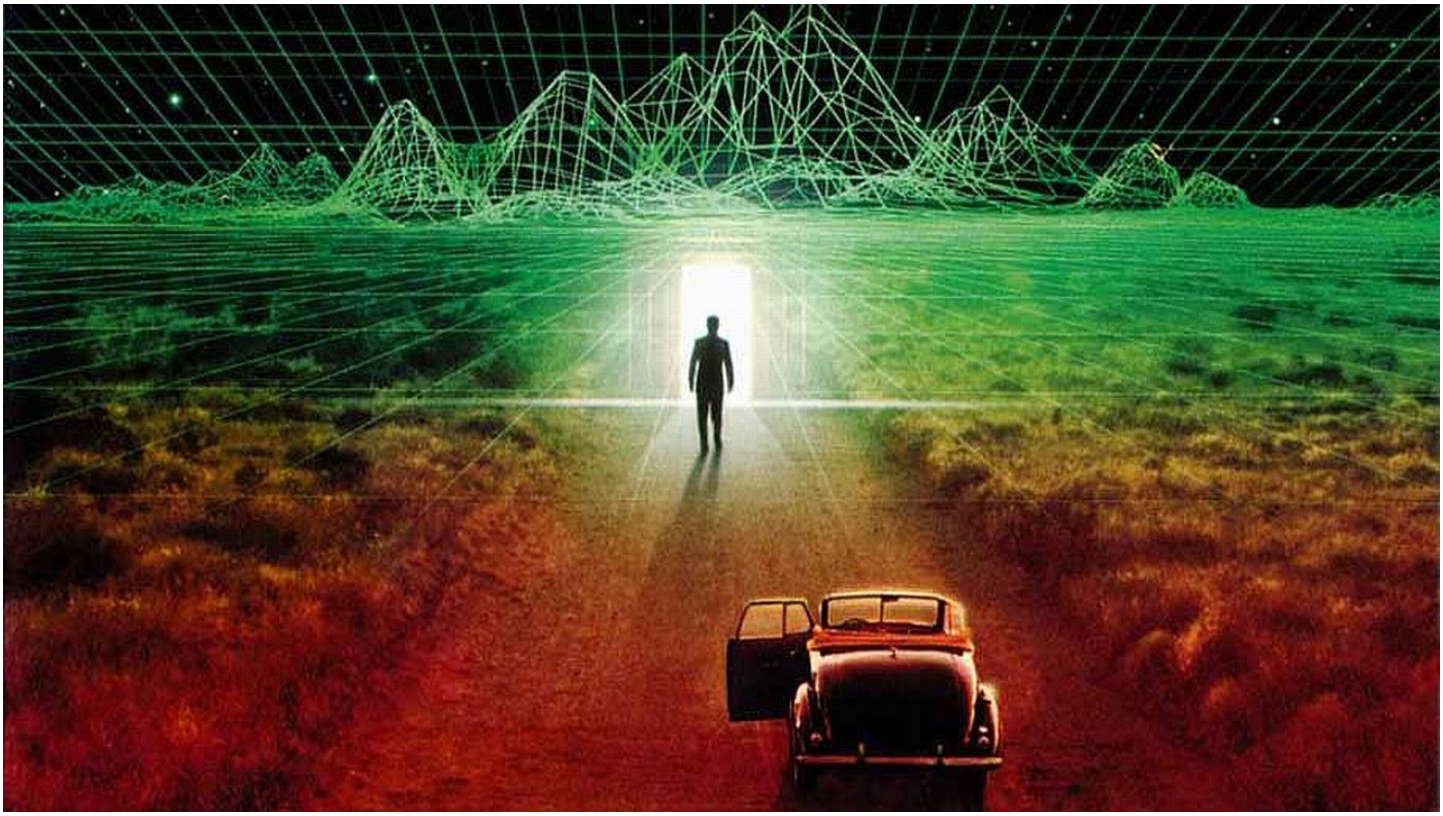
I mentioned the fantastic, cut too short, damn you David Fincher for probably killing it in optioning it for Amerika, UK series *Utopia* in passing in that blog post. It, like *Mad Max*, has its whole foundation in the oil crisis of the 1970s, and even if you've already seen it it's worth revisiting the speech given by a very drunken Philip Carvel about his greater good argument to drastically reduce the human bootprint on the planet – which is easy to do because I sampled the thing and uploaded it to the DE tumblr write after I saw the ep. PURE PEAK OIL DOOM PORN. He at least has a gentler prescription than Dr Peters in *12 Monkeys*, but it amounts to the same thing. As the great prophet Bill Hicks, may he rest in peace, once said, "we're a virus with shoes." But we're also the cure.

The Blood of the Earth dovetails nicely with *In The Dust Of This Planet*. They're both largely about changing our thinking about the current situation. The first few chapters of *The Blood of the Earth* serve as an excellent introduction to the theory and practice of magical thinking. And Eugene Thacker's book has this great line talking about *Black Gondolier*, a short-story by Fritz Leiber and ooze: "with oil in itself as an ancient and enigmatic manifestation of the hidden world."

Ghostbusters

The magic circle as a place where the breakdown of the real - as we perceive it - can occur is something Thacker explores in his work. And extends to the magic site. The Circle is where we try to create a place to safely glimpse the universe in its raw state; the *world-without-us*. Usually in the form of an occult ritual or scientific experiment. The Site is where it invades our carefully constructed civilised, social world; the *world-for-us.* Uninvited. The magic forest. The mysterious fog. The return of the old gods invoked by the machinations of a secret cult using forbidden science and the mysteries of architecture.

In a previous newsletter I talked briefly about this idea of the magic site as "Zones of Alienation." I want to conclude now by - ZOOM BACK CAMERA - looking at the Galactic Engineer scale and calling back to the beginning of this memo; considering the implication of a living universe and the Fermi Paradox. If life can arise under the right conditions – barring a pesky Gamma Radiation Burst – it must be everywhere, but we see nothing, no evidence of galactic civilisations or monoliths or messages from the stars.



The Thirteenth Floor

My favourite answer is the Zoo Hypothesis – there's a great episode of the Cracked podcast that gets into. And putting it all altogether, would you want to unleash a species like us on the galaxy, on the universe? At best, we're in our teenage years still, in a process of neotony, yet to fully become. Yet to grow up. We're the species born as prey, minds and culture shaped from being hunted by predators on the Pleistocene Savannah, that turned into vicious, vengeful pursuit predators ourselves. I think maybe we have to prove ourselves worthy, more mature, before we can join the wider galactic community.

I think maybe we have to prove ourselves worthy, more mature, before we can join the wider galactic community.

But if such magical sites did exist, might they actually be alien embassies or bridges to a higher realm? Lovecraft wrote:

> "I suspect there is no greater joy in the universe that the inability of human mind to correlate within it all that it contains."

But maybe if we could just hold enough in our head, prove ourselves a bit more capable, they'd let us see the wonders of the universe ahead of the rest of our species. And come back to help guide our own cultural evolution. That seems like a thing cults are built on, huh.

In *The Blood of the Earth*, by the way, he says that futurists and magicians are a rare intersection. But in Dark Extropianism, you'll find they're an everyday occurrence. If you haven't figured it out yet, this is the great big cosmic mystery show you've bought a ticket to. The full techno-mystical head trip. We're just trying to make our minds big enough to hold the multiverse in, with eyes to see through the holographic universe. It's a process. And you would like to know more because you subscribed, didn't you? Didn't you?!

If you haven't figured it out yet, this is the great big cosmic mystery show you've bought a ticket to. The full techno-mystical head trip.

Another answer to the Fermi Paradox is that this is all just a simulation. Like people from Grant Morrison to Rust Cohle have said, this universe was created by higher dimensional entities to grow life, or perhaps farm intelligence. So say hi from Flatland to those watching from without!

Wow, ok that was rather a big theory dump. Time to wrap this up.

A few other Extinction Culture items before I most likely vanish for the year:

• the film *The Hunter* (2011) is an excellent little Australian psychological thriller about the quest for a thylacine in the Tasmanian Wilderness. Beautifully shot. William Dafoe is great, as ever. Don't know how it was off my radar until it was pointed out in a reply to this.

• all the videos from the Extinction Marathon seem to be up now on Serpentine Gallery's vimeo. I'm working my way through them. Sure seems to be plenty of meat there.

• one of the post-nihilist crew mentioned the show *The Leftovers* the other day on twitter, which I just started watching. A series of weird cults and a world devastated by an unfathomable incident? Yeah, I think I can get into this. Like, it's basically the Rapture, but also not. It's definitely not *Left Behind*, thank the gods.

• also in high weirdness, my friend Ryan Oakley (aka The Grumpy Owl) has been preaching the word of Worm God Zero over at his blog. Go loose yourself to it

I am not already recruiting for an inner circle for the death cult.

THERE IS NO DARK ILLUMINATI. Just so we're clear.

cheers,
m1k3y

An Introduction to Zone Engineering

December 17, 2014

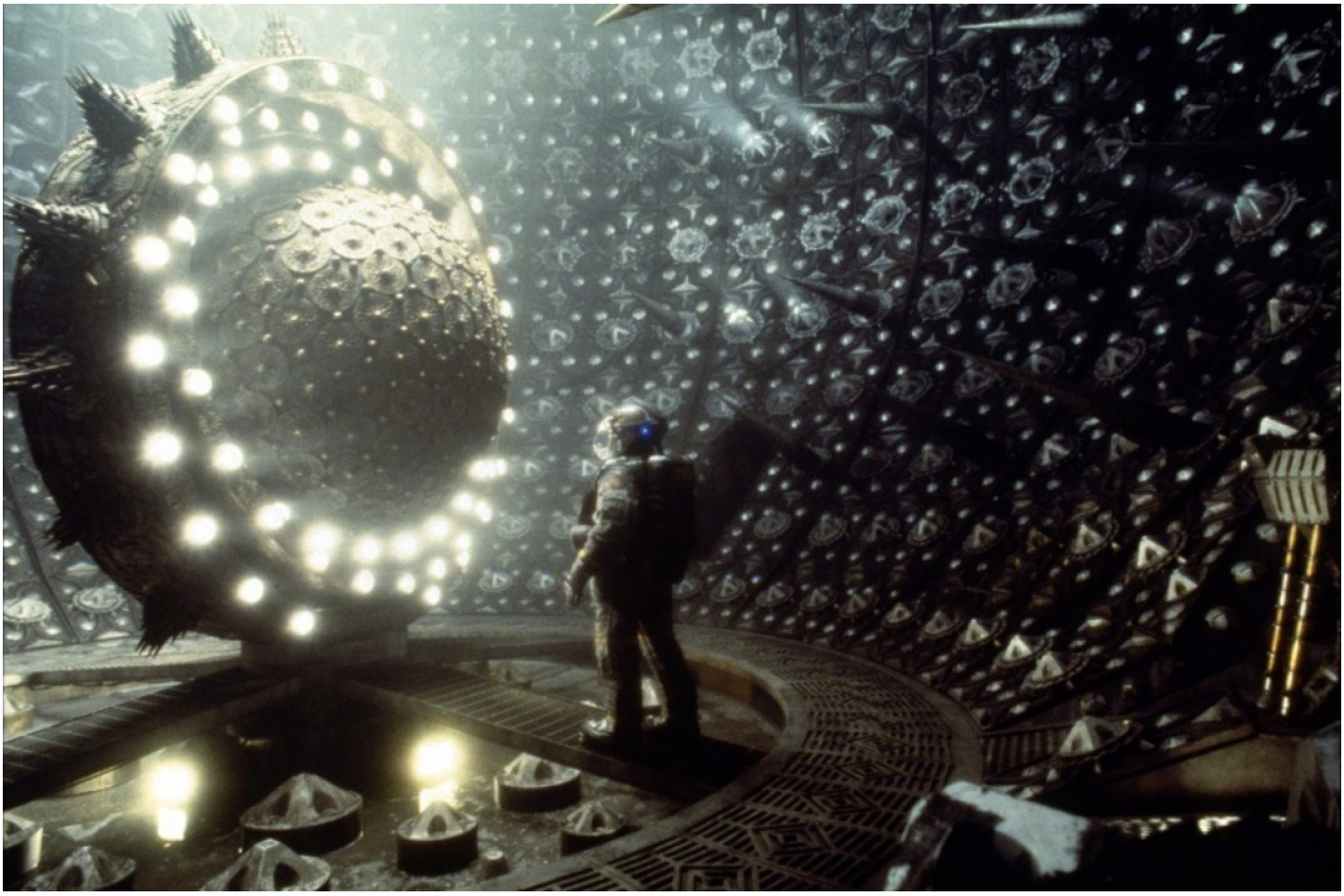
Okay, this is the absolute final newsletter for the year. Probably. What happened was this: minutes after sending the last one I sat down to read *Roadside Picnic* at last and before I'd even finished the introduction by Ursula Le Guin the gears had started whirring again, and after just a few pages into the book proper a whole new thought stream was forming that slowly concreted and gained shape and form over the coming days and lo here I am, back already with something new. Hi!

Stalker

Time to talk once more about "Zones of Alienation", naturally given the topic of the book - and my desire to read it was to get to the source, as it were – and other types of Zones, and extradimensional objects and the nature of change. Deep time. Evolution. DeEvolution. Off-world migration. Our posthuman future.

Yes, do you know where you are? It's time for another transmission from VALIS by way of your email client, beamed straight to your mind bits from the great Alien Muse Herself. Welcome to **(De) Extinction Club.**

I must at least attempt brevity this time, I'm surrounded by boxes and things that still require packing and the internet has already switched on at the new house which means it could perhaps vanish here at any moment and by the time you're reading this I may have already started my new life as a shut-in, mad hermit, lord of the boxes muttering over which hardback of *Virtual Light* to keep and which to put on eBay, attempting to force my own personal evolution into a form capable of photosynthesis and live by the light of laptop alone. As I said though, I must be brief, I think I just saw a box move, there may be kibble at play, let's go!



Event Horizon

Last time we spoke I ended on a riff about Magical Circles and Sites being possible alien embassies or gateways. Stay with me and we'll see how this ties into Anthropocene Problems Extremis and preparing the Earth for our exit. With some thoughts on Zone Engineering, Uplift and DeExtinction challenges.

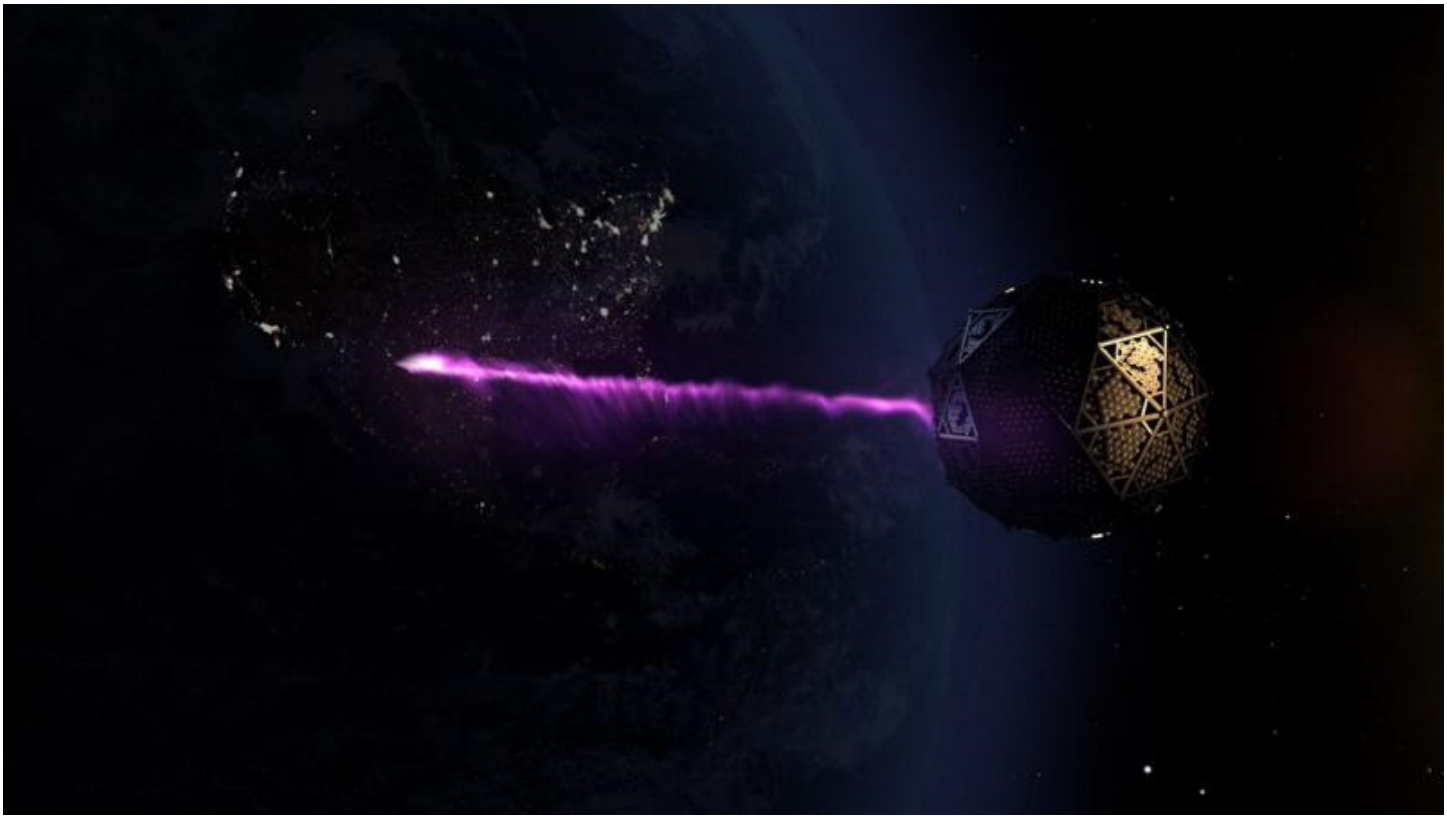
In her introduction to the 2012 reissue of *Roadside Picnic* by Arkady and Boris Strugatsky, Ursula Le Guin says the following:

> "The question of whether human beings are or will be able to understand any and all information we receive from the universe is one that most science fiction, riding on the heady tide of scientism, used to answer with an unquestioning Yes. The Polish novelist Stanislaw Lem called it "the myth of our cognitive universalism." *Solaris* is the best known of his books on this theme, in which the human characters are defeated, humbled by their failure to comprehend alien messages or artifacts. They have failed the test....
>
> "And the Strugatskys raise the ante on Lem's question concerning human understanding. If the way humanity handles what the aliens left behind them is a test, or if Red, in the final, terrible scenes, undergoes trial by fire, what, in fact, is being tested? And how do we know whether we have passed or failed? What is "understanding"?"

So we're straight back to our ongoing theme of the human ability to comprehend the raw truth and power of the infinite cosmos. But we also have the Zone as a Test.

A few pages into *Roadside Picnic* (and I'll be honest, I haven't made it much further than this, I've been busy) a scientist makes the following insight into the nature of the Zones:

> "The crux of my so-called important discovery is the following simple observation: all six Visit Zones are positioned on the surface of the planet like bullet holes made by a gun located somewhere between Earth and Deneb. Deneb is the alpha star of Cygnus, while the Pillman radiant is just our name for the point in space from which, so to speak, the shots were fired."



Radio Free Albemuth

Now if you've read Philip K Dick's VALIS trilogy, or even just seen the recent adaptation of *Radio Free Albemuth*, the image of the Zone 'gun' fired from deep space and the pink beam of VALIS from Earth's orbit share the theme of being alien transmissions meant to impact upon humanity, just at a different scale and mechanism.

"Zones of Alienation" full of mystery and the breakdown of the reality. People blessed with knowledge, insight and... a breakdown of their own conception of reality. One full of wonders and danger, one giving people wonder at the cost of their own sanity. Something in the toolkit of Galactic Engineers, perhaps? Meant to guide the progress of a civilisation. Or doom them. A test.

Warren Ellis' *newuniversal* comic and Jonathan Hickman's *Avengers/New Avengers/Infinity* run share a similar idea of people given gifts – powers in this case – to safeguard humanity's transition to a higher state of civilisation. Progressing up the Kardashev Scale, something we really need to get into a later stage. Or just as easily remake or destroy the world. A transition managed by a piece of technology similar to VALIS, created by a race of Galactic Engineers known as the Builders. I'm simplifying widely here, and getting off track and am in danger of going on a big rant about how awesome and misunderstood *Stargate: Universe* is, so let's come crashing down to Earth.

Deep underground.

Let's talk about ooze. Dangerous ooze. Radioactive ooze. Barrels and barrels and barrels of it. By the billion. And the problem of what the hell we do with it after using a controlled nuclear reaction to power our air-conditioners and video game consoles, big screen TVs and hybrid cars. All those smart phones and tablets. All the necessities of life. And the factories that make them.

newuniversal

We are hopefully already familiar with the problems associated with the generation of power via fossil fuels. The reality of the true horror of nuclear waste isn't that widely discussed, by virtue of the fact that they really don't have a fucking clue what to do with it. Like so many things today, it's being ignored, mismanaged, kinda dealt with but mostly left for someone else to sort out. Like our children. And their children. And so on. Just keep passing the buck and cashing your pay cheque buddy.

You can watch this Danish documentary, *Into Eternity* to get more of an idea of the problem. [Come back in 70something minutes, gobsmacked]

This is a proper anthropocene horror story about a wounded planet and us being terrible ancestors. And it gets so much worse. In the documentary they discuss similar plans made in the USA. There's the tale of the Human Interference Task Force of the 1980s formed to design the Yucca Mountain nuclear waste repository, and the design of the Waste Isolation Pilot Plant (WIPP) in the 1990s. You can listen to this podcast to get an overview of them both. You can read the whole 351 page report generated for the WIPP here. Or just start with the much shorter excerpts, like I did. And see where that takes us.

The first part of the problem is easy. You bury the nuclear waste deep underground in a place where it should never be disturbed by earthquakes or volcanoes. Or asteroids... EXCEPT NOWHERE IS SAFE FROM THE DEADLY RAIN OF FIREBALLS FROM THE HEAVENS. Anyway. Of course they fucked that up with Yucca Mountain. You can read here how the USA Department of Energy took $US30 BILLION DOLLARS, built only 5 of the planned 40 miles of underground tunnels and shut down without a single barrel stored in 2010, 12 years past it's projected end date. And the story of the Hanford Nuclear Reservation, its tanks leaking into the ground water. And at WIPP, same deal, because, I shit you not, they changed the kitty litter they mix in with the nuclear waste.

Good job humans! We need to get better at being the dominant life form on the planet. Like, taking some actual responsibility. And we need to think in deep time. Let's assume that through some miracle of government competence such a megaengineering project is successful and the waste is safely stored – praise be the asteroids, may their holy judgment be merciful – how do we keep the *theremin solo* "People of the Future" away from it.

We need to get better at being the dominant life form on the planet.

Have you guessed the answer? It's Zones. Wait... no. You go, guess...

It's something I call "Zone Engineering" – combining elements Zones of Alienation, Forbidden Zones, Exclusion Zones and Involuntary Park... Zones. It's how we begin to grow up, eat the sins of the past and progress towards becoming Galactic Engineers ourselves, and act as Beyond Good & Evil Posthumans to boot.

We start back with another anthropocene horror story of the present before moving back into the far future. In Gareth Edward's *Monsters*, space exploration has gone horribly wrong. A return mission to bring samples of extraterrestrial life has crashed and become an accidental vector of directed panspermia, unleashing a terrifying new extraterrestial biology on Earth. Causing a wide chunk of North America to become a no-go zone for humans. An Involuntary Park that isn't an uncontrolled experiment in rewilding, but is the merger of local flora and fauna with a galactic ecology.

A useful idea to stop people from coming into an area for a thousand years or ten or a hundred... if you can engineer it. And you don't even need legit aliens, just monstrous creatures to manufacture yourself a Forbidden Zone.

Monsters

Now if you're familiar at all with the Human Interference Task Force, you know it's famous for the idea of Ray Cats. Genetically modified felines that glow when in the presence of radiation; making the invisible visible. I say, you're thinking too small! What about an area haunted by ghostly, freshly resurrected dire wolves, marsupial lions or... pick an extinct predator basically. You've got a prime use for a DeExtinction program right there that can build in radiation hardiness and gloweiness and whatever else is required to get all *Hounds of Baskerville* on the future. For its own protection. From us. We're haunting the future. Deliberately so. Who'd want to go near such a place? Especially a post Collapse society that's built a mythology out of the broken shards of our own.

The WIPP report stops at using the landscape itself to suggest the place as being ominous, dangerous and haunted. It has suggested a Spike Field or Landscape of Thorns: "the shapes suggest danger to the body.. wounding forms, like thorns and spikes, even lightening"

Add an artificial ecology to the picture and you've got the basis for a natural mythology to spring around it, of a place not to be entered. Engineer the ecology just right and you solve the problem of animals as another means of spreading the gift of radioactive ooze around. Something that currently requires a Biological Control Program at the Hanford Nuclear Reservation:

> "the wildlife are potential "biological radiological vectors," and therefore represent a huge nuisance. Rabbits, badgers, and gophers that somehow ingest leaked radioactive material can spread their radioactive poop across thousands of acres. The radioactive creatures have to be hunted down, and their poop safely cleaned up by people in suits. Even tiny termites and ants can unearth radioactive material.
>
> And then there are tumbleweeds, whose taproots can reach 20 feet down to suck up buried radioactive waste. In the winter, those taproots wither, and it's off the tumbleweeds go, tumbling miles away with the wind. In 2010, Hanford had to chase down 30 radioactive weeds."

And the odds of maintaining a squad of people permanently on site for thousands of years, short of something like androids or the universal solider program or, I don't know, tame vampires, to act as clean up crew are basically zero. This sounds crazy right, but their suggestion is an Atomic Priesthood, and last I checked we're not living inside a Fallout video game. In fact, are they even in that game?

You want a giant terrarium full of nightmarish creatures as well as a terrifying site, or it's all pointless.

So you've got a grim landscape full of monsters, but how else do you ensure that some future barbarian doesn't Conan or Hercules or She-Ra his or her way through to prove how awesome they are, or just for the lulz?

"Landscape of Thorns" by Michael Brill and Safdar Abidi

Solution: **go full Zone of Alienation**.

The WIPP Report folks agree saying: "we suggest that the site be marked so it is anomalous to its surroundings in its physical properties such as electrical conductivity and magnetism". We already have natural places on the Earth where our compasses don't work, but they go on in the full report to suggest how these might also be engineered by burying a series of magnetic markers on the site that far exceed the natural levels. Any seeker of sufficient technological development would start loosing true north (works as a metaphor too!) as they made their way into the Forbidden Zone. Which should turn back a certain level of adventurer at least.

But our Zone Engineering doesn't stop there, it just gets more technical than burying items, and thus more prone to failure over the long term. If there's one thing all these analyses share is an emphasis on redundant means of warning people the fuck away. So let's add in a visceral element of dread with a series of infrasound generators.

Infrasound can be felt from some distance – Elephants use it to communicate across hundreds of kilometres - so you just have to get vaguely near the Zone, not within it to just feel like the place is off somehow, and, like, isn't there something better you could be doing right now? Like standing vaguely a hundred kilometres back the other way. Definitely not a place to start an encampment. They might also cause ghost-like hallucinations, according to some theories. We're talking some pretty primo Zone tech with this.

Still, thinking over the long term, deep future, we need to factor in the rise and fall of civilisations, the evolution and devolution of people, and the case that human beings wandering in this direction might just be plain stupid and bloody minded and amble in regardless. A more direct, technomagical, wizard-like display could be called for. Just to be sure. We're talking big, unmistakable signs that say: *YOU SHALL NOT PASS!* (That's how wizards speak.) A few skeletons scattered about might help. Traps that trigger mysterious fogs too. Or worse.

And here we get into Beyond Good & Evil territory. Is it better to kill one person to save a village or city. Like, if Newt's parents hadn't gone into that alien mothership the whole colony would've been okay. Why didn't those Engineers leave more protections around those xenomorph eggs? That's just negligence! (*Prometheus 3* will totally be a court drama.)

Where do you draw the line? Again, the WIPP report gets into this saying: "an analysis of the likely number of deaths over 10,000 years due to inadvertent intrusion should be conducted". But what the WIPP report implies is that it's better to let people die from leaving the place unmarked; to let them go back and suffer in front of their friends and family, die horribly and let a mythology about the region build up this way.

All this has happened before... In the traditions of the indigenous peoples of Australia:

> But the issues in Kakadu are more complicated, because much of the uranium is located in an area known to the local Jawoyn people as 'Sickness Country', or Buladjang.
>
> *"Our land was first created by Bula, who came from saltwater country to the north. With his two wives, the Ngallenjilenji, he hunted across the land and in doing so transformed the landscape through his actions. Bula finally went under the ground at a number of locations north of Katherine in an area known to us as 'Sickness Country.' It is called this because the area is very dangerous and should not be disturbed for fear that earthquakes and fire will destroy the world."*
>
> The traditional owners, in other words, have always been aware of the potential health effects of disturbing the land – and Bula. The Sickness Country contains high levels of arsenic, mercury and lead, but in particular there seems to be a correlation between the major Bula sites and uranium deposits.

Indiana Jones and the Crystal Skull

Watching how a culture forms around an Exclusion Zone - and we have two cases now to observe, which will make for fun anthropological studies, being of course Chernobyl and Fukushima - will provide valuable information in crafting our zone. What types of signifiers are strong over time. How a mythology develops. Great opportunities for a sociopathic scientist type who likes making reports for the RAND Corporation, and their equivalents.

In short though, our Beyond Good & Evil calculus is: don't mark the site and let people die periodically to let a mythology about the area build up, and rebuild as it fades, as the nuclear waste slowly, very slowly, decays. OR, build a *Zone of Alienation* of such power and fortitude that it keeps all but the most determined, skillful and cunning people away.

What if, after going to this trouble to dissuade intruders, we reward the ones clever enough to make it through. What if this Zone too is a Test? What if the site turns into a teaching device, a method of cultural uplift, a way for us to share our knowledge with our distant ancestors, to teach them of the wonders of the universe, that they might come join us across the stars in the off-world colonies. The great bulk of humanity having long ago left in generation ships to seed the galaxies beyond, be agents of a living universe, and... you know the drill.

What if the site turns into a teaching device, a method of cultural uplift, a way for us to share our knowledge with our distant ancestors, to teach them of the wonders of the universe...

One of the alternative ideas in the WIPP report is to dot the area with monoliths marked with instructions on the area. There's another place I've seen monoliths used as a teaching device, they took a bunch of apes and showed them how to kill each other. And also use tools. That's about as Dark Extropian as it gets. Of course, I'm talking about *2001*.

Here though we encounter an issue that's common to both Uplift and DeExtinction. It's known as the "co-evolutionary narrative" - the natural history a species has in how it relates to the world. Something animals bred in captivity don't have, because it has to form over time with successive generations interaction with the wild, with other species. As does wisdom. You can give members of a species a massive intelligence boost with a techno-wand, but you can't magically bestow upon them a culture. Another reason I love the new *Planet of the Apes films* - you watch them bootstrap their own culture using the basic tools they already had. Sign language they'd been taught in captivity (a subset of our own culture), then applying it themselves to develop their own unique society.

Which, to restate it once more, is the core problem. We can't know who, what or how a gigantic nuclear dump site, no matter how safely buried according to our best available protocols now, might be encountered in the future.

The field of Nuclear Semiotics – as the Human Interference Task Force came to refer to the problem of conveying danger across time, knowing that signs and signals divorce, languages mutate, meaning evolves – focuses on making the literal message left clear and intelligible. This is what WIPP chose by the way:

> "This place is a message... and part of a system of messages... pay attention to it! Sending this message was important to us. We considered ourselves to be a powerful culture.
>
> This place is not a place of honor... no highly esteemed deed is commemorated here... nothing valued is here.
>
> What is here is dangerous and repulsive to us. This message is a warning about danger.
>
> The danger is in a particular location... it increases toward a center... the center of danger is here... of a particular size and shape, and below us.
>
> The danger is still present, in your time, as it was in ours.
>
> The danger is to the body, and it can kill.
>
> The form of the danger is an emanation of energy.
>
> The danger is unleashed only if you substantially disturb this place physically. This place is best shunned and left uninhabited."

Cloud Atlas

And if it's not already apparent – ***the entire point of engineering a Zone of Alienation is that its message is communicated at a level beyond the need for speech or translation.*** Pretty much every species will turn back from it, regardless of its level of sentience. Animals too fear infrasound. Some navigate with magnetism too and aren't going to like anomalies in it either.

However, redundancy uber alles! And the idea of rooms with messages like the above in them however written is a good one. But ideally you don't want people lingering on the site too long either, playing solve the Rosetta Stone for X.

Now putting the cultural engineering aspect of the Zone Technology in to play, instead you'd kind of want a series of visitor station outposts scattered far beyond the site's perimeter, decorated in the same script and with artifacts for our adventurous archaeologists of the distant future to find and slowly piece together a communication system of our design. The language should be the only thing they share though, making it clear that though they originate of the same culture, they're not part of the same danger zone. So that once they negotiate entry to the secret chamber, having proved their worth, they have access to a full civilisational toolkit. Something like in this book: The Knowledge: How To Rebuild Our World From Scratch.

We need to think not just about how our elaborate, megaengineering warning system to safely store the most dangerous by product of civilisation so far is constructed, but how it might also be encountered. And that's probably something like how we found the chambers below the pyramids of Egypt in our glorious modern age. Stumbling around like idiots with dynamite and shovels and pick axes.

And that is the lesson. That was just a few generations ago. Not the work of a bunch of savages. The high tech of the time.

We need to think HARD about this problem, because this is our legacy. It doesn't matter if we agree with nuclear power or not. This is just one of the Curses of the Anthropocene Age. The cost of getting us here. The price of us leaving – if we want to expand into the stars and not collapse into the dust – is to correct them all before we go. To set things in motion towards a full recovery for the planet. That applies equally to historical carbon as it does to nuclear waste as it does to extinctions.

There is a check list.

And that has, as usual it seems, taken far longer to explain than I expected. This has been another long newsletter from yours truly. Thanks for getting this far. (Or just skipping to the end. No prize this time, sorry. Just bonus knowledge.)

In conclusion I have just one more thing to add: we found the pyramids because they're giant bloody megastructures sticking up, pointing at the heavens. We... yes, Europeans, western culture, "found" the ruins of the ancient peoples of the Americas – some of which we just straight off killed in the Columbian Exchange with our epidemics, without even knowing we'd done it or they existed until we much later found their overgrown cities and called them mysterious – not, more properly, sites of "accidental" genocide. But you know, semantics! Anyway, point being we only relatively recently found the greatest, most ancient structures of all the world, that go back to the edge of the Ice Age and are redefining our narrative about the rise of culture, cities and agriculture. They're the buried megaliths of Göbekli Tepe built when we were supposed to be just hunter/gathers still. And we're still figuring out what exactly they mark.

That's something to look into. That's something that stretches our sense of culture back and let's us think ten thousand years into the future.

Now, I have an office to finish disassembling and packing, and an exit from the public internet to complete.

Be safe, keep watching the skies, and if you see a penny, pick it up. Let's hope there's not too much more doom porn between now and the New Year. Just maybe 2015 is the time we collectively, finally get our shit together. That's something to plan for, right?

Remember: it's that, or mass death. HAPPY NEW YEAR!

cheers,
m1k3y

BONUS CONTENT

The Dark Extropian Guide to Panspermia

Dec 9, 2014

It's been a bumper few weeks, months and years even in the world of astrobiology, off-world geology and cosmology. In particular in the area related to the theory of Panspermia—the idea that life came riding in on an asteroid or comet to our planet. Enough has been discovered, confirmed, hinted at and implied that it's well overdue to be folded afresh into a grand narrative that spins a new story on our place on the Earth and within the Galaxy; our natural position as a member of a Living Universe.

This is one of the core ideas of Dark Extropianism; that we are inextricably bound to the cosmos, on a scale that at the very least is inter-planetary. That our fate lies there as much as our origins do. That we are more than just star dust, but part of a living system that spans billions of years, who's distance is measured by the speed of light. That ecology is something that spans the galaxy and fills the heavens. That we are not meant to stay here—that we're not even from here—that our destiny lies amongst the stars.

Asteroids - "an interplanetary ark" [Cosmos]

This clip from the recent *Cosmos: A Spacetime Odyssey* series serves as a decent, if dated, overview of the subject. Some of the science we'll be covering was only conjecture when they were rendering those sweet, sweet animations.

We'll start with a very basic definition of *Panspermia* straight from Wikipedia, and then go through the news and latest, breaking science to elaborate it, and then look at some of its implications.

> *Panspermia* (from Greek πᾶν (pan), meaning "all", and σπέρμα (sperma), meaning "seed") is the hypothesis that life exists throughout the Universe, distributed by meteoroids, asteroids, comets, planetoids, and also by spacecraft, in the form of unintended contamination by microbes.
>
> Panspermia is a hypothesis proposing that microscopic life forms that can survive the effects of space, such as extremophiles, become trapped in debris that is ejected into space after collisions between planets and small Solar System bodies that harbor life. Some organisms may travel dormant for an extended amount of time before colliding randomly with other planets or intermingling with protoplanetary disks. If met with ideal conditions on a new planet's surfaces, the organisms become active and the process of evolution begins. Panspermia is not meant to address how life began, just the method that may cause its distribution in the Universe.
>
> Panspermia can be said to be either interstellar (between star systems) or interplanetary (between planets in the same star system); its transport mechanisms may include comets,radiation pressure and lithopanspermia (microorganisms embedded in rocks). Interplanetary transfer of material is well documented, as evidenced by meteorites of Martian origin found on Earth. Space probes may also be a viable transport mechanism for interplanetary cross-pollination in our Solar System or even beyond.

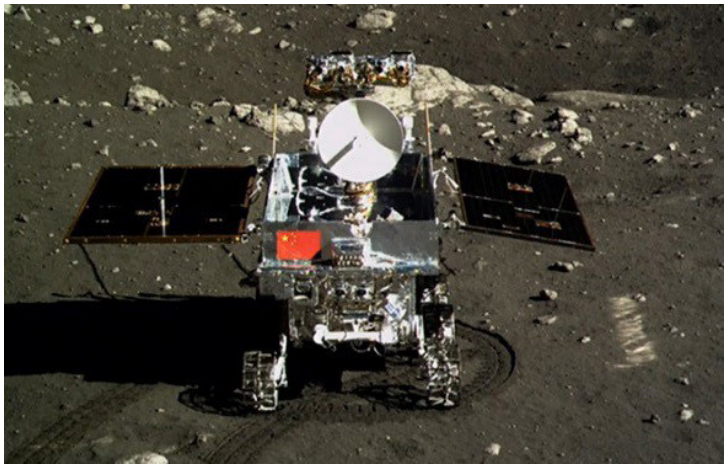
The correct term for life arriving on one of these various celestial bodies is: lithiopanspermia.

Lithiopanspermia—"the transfer of organisms in rocks from one planet to another"—has three stages to it, each of which need to be proven to validate the overall theory.

They are:

1. Planetary Ejection
2. Survival In Transit
3. Atmospheric Entry

The evidence for these three stages has implications for other panspermic mechanisms too. In particular, the potential transport of the seeds of life via space probes and robot explorers. Something that, as we'll see, should be factored into all future extra-planetary missions.



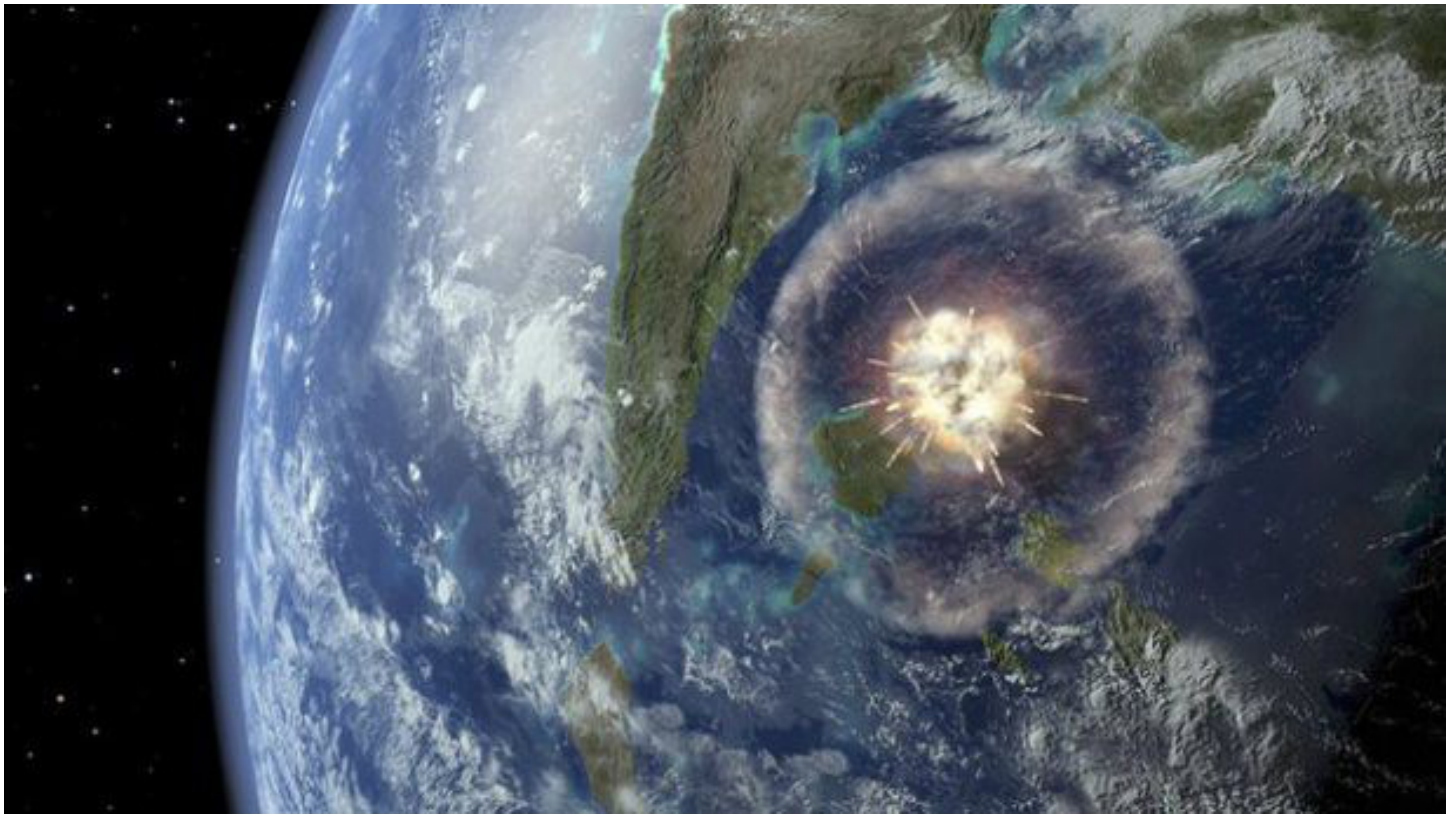
Yutu - Chinese moon rover

Planetary Ejection

Everybody knows a giant asteroid smashing into the Earth was what killed the dinosaurs. One of the previous five major extinction events, the Cretaceous–Paleogene; a cosmic catastrophe. Just last year it was calculated that the power of this event was "strong enough to fire chunks of debris all the way to Europa". From Mars to the moons of Jupiter, little chunks of frozen dino meat and a whole lot of Earth fragments could quite probably have come raining down.

As Neil deGrasse Tyson explains in the clip at the top, from the beginning of the Solar System big rocks have been crashing into one planet sending a bunch more flying into others.

There was likely a healthy exchange of material between Venus, Earth and Mars for billions of years. Life could have started and stopped on each multiple times, being preserved by an inter-planetary ark made of asteroids. We will only find out more as we look around the Solar System. Carefully.



artist's recreation of the Chicxulub impact

Here's a piece of Mars they found in the Sahara:

> CT scans have also revealed smaller iron-rich spherules resembling "blueberries," the iron-oxide concretions discovered on Mars a decade ago by the Opportunity rover and thought to have precipitated out of water. The edges of these veins and spherules would all be good places to look for organic signals, says Andrew Steele, a biogeochemist at the Carnegie Institution for Science in Washington, D.C., who is probing the rock for organics.
>
> So far, Steele has found no hint of martian biology—just trace amounts of organic molecules associated with volcanic processes. But he has found plenty of Earth bugs in the cracks—something that he takes as a good sign. "It's a very habitable rock," he says. "All it needs is a little warmth."

Rock of ages

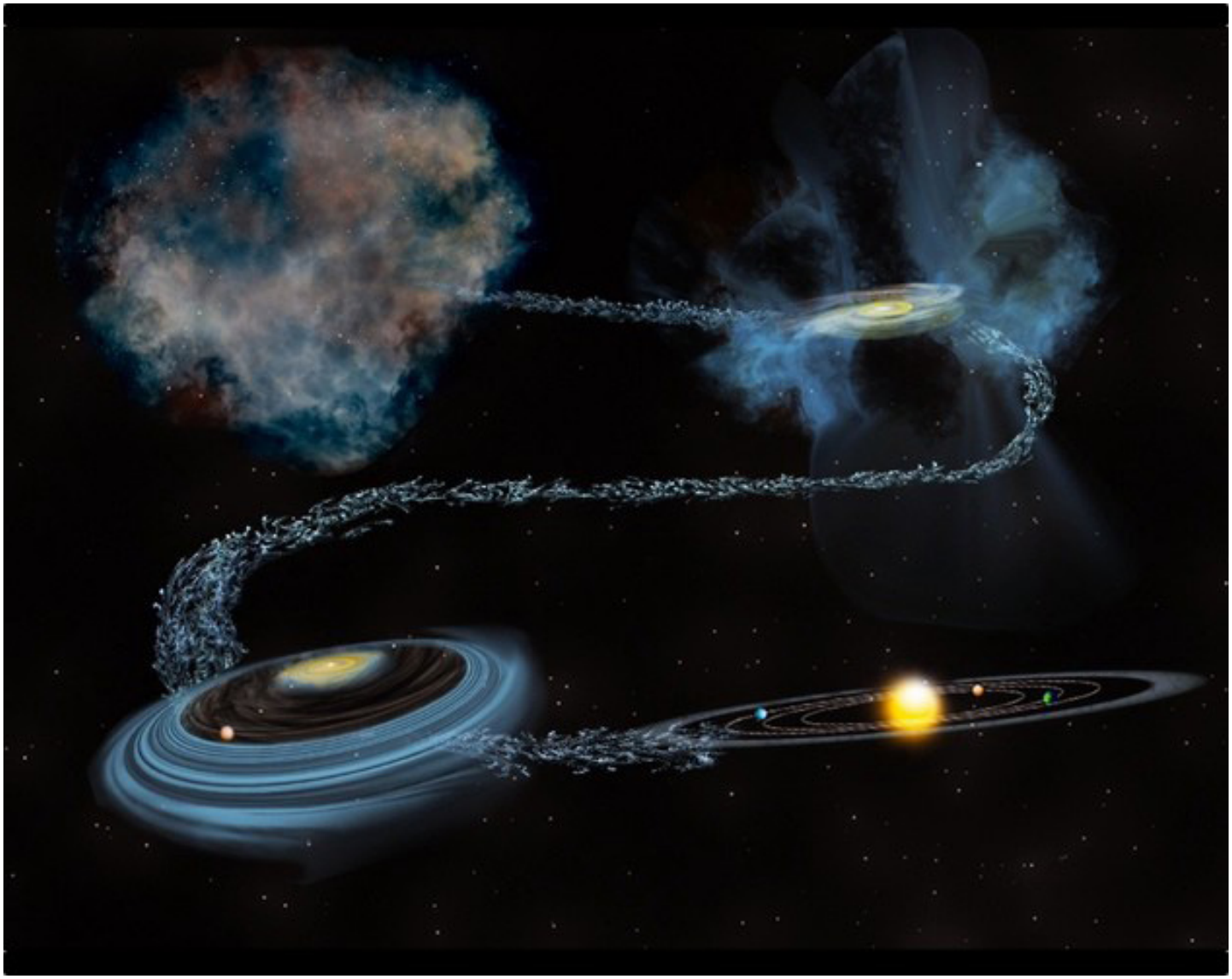
Black Beauty is a breccia, or a rock made of smaller rocks—as this slice of the original 320-gram mass reveals.

1. **Fusion crust:** The shiny, scaly skin comes from a fiery fall and years of desert sandblasting.
2. **Large pebbles:** The rounded outline of pebbles suggests erosion in wind or water.
3. **Blueberries:** These iron-oxide concretions may have precipitated out of water.
4. **Igneous rocks:** There are many igneous rock pieces, or clasts, that originally formed in cooling magma chambers.
5. **Impact melts:** Glassy teardrops and beads are impact melts, a sign that asteroid impacts were important in fusing the rock together.

That's a rock they found in the North African desert that formed on Mars 4.4 billion years ago, got launched into space by another asteroid 5 million years ago and landed on Earth a mere thousand years or so ago.

Just today evidence was announced suggesting that not only has the Curiosity been roving around an ancient dried up lake bed, but there could have been many more across Mars, over a period of tens of millions of years.

> "The size of the lake in Gale Crater and the length of time and series that water was showing up implies that there may have been sufficient time for life to get going and thrive."



Panspermia addresses the mechanism by which life arrives on a planetary body, not its origin. The implication is that the Solar System, the Galaxy, the entire Universe, could be filled with branches of one or more Trees of Life spread by giant rocks coming down from the heavens.

Or been formed that way from the very beginning. The 'heavy water' found across the Solar System—from the asteroids and comets, to Earth's own oceans—"was inherited from the original birth environment of the Sun in very dark, cold interstellar gas." That this might be the nature of the birth of a Solar System. What came along for the ride? Are we going to find our distant cousins when we make it out there amongst the stars, across the universe? Is some posthuman descendant of ours going to embark on a quest similar to Star Trek: TNG episode *The Chase*? Maybe it's not so crazy to think of us meeting humanoid races wherever we go.

Maybe they'll come visit in a most unexpected and most terrible manner.

If you think that the water of Earth being older than the Sun is far out, how about stars flying across the universe, being flung out by supermassive black holes, travelling at a mere %3 of lightspeed (or 10,000 kilometres per second):

> "Semi-relativistic hypervelocity stars could spread life beyond the boundaries of their host galaxies."

I have long said that we could catch a ride between planets on suitable passing asteroids. This is one way to see galaxy after galaxy... transformed in your wake. Cosmic death cult tourism.

It happens, you know, sometimes galaxies just collide. If you think that's doomy, brace yourself: scientists also think whole regions of the galaxy are peroidically wiped clean by the gamma ray bursts of a hypernova. Suddenly, the odd massive asteroid impact doesn't look so bad. It's just one planet, and it's not even killing everything.

Is a rogue star touring the universe really so strange an idea, once you get your head around that? Sounds rather nice. Much better place to put a global seed bank. Maybe these stars and their planets function as kind of universal data storage system? A place for each passing biosphere to back up its ecosystems. Should they survive its arrival.

Back on the homeworld... One place on Earth that astrobiologists have long studied is the deep ocean; home of the hydrothermal vents and their resident form of extremophiles, thought to be quite similar in habitat to ice moons like Europa. An event like the Chicxulub impact could have sent a few pieces of this deep ocean habitat on a course straight to Europa, seeding it with the perfect life form. Assuming there was nothing else there already.

When you scale ecology up you get competition between life forms occurring on an inter-planetary to universal basis. Branches with a shared history fighting for niches within the larger ecosystem. Altogether new life forms going for the base resources it needs. Have you heard about the shadow biosphere?

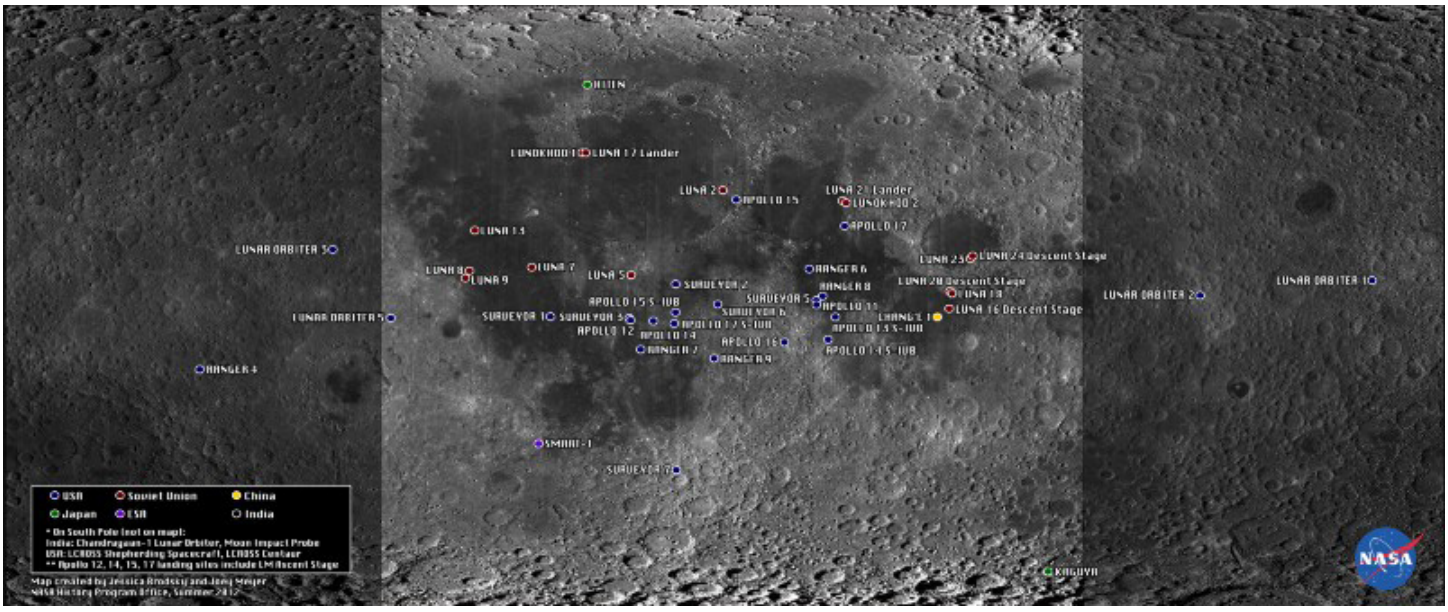
> "On Earth we may be co-inhabiting with microbial lifeforms that have a completely different biochemistry from the one shared by life as we currently know it."

M64—galaxy eater

As Paul Davies said: "If life started more than once on Earth, we could be virtually certain that the universe is teeming with it." Another theory, now considered just as probable, is that an origin for life could lie deep underground, in the Earth's crust itself:

> The detailed environments on the early Earth and the conditions, under which life could originate billions of years ago are largely unknown. In consequence, the possible processes which may have taken place can neither be proven nor excluded. Therefore, most of the models proposed so far are focused on singular elementary steps of prebiotic developments. In its long history, the corresponding discussion about the crucial location on early Earth shifted from the Earth's surface to the deep sea, from volcanic outlets to shallow ponds. Lacking plausible alternatives, extraterrestrial regions like Mars or the interplanetary space have also been included.
>
> On the other hand, the continental crust was, during a long time, neglected in the discussion. "This region, however, offers the ideal conditions for the origin of life", Prof. Schreiber says. His focus is on deep-reaching tectonic fault zones which are in contact with the Earth's mantle. As for example in the region of the "Eifel" in Germany, they are channeling water, carbon dioxide and other gases which constantly rise to the surface. This fluid mixture contains all necessary ingredients for prebiotic organic chemistry.

The implications being two fold. Firstly, wherever an asteroid crashed there were likely living passengers catching a cosmic ride as they were dispatched into the void. Secondly, this prebiotic process could have occurred just as easily on Mars or Venus over time. Increasing the strength of the argument that independent strands of life have been exchanged across the Solar System, or further, for perhaps as long as it has existed.

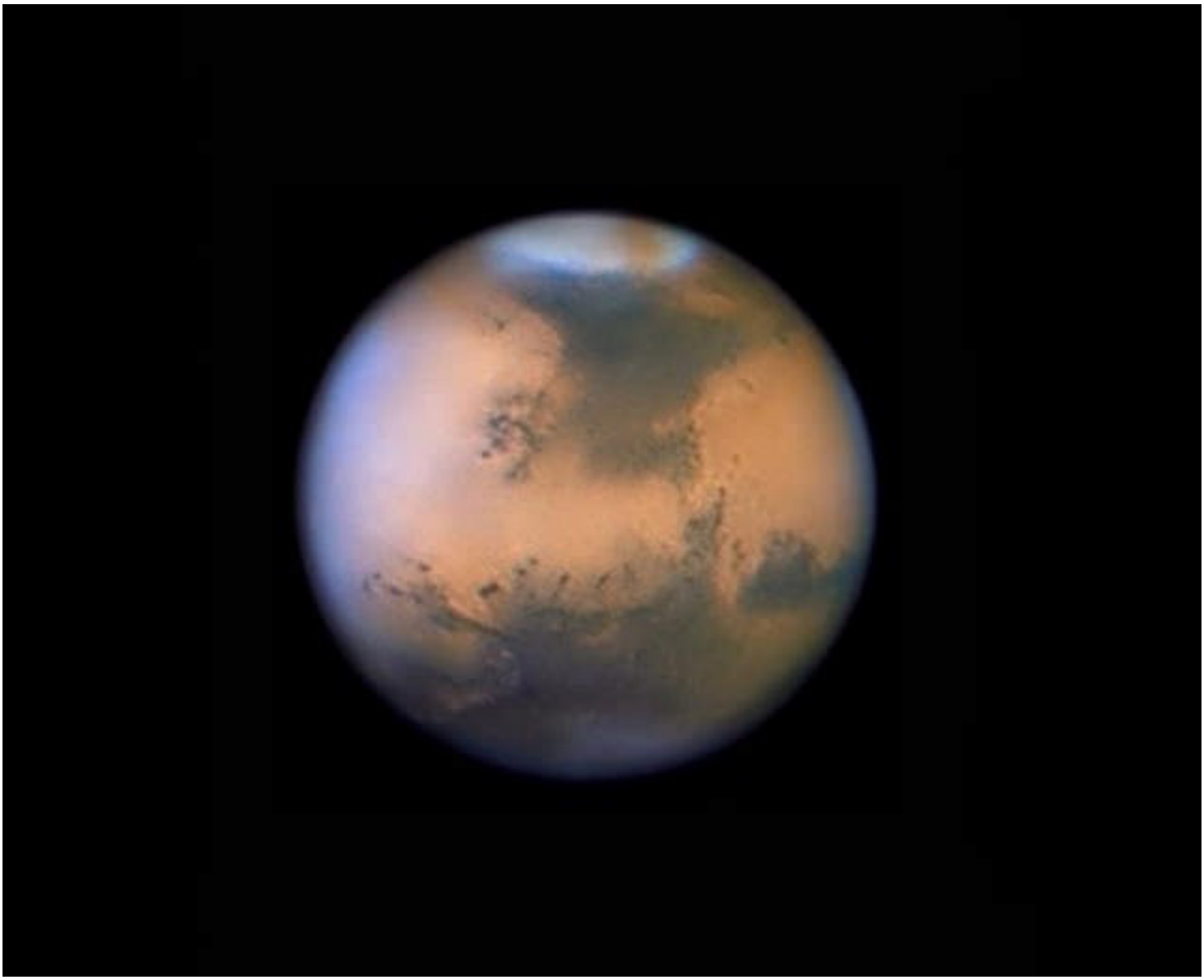


A Compilation of Human Artifacts on the Moon [NASA]

Earth's moon, Luna, may be acting as natural history museum. Littered not just with a growing number of powered down robot explorers, but also fossils offering a "glimpse into past life on Earth". Relics perfectly preserved. A biologist's utopia. Just a few day's drive across the void of space. Waiting.

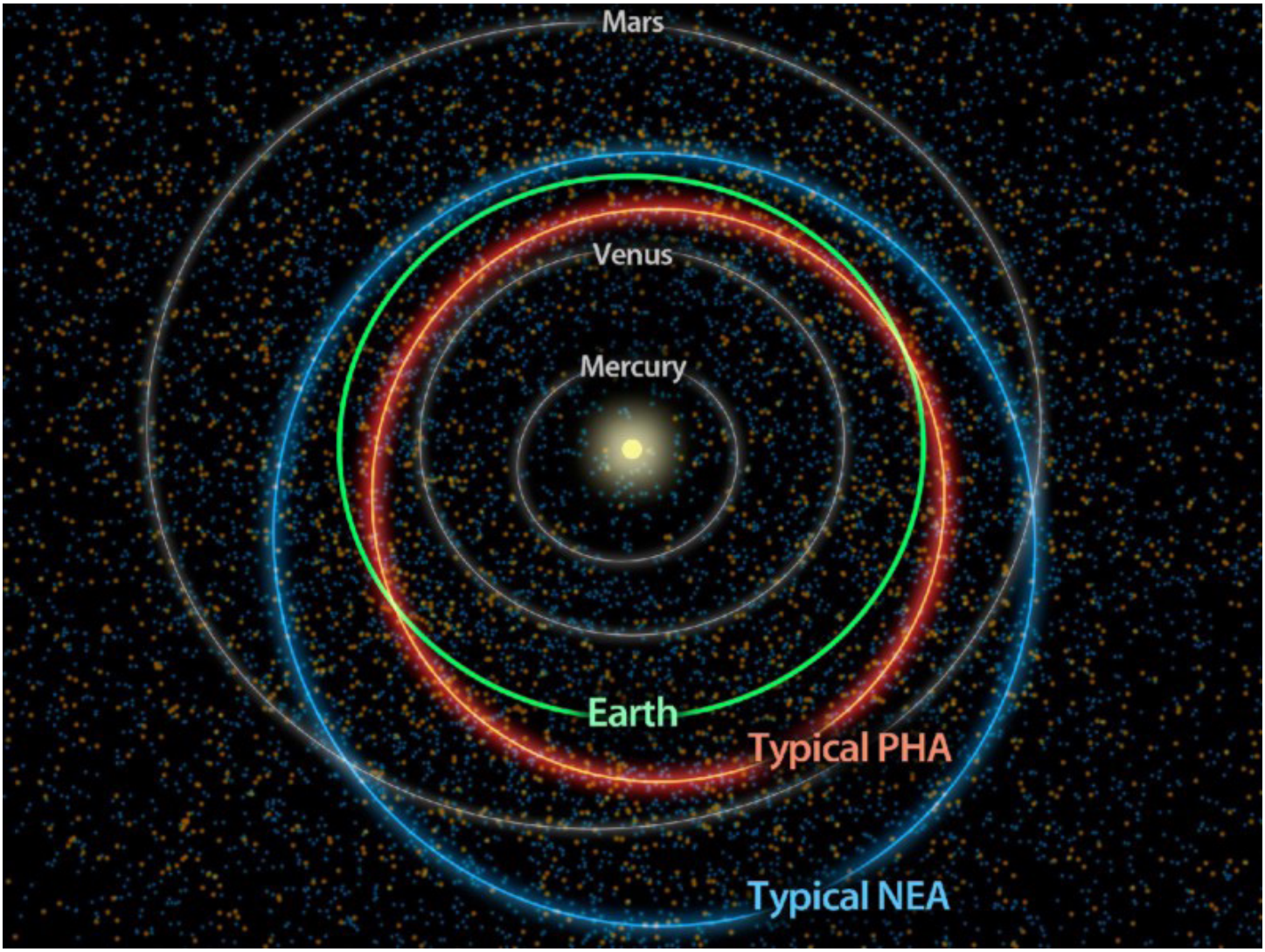
Our local part of the cosmic neighbourhood begins to look much less like a single living planet amongst a series of dead worlds and moons, and more like a single part of an epic natural system. It's just our world's turn to flower.

Comet Siding Spring, for instance, is thought to have delivered a payload of meteorites as it passed by Mars just recently, permanently altering the planet's chemistry. Did that happen before when it was once full of life? Could that be our world's fate too? Maybe we should watch out for that.



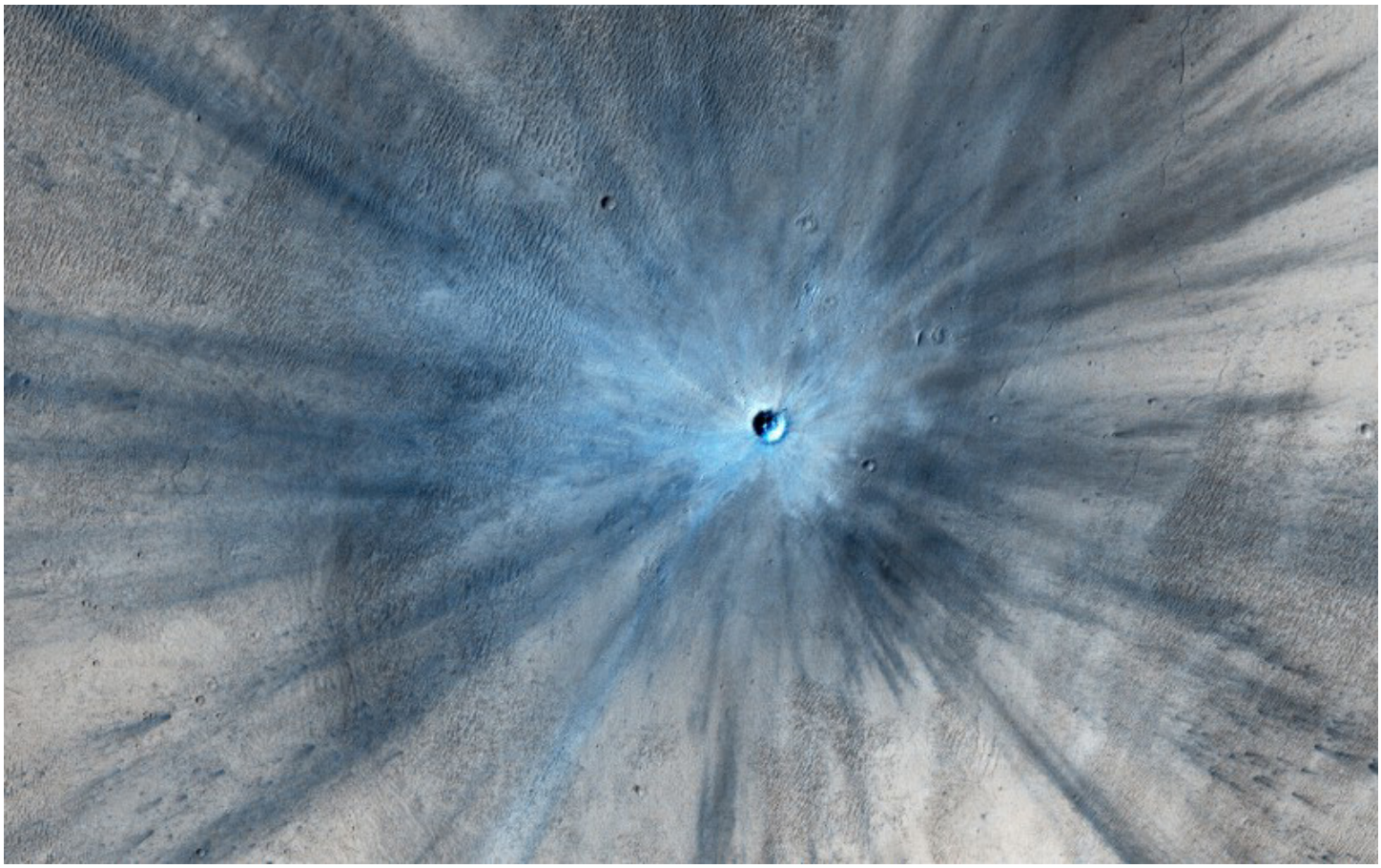
the dust storms of Mars

That sufficiently addresses just how life could be ejected from one planetary body to another via a variety of mechanisms. That it has been occurring over billions of years, and is in fact an ongoing process.



The Hustle and Bustle of our Solar System. PHA—Potentially Hazardous Asteroid. NHA—Near Earth Asteroid.

Now to show that life can survive the trip through the vacuum of space.



A fresh Martian impact crater

Survival In Transit

As we saw above, they're looking pretty hard at Black Beauty to find confirmation that it, or meteorites like it, could have acted as an inter-planetary transport system for the local ecosystem.

What about comets? That's the exact thing the ESA were asking when they dispatched the Rosetta probe. And despite the Philae Landers short and dramatic landing, it did indeed detect organic molecules before going into sleep mode:

> It has not been disclosed which molecules have been found, or how complex they are.
>
> But the results are likely to provide insights into the possible role of comets in contributing some of the chemical building blocks to the primordial mix from which life evolved on the early Earth.
>
> Preliminary results from the Mupus instrument, which deployed a hammer to the comet after Philae's landing, suggest there is a layer of dust 10–20cm thick on the surface with very hard water-ice underneath.

Comet 67P

As anyone who watched *Ambition*—the excellent piece of space propaganda the ESA produced—knows, the water alone has been a key factor in making this planet what it is. Which by itself argues strongly enough that the origins of life on Earth are not terrestrial alone but lie in the heavens too. Especially if its just a local distribution system for the ancient heavy water discussed earlier.


AMBITION
THE EUROPEAN SPACE AGENCY AND THE ROSETTA MISSION / PLATIGE IMAGE PRESENT
"AMBITION" DIRECTED BY TOMEK BAGIŃSKI STARRING AIDAN GILLEN AND AISLING FRANCIOSI
PRODUCED BY JAN POMIERNY AND ANNA RÓŻALSKA
esa
WWW.AMBITIONFILM.COM

> "The team's findings provide the first direct evidence that crystal cocoons formed by impacts might have been radiation-proof cradles for early life."

More evidence than that is needed to make the case for an ecology that spans the Solar System and beyond. Such as proof that more complex life forms, like bacteria, can survive such a voyage:

> In 2002, a team led by astrobiologist Charles Cockell at the University of Edinburgh, UK, discovered a unique group of cyanobacteria in Haughton crater in northern Canada. The bacteria live in tiny pores and cracks of near-translucent rock, formed during the intense heat and pressure of the asteroid or comet impact that made the crater, about 23 million years ago.
>
> Cockell's team found that the altered crystal structure of the rocks absorbed and reflected UV rays. This suggests the rock could shield the bacteria while letting enough sunlight through to allow them to photosynthesise.
>
> Complex life evolved long before the crater formed, but there have been countless space rock strikes in Earth's history. "That raised a whole bunch of questions about whether the unique geology of impact craters could have been a good UV shield on the early Earth," says Casey Bryce, a member of Cockell's lab.
>
> Bryce and her colleagues got an unusual chance to test the notion in 2008. As part of the European Space Agency's EXPOSE mission, the team sent some of the crater rocks to the International Space Station (ISS). Before lift-off, they grew samples of the cyanobacteria either in plain glass discs or in discs of the impact-altered rock. Once in space, these discs were mounted on the outside of the ISS, where they were left exposed for nearly two years.
>
> The bacteria received radiation doses far more intense than conditions on early Earth. When the samples were returned to the lab, the microbes in the glass discs were dead.
>
> "However, when we cracked open the impact-shocked rocks we were able to detect chemical signals of life and rejuvenate the dormant cyanobacteria," says Bryce...
>
> Asteroid and comet impacts are ubiquitous in the solar system, so Pontefract thinks impacts could have helped kick-start life on rocky planets and then shielded whatever emerged. Crater rocks could provide refuges even now for life on other planets, such as Mars, she says.

It sounds almost... no, *exactly*... like a natural mechanism for the seeding and reseeding of life on and between planetary bodies.

Which leaves just one more part of the overall theory of Panspermia to prove, and that's the most exciting news of all: confirmation that life can survive reentry. Something that has profound, cosmic - and also disturbing - implications.

Atmospheric Entry

The biggest obstacle to the theory of Panspermia has always been reentry. Even if life could survive in the cold, empty void of space how could it remain intact after a fiery descent through the atmosphere?

Thanks to some Swiss and German scientists, this last charge against the resilience of life has been dropped:

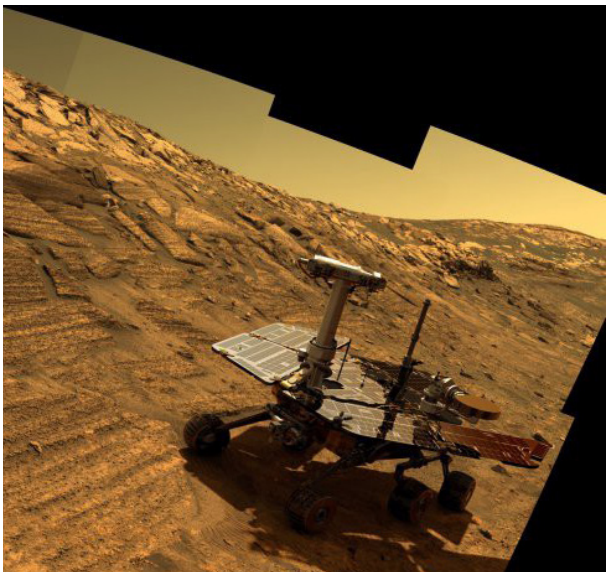
> In a new study published today in PLOS ONE, a team of Swiss and German scientists report that they dotted the exterior grooves of a rocket with fragments of DNA to test the genetic material's stability in space. Surprisingly, they discovered that some of those building blocks of life remained intact during the hostile conditions of the flight and could pass on genetic information even after exiting and reentering the atmosphere during a roughly 13-minute round trip into space.
>
> The findings suggest that if DNA traveled through space on meteorites, it could have conceivably survived, says lead author Oliver Ullrich of the University of Zurich.
>
> The rocket test may fall short of representing the faster speed and higher energy of a meteor hurtling into our atmosphere, but it does suggest that even if the outside of a meteor was scorched, genetic material in certain places on the meteor could survive higher temperatures than scientists had previously realized and make it to Earth. The findings are "a stop on the way to understanding what the limits are for DNA's survival," says research scientist Christopher Carr of the Massachusetts Institute of Technology, who was not involved with the work but called the results "provocative." The next steps, he says, would be to further pin down what temperature and pressure would ultimately kill DNA.

And the implications are immediately very, very messy for astrobiologists and all the world's space programs. Because as lead author, Oliver Ullrich, of the paper says:

> "DNA attached to a spacecraft has the potential to contaminate other celestial bodies, making it difficult to determine whether a life form existed on another planet or was introduced there by spacecraft."

Which means the Martian rovers could be acting as technological panspermic vehicles... an unintentional form of directed panspermia. While we're talking about the nature of DNA, its co-discoverer Francis Crick was quite fond of this idea.

> When space agencies send robot explorers to other planets, they give them a deep clean to remove all Earthly signs of life. The idea is to avoid contaminating another world, which would make it more difficult to detect genuine aliens. Thiel says her work suggests agencies should coat their robots with artificial DNA before cleaning, to confirm it has all been removed.



composite of the Opportunity Rover on Mars

The case for future robot explorers being assembled in orbit by robot factories becomes incredibly strong. Why not move all our heavy industry up there while we're at it?

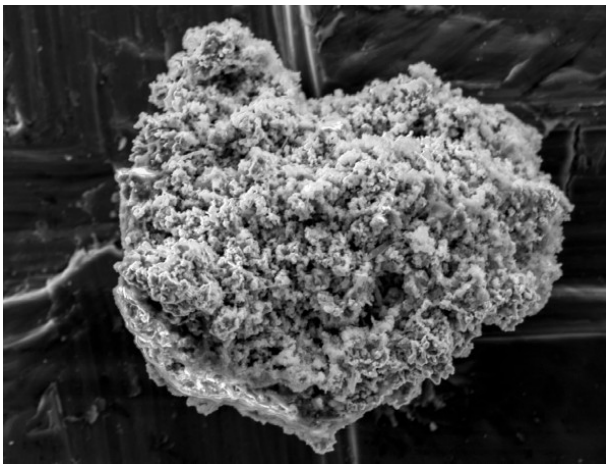
It means, moving forward, being very careful about what we send out of Earth and where. It means thinking about the whole Solar System on an ecological scale.

And taking any return missions equally seriously.

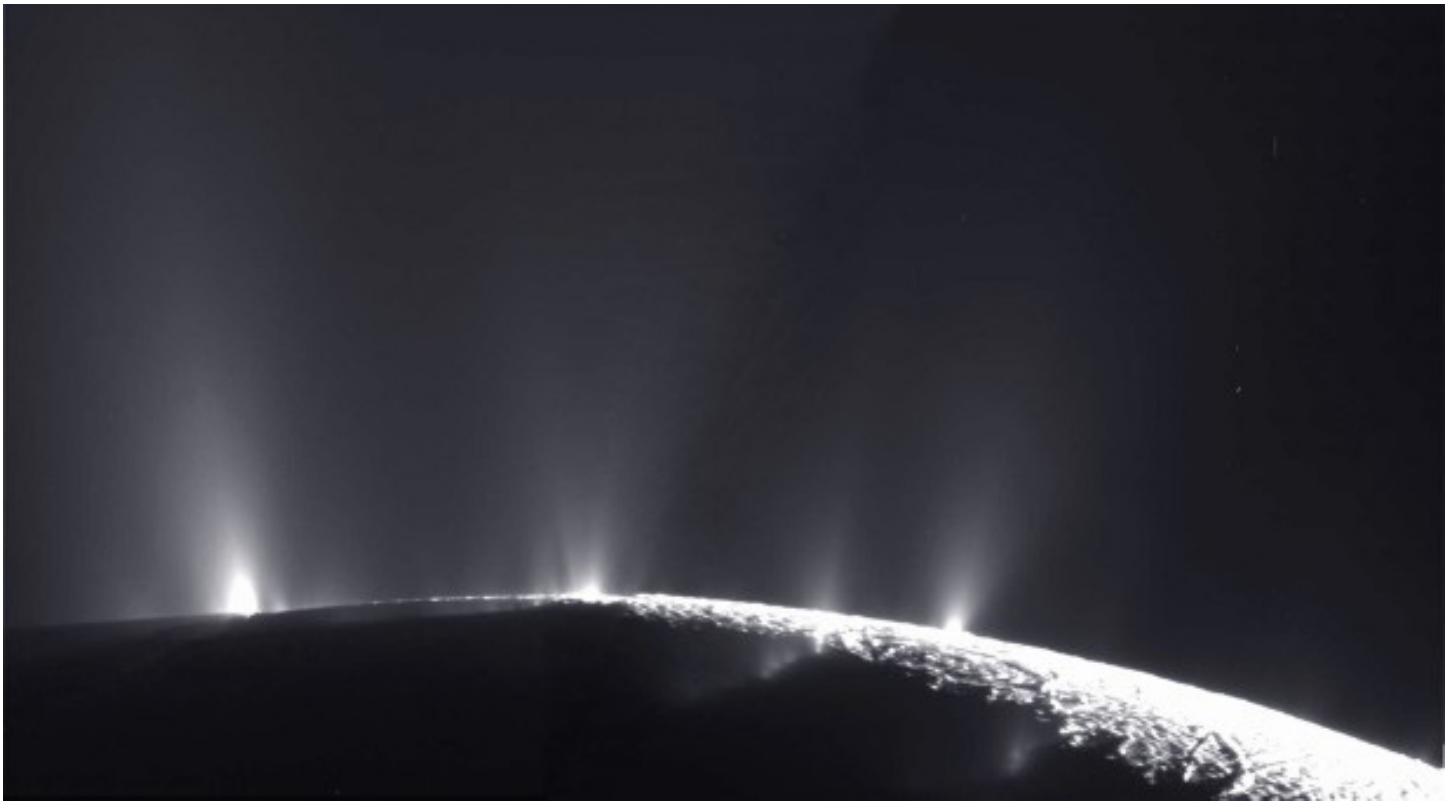
Hayabusa2

Because a plague is a hell of a way to confirm life existing beyond our planet. And we are only just studying what's in the dust that falls from a passing shooting star.

And the idea of a comet being integral to the Black Death is a scary enough history lesson to make us start watching for unexpected visitors with much greater attention. (Support the Sentinel Mission! Keep funding the Near Earth Object Program. Etc)



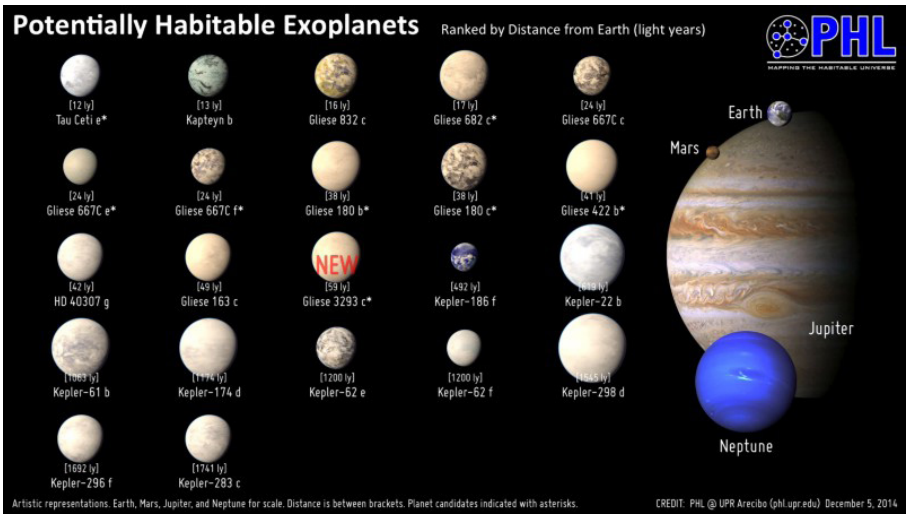
a particle of comet dust, enhanced



the plumes of Enceladus

Categorising probable locations of life as natural reserves to be preserved and protected, not unwittingly infected. Ice moons like Europa and Enceladus in particular. Especially when there are non-invasive observation options, like just flying by and collecting a sample from the plumes of Enceladus.

As we continue to learn more and more about the universe we reside in. And seek to make intelligent choices about our future role in it. Using advances in synthetic biology to be self-aware vectors for the transmission of life and the resurrection of dead worlds.



Agents of Panspermia.

Actors for the Galactic Ecology.

And build a whole new spacefaring civilisation of our very own...

In conclusion: exciting and potentially very dramatic times!!! It makes one feel positively *Cosmopomorphical*.

Which is one of the aims of Dark Extropianism; to break the mind out of regular thinking. To embrace the void. To see beyond the normal and find new answers to old questions. To expand the scope of our dreams and the nature of our hopes. Which is why we've found Panspermia so fascinating a concept to begin with, and have tracked all developments closely to bring the good word to you now. To testify!

Amen.

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IMAGE CREDITS

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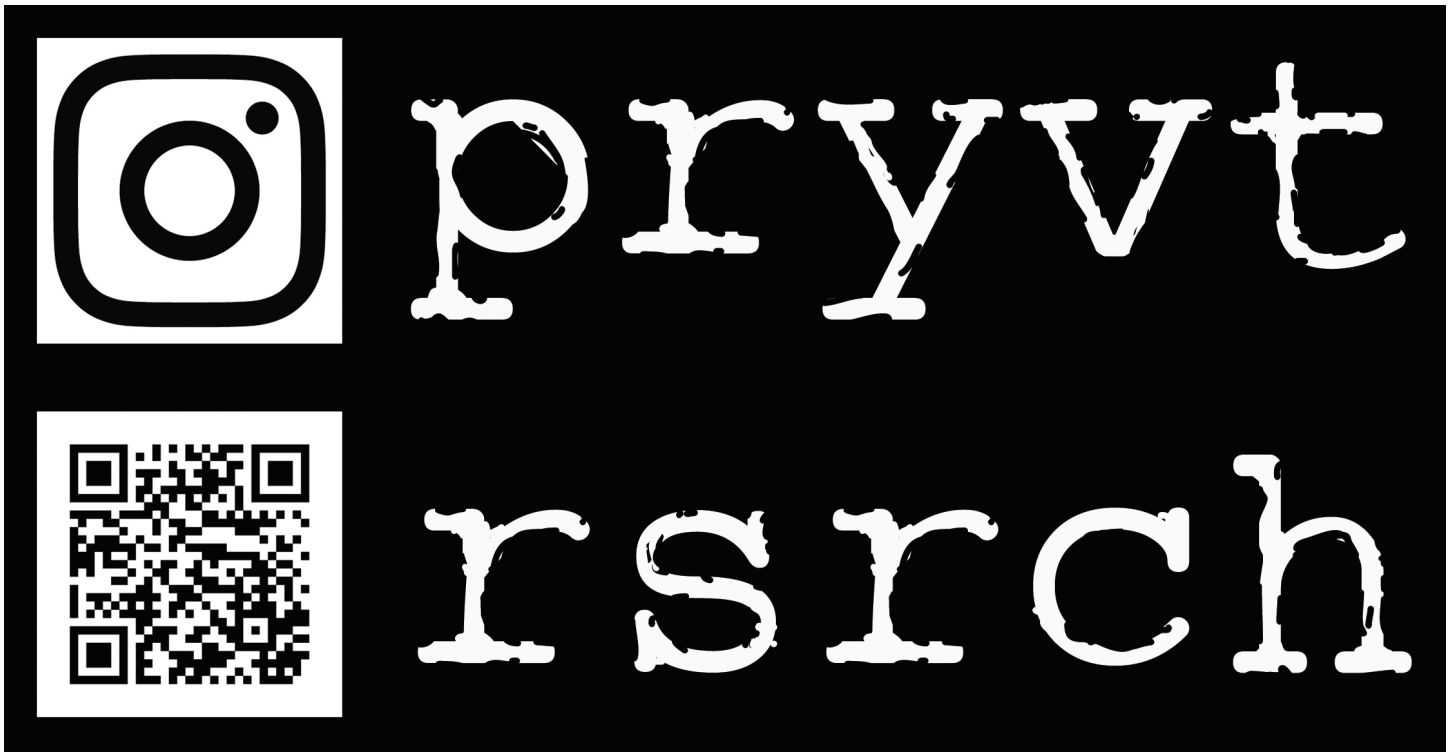
ABOUT THE AUTHOR

m1k3y - who is *TOTALLY* not the leader of an Asteroid Death Cult - is keenly interested in DeExtinction, and other things that fall under the Dark Extropian label, principally examining them through the lens of pop culture.

You can find him on the socials at @m1k3y (Twitter) and @pryvt_rsrch (Instagram).

For first access to more like this, check out his Patreon, ***Dark Extropian Musings***, at patreon.com/m1k3y.



It reads a lot like Hunter S. Thompson's *The Great Shark Hunt*. With the stream-of-consciousness vibe and plenty of "in jokes" (where's my merch dammit?!) ~ @lluke

DARK EXTROPIAN

MUSINGS