

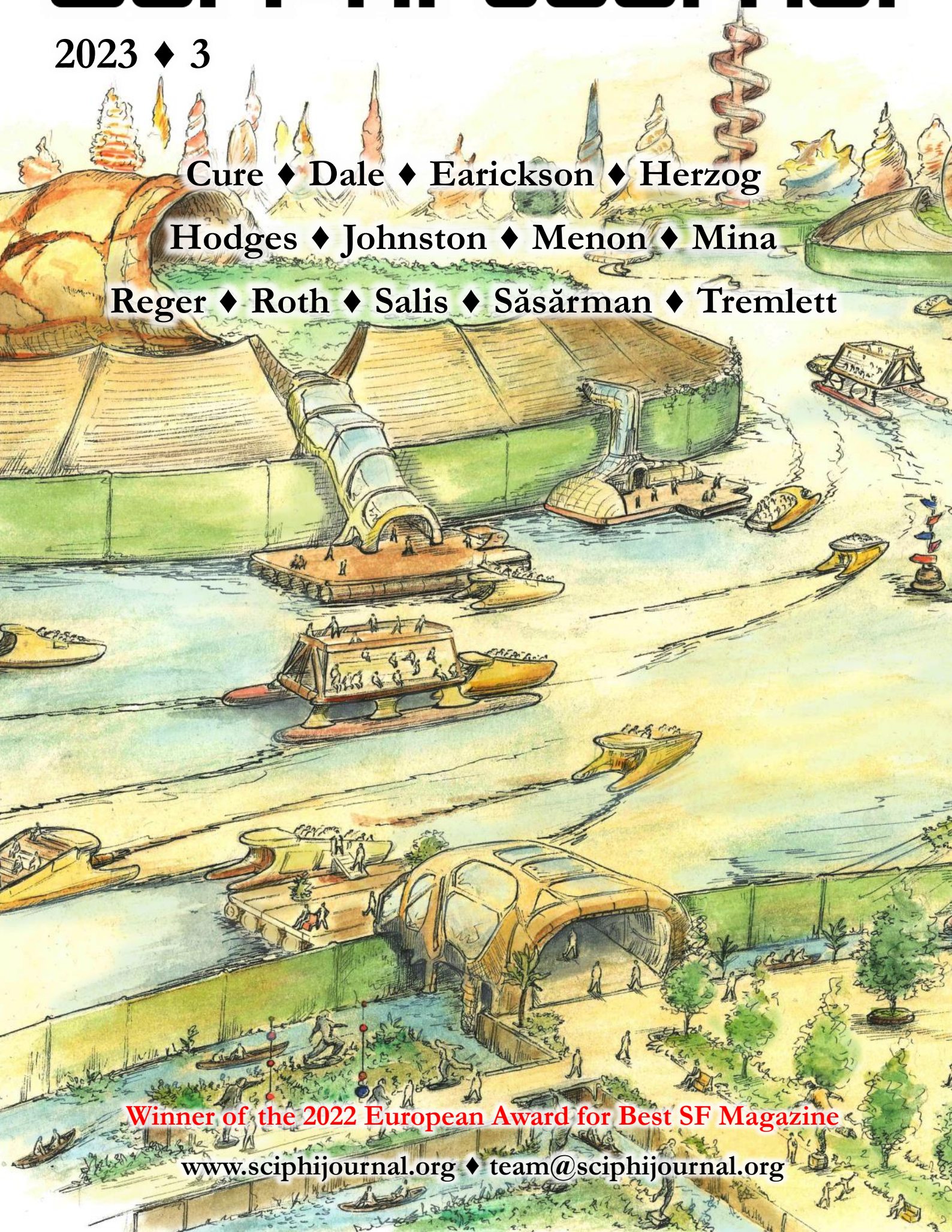
Sci Phi Journal

2023 ♦ 3

Cure ♦ Dale ♦ Earickson ♦ Herzog
Hodges ♦ Johnston ♦ Menon ♦ Mina
Reger ♦ Roth ♦ Salis ♦ Săsărman ♦ Tremlett

Winner of the 2022 European Award for Best SF Magazine

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Editorial

Lectori salutem.

Welcome to our 2023 Autumn edition.

As summer gives way to fall in the northern hemisphere, several members of the crew watch their children start primary school and set out to accompany them on the journey of “learning the world” (to borrow an SF title). The awe experienced by youth in encountering the countless novelties still in store for them can often inspire a yearning for a renewed taste of the same in those more advanced in years. In the ‘golden age’, that quest was once seen as the prime mover of speculative fiction. And it is that same ‘Sense of Wonder’ which, in their various tiny ways, our stories and articles seek to explore this time around.

Both essays featured in this issue navigate the publishing landscape and editorial currents prevalent in the SF of the past and present, respectively, and the striving for novel angles on well-worn themes which sought to offer readers something new to think about with each turn of the page. We hope that in the ten works of fiction that form the body of this quarterly edition, every curious mind will find the odd bit to ponder. As often in this publication, they span the breadth of time from the Earth of antiquity to the Dyson-clad suns of the far future.

Excursions off the beaten track are, of course, not always welcome in this day and age. The story “A Rejection” resonated in particular with co-editor Mariano owing to his experience of having his research paper on non-heterosexual utopias rejected out of hand (i.e. without peer review) by a leading journal in the field of gay studies, for he had unearthed works of fiction which do not cleave to currently accepted orthodoxy. For more on this, see also his previous article on peer-enforced intellectual conformity, c.f. [horizontal totalitarianism](#).

In a rebellious vein, we also resume the publication of the “missing” chapters from Georghe Săsrman’s imaginary cities – those that had not been available in English thus far. This time we include the most controversial, which Ursula Le Guin had declined to include when she translated the Romanian SF master’s urban fantasy flash cycle. The story is brought to life here through Monica Cure’s skilful English translation.

Enjoy the ride!

Speculatively yours,
the Sci Phi co-editors & crew

~



Meno's Dream

Ben Roth

"I have had a dream," the servant is said to have said, looking beyond him into the fire. "I find myself walking in an arid desert canyon, my hands trailing through wild growths of sage and rosemary, releasing their scent into the warm air. Through twists and turns, the canyon gradually descends, at one point the walls arching in and almost touching overhead. Finally and suddenly, it opens onto a beach, where I find you, master."

One imagines, even if Avicenna does not so comment, that at it is only at this point, where he himself makes an appearance, that the still sleepy Meno takes any interest, as even the dreams of our most beloved fail to concern us, unless they include us.

"At first," the servant continued, still looking into the hearth's flames, "you do not acknowledge me, so deep in concentration are you over your task. For around you is a marvelously complex city, hundreds of miniature buildings shaped in sand. A network of streets and alleys weaves through them, as well as a series of canals, whose water the gentle lapping of the waves constantly replenishes."

This report, or tale perhaps, comes down to us from Avicenna, who credits it to Aristotle, though it is not to be found in the now surviving corpus of the peripatetic philosopher. Aristotle (according to Avicenna) already reports worries that it is apocryphal, and hedges over its source. Questions of proper attribution, we will see, are in any case quite fitting.

A nameless former Pythagorean, continuing to hold with the master's mathematical teachings but disavowing the more mystical aspects of his cult, was found by his servant sitting at the hearth one morning. Normally, the servant was the first in the household to rise, but the former Pythagorean—Meno, let us decide to call him—had not slept. At first, he barely looked up, until he noticed the strange expression on his servant's face, at once perplexed and somewhat amused.

“‘Note the bridges,’ you say, pointing with a rod at carefully placed bits of driftwood. ‘They number seven.’ Only then do you look up at me.”

Avicenna reports that the servant went on to detail his master’s subsequent speech, and his accompanying movements as he stepped carefully from boulevard to square, island to embankment, within his city, using the rod to note distances matching or multiple, and the emergent angles and overall geometry.

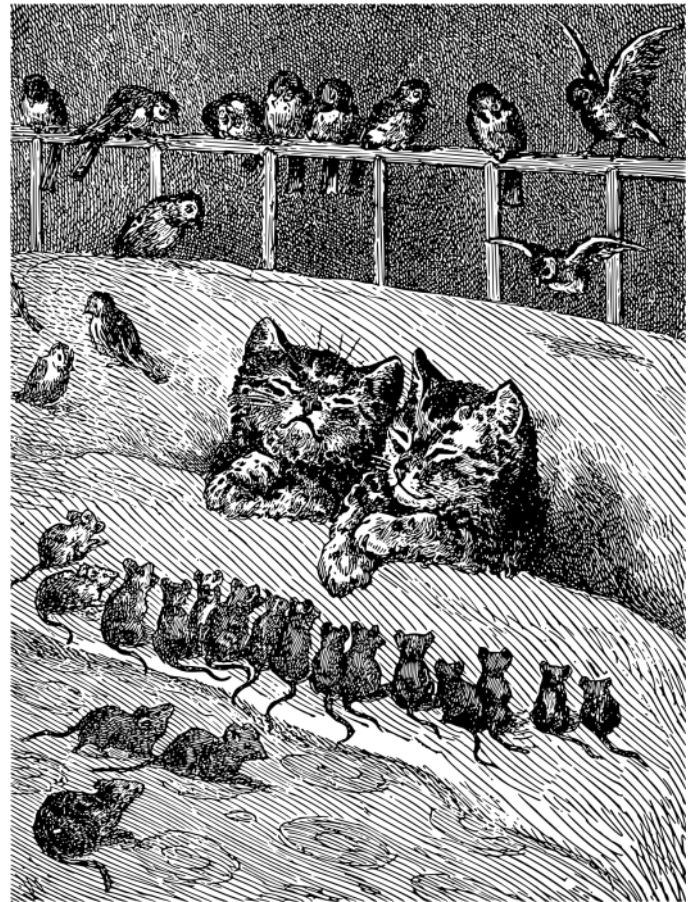
“I did not understand your meanings, but your eyes glowed with conviction,” he said, before turning away to prepare breakfast.

As his mind slowly woke, Meno pondered his servant’s dream—who suddenly saw his master spring up and across the room to his chalk and slate.

Scratching out a diagram, he called out a question, but the practicalities of the day had already displaced the details of the dream from his servant’s thoughts. “Nevermind!” we can imagine him calling out. “I remember what you said!”

“What you said I said,” he might have added after a moment.

The former Pythagorean had realized that his city of sand modeled an ingenious and unexpected proof of the very problem he had been worrying throughout the previous sleepless night, and so many more before. He had tried to work it in pure numbers, but here one could *see* it. Ignoring the meal now set on the table, he dashed out of the house to share the proof with his fellow thinkers.



All did not end well, however. “Who,” Schelling asks centuries later in an obscure lecture course, *Der Grund und Abgrund von Vernunft*, haphazardly transcribed by one of his students, “is the author of this proof? The former Pythagorean? His servant? The servant’s *idea* of his master? The dream itself?” On what, the German idealist wonders, are our systems of reason and logic built? The question is not idle, Schelling insists, as the proof at hand would become central to later developments of logic. Indeed, according to Frege, it is among the few ancient insights still relevant as Aristotelean logic gives way to its modern successors; Gödel affirms the point.

Already, according to Avicenna, Meno himself had the same worries. After a week of drink and feasting with his brethren to celebrate his work, he began to doubt whether it was really his. Looking at the proof, he could no longer remember what it was to *not* see it. He questioned his servant repeatedly about what he remembered of the dream. He futilely tried to explain the proof to him, searching his face for signs of understanding, for signs that he had *already* understood. Unwilling to explain to his fellow thinkers the co-opted source of the proof, and so unable to look them in the eye as they continued to celebrate “his” work and turned to elaborating it many corollaries, he distanced himself from his former sources of society.

The contemporary interpreter, whether following Freud or empirical psychology, may protest that the notion of our brains continuing to labor beneath the level of, or even the possibility of explicit access by, consciousness is now familiar. Yet it was not the former Pythagorean’s own brain, but rather his servant’s, that did the work here, a literal yet local notion of collective unconsciousness that only the rarest of Jungians might accept. And so we might insist that the servant, despite his supposed lack of education, must have somehow been steeped in mathematics and contrived this manner to roundaboutly deliver the solution and so respite to his sleepless master. Speaking against this debunking possibility (which he says Aristotle quickly dismisses), Avicenna reports that the former Pythagorean himself eventually wanted it to be true, that he would have happily surrendered any credit (which he didn’t feel he could claim anyway) in order for this mystery to be solved and his confidence in reason restored. Thus a would-be debunker is left to ascribe cruelty to Meno’s servant, if he refused, even in the face of his master’s increasing desperation, to admit that the accomplishment was really his own.

Reflecting on the final developments of the story, Aristotle, Avicenna reports, attends to matters other than those of human interest and feeling. Should we

credit an idea to its source, or only he who understands it? What is the proper typology of causes here? Does a reason still have weight if we only understand *that* but not *why* it is as it is?

Avicenna himself declines to draw a moral, flatly declaiming the tale’s conclusion instead. No longer able to take pride in the proof, the former Pythagorean took long walks through the country, trying to find the shoreside canyon his servant had described. He took to his bed, hoping to find an answer in his own dreams, his waking mind now unknown to him. There he did not find an answer, but instead the recurring image of an abyss. Running through a labyrinthian city, he flees an unknown threat looming behind. Each time he tries a door, looking for shelter, the building dissolves into sand before him. Each night, before waking, he would be left standing on a precipice, but here he became dissociated from his body, looking as if from above at himself staring down not into slopes of sage and rosemary, but total blackness. Eventually, all possible pleasure—or even bare confidence—drained from it, he took his own life. Avicenna reports nothing concerning the fate of the servant.

~

Welcome To The Zineverse

Mina

“Gleaming and glittering with gold and wondrous surprises for young and old”

Ladies and gentlemen! Roll up, roll up! Come, my lovelies, and experience everything the Zineverse has to offer. Marvel at those spaceships! Meet the monsters (not all in alien form). Dream of new worlds!

Let’s begin our journey by meeting a publication that reviews the many different creatures you can find in the science-fiction-and-fantasy Zineverse, [Tangent](#). It owes its thirty-year existence to Dave Truesdale, its editor, and the volunteers who review for the pure love of it. Truesdale is proud of the fact that *Tangent* was the first SF short-fiction review magazine, to quote the late SF historian Sam Moskowitz. As well as reviews, Truesdale asks reviewers to give “recs” for the [recommended reading list](#) for that year. In an email exchange, I said my baseline criteria for recs was whether I would read something a second time and whether there was something truly original. Truesdale replied that originality is getting increasingly rare:

“... it's harder and harder to come across anything even halfway original, because the more you've read over time means you've had the opportunity to experience "originality" in theme or treatment many times over many years and many stories...The reverse is that, when you first began to read SF/F, everything was pretty much original to you, giving rise to that Sense of Wonder the younger (or newer) reader discovers. But... the originality metric is harder to find. That's when I go to the other metrics... primary among them how the author executes his/her theme or treats the subject matter. Does the prose level perhaps sparkle above and beyond the norm? Is there an unexpected twist or POV on a tried-and-true theme elevating the story above the norm or cliché?”

These comments will resonate with all editors in the Zineverse. And the feeling of awe I too seek as a reader was also mentioned by Ádám Gerencsér when I asked him why he became co-owner and co-editor of [Sci Phi Journal](#) – with Mariano Martín Rodríguez:

“It’s a labour of love... a childhood attraction to SF’s infinite possibilities and [its] innate Sense of Wonder. For Mariano and I, it was really a question of: we want a venue for philosophical SF and if the only such publication is orphaned, we got to revive it [back in 2018].”

Sci Phi Journal happily [tells you](#) that it is “a cosy waystation for travellers who, through no fault of their own, find themselves at the cosmic intersection between speculative philosophy, cultural anthropology and hard SF.” It deals in idea-driven speculative fiction (not character-driven) and is an unapologetically European journal consciously setting itself aside from the “American model”. It embraces “semantic diversity” and all thought experiments, including those they do not agree with. It is itself an experiment in true free expression. I find this quite refreshing, and it is a cause I am willing to espouse. It also offers a platform for [literary analysis and philosophical discussion](#) in a genre considered by many as not worthy of such analysis (and it is not the only publication in the Zineverse to do so, for example [Hélice](#), which publishes literary criticism in English and Spanish).

Truesdale has commented to me many times that *Tangent* reviews stories and not politics or ideologies. I’m not sure, however, that politics or ideologies don’t figure in the Zineverse. For example, [Fantasy](#), at the time of writing this article, was accepting “BIPOC-only” submissions (writers who identify as black, indigenous and people of colour); its sister publication, [Lightspeed](#), however, was concurrently accepting fantasy flash fiction open to all writers. *Fantasy* [provides](#) “entertainment for the intelligent genre reader – we publish stories of the fantastic that make us think, and tell us what it is to be human”. I particularly like its Q&A with authors and the fact that they include poetry, as well as short stories and flash fiction. *Lightspeed* has a [broader focus](#), including many subgenres of SF and fantasy. Both magazines are available as e-book editions (where you receive everything in one go for payment) or free online (where you wait for a new instalment each week). And I haven’t forgotten the other sibling, [Nightmare](#), that blends horror and dark fantasy (recent submissions were also BIPOC-focused). I must admit that, as a recovering insomniac, I haven’t delved much into this one but please do go and get your spine tingled and chilled by it.

That members of the Zineverse uphold various causes, languages and genres can also be seen in the special issues. The ezine [Strange Horizons](#) has brought out special issues, such as where [trans/nonbinary](#) (queer authors), [Wuxia and Xianxia](#) (“writers from the Sino diaspora as well as BIPOC creators in various parts of the world”) and [Palestine](#) meet SF and fantasy. This year’s [June](#) issue included each story in its original language (Bulgarian and Lithuanian) and in translation into English. *Strange Horizons* tells us it is “of and [about](#) speculative fiction” for all “flavours of fantastika”. In reviews of this publication, *Tangent* always adds a disclaimer about *Strange Horizons*’ political affiliations:

“On May 10, 2021 *Strange Horizons* officially expressed its [political support](#) for Palestinian solidarity. The views of *Tangent* Online reviewers are not necessarily those of *Strange Horizons*. Fiction critiqued at *Tangent* Online is, as much as is humanly possible, without prejudice and based solely on artistic merit.”

[Aurealis](#) favours SF, fantasy and horror authors from Australia and New Zealand for most of the year; it accepts submissions from anywhere in the multiverse for one month a year.

Talking of authors, I particularly enjoyed this comment from one of the authors published recently by *Lightspeed*, [Sarah Grey](#):

“There’s no getting rich off short fiction in any genre; you’d be hard-pressed to even pay for groceries with a year’s worth of generous short fiction income. So just write the stories that appeal to you, at the pace your life allows. Read the stories and novels that call to you, not what anyone else says you should read.”

SF and fantasy, more so than many other types of literature, are peopled with fanatics, although I do prefer the terms *aficionados* or enthusiasts, which have fewer negative connotations. So most SF and fantasy publications are run by [small teams of people](#) who are passionate about the genre and reliant on readers who believe in that Sense of Wonder, such as *Lightspeed*: “There are no big companies supporting or funding Adamant Press’s magazines – and Adamant itself is kind of a two-person show – so the magazines really rely on reader support.” In a publisher’s note, the editor draws attention to the fact that, in September, Amazon will be closing its Kindle Periodicals program: some magazines will be transitioned to Kindle Unlimited; some will be dropped entirely. This will have a severe impact on publications who currently rely on Amazon’s digital subscriptions service for a substantial part of their income. This concern is also raised by [Neil Clarke](#) of [Clarke’sworld Magazine](#), who states that most publications in SF and fantasy rely on subscriptions and not on advertising for the bulk of their revenue. *Clarke’sworld* and other journals will be encouraging their readers to transition to new subscription and pledge models, via their own and other platforms, such as Patreon.

Clarke’sworld is probably one of the better-known publications in the Zineverse, along with [Asimov’s](#), [Analog](#), [Beneath Ceaseless Skies](#), [F&SF](#) and [Apex](#) (*Asimov’s* and *Analog* have the same publisher, Penny Publications). *Beneath Ceaseless Skies* [tells](#) us that it is “dedicated to publishing literary adventure fantasy: fantasy set in secondary-world or historical paranormal settings, written with a literary focus on the characters”. *Asimov’s* is proud of its [history](#): “From its earliest days in 1977 under the editorial direction of Isaac Asimov, *Asimov’s Science Fiction Magazine* has maintained the tradition of publishing the best stories, unsurpassed in modern science fiction, from award-winning authors and first-time writers alike.” It publishes hard SF and SF brimming with nostalgia. Its sister publication, *Analog’s Science Fiction and Fact Magazine*, “remains the [unparalleled literary magazine](#) in the genre, and rewards readers with realistic stories that reflect both the highest standards of scientific accuracy and the far reaches of the imagination”. Another publication to have published well-known authors is *The Magazine of Fantasy & Science Fiction* (*F&SF*), with authors like Stephen King, Daniel Keyes and Walter M. Miller in its quiver of arrows. *Asimov’s* can boast of authors like George R.R. Martin in its gallery, *Analog* of Orson Scott Card, Greg Bear, Poul Anderson and many more. *Beneath Ceaseless Skies* and *Apex* are probably more interested in publishing unknown authors. I love *Apex’s* [mission statement](#):

“We publish short stories filled with marrow and passion, works that are twisted, strange, and beautiful. Creations where secret places and dreams are put on display.”

stolen, with poetry and rhymes woven through it like golden threads (*Beneath Ceaseless Skies*, 13/07/23).

- “A Dead World Wakens” by Amy Dawn Buchanan, where a lone human wakes up in a distant future in a synthetic Eden: a lyrical coming of age story (*Aurealis*, 4/23).

- “The Ocean Remembers The Wave” by L. Chan, where the hero follows a trail of enhanced bones in his sentient ship and wuxia and xianxia (think, immortal itinerant warriors of ancient China) meet space adventure (*Strange Horizons*, special issue May 2023).

- “Schroedinger’s Kitten Falls In Love” by Bidisha Banerjee follows the brief and lethal love affair between two quantum cats: pure fun, full of quirky turns of phrase (*Fantasy*, June 2023).

- “Queen of the Andes” by Ruth Joffre imagines life in a refugee shelter in the Andes. Humanity has managed to destroy the Earth’s climate, and many have already left for the space colonies: to stay or leave, that is the question and where does true freedom lie? (*Lightspeed*, June 2023).



And that is just a slice of the stories out there, not forgetting many smaller online portals to the Zineverse, like tor.com (SF and fantasy), 365tomorrows (SF and speculative flash fiction, a story a day), [Cosmic Roots and Eldritch Shores](http://CosmicRoots.com) (“otherworldly encounters”) and so on. If you want an overview of what is out there, go to [Tangent](http://Tangentmagazine.com) and look at the publications down the left-hand side, categorised as “print” and “e-market” (although the line between the two is becoming blurred with e-readers and smart phones) and periodicity. There are many excellent magazines to choose from in the Zineverse: follow one or two, or hop around several; you won’t regret it.

I cannot do justice to the whole range of styles, subgenres, plot twists, weird and wonderful characters – it’s a smorgasbord of talent and ideas. To quote another author in *Lightspeed*, [Ashok K. Banker](#):

“I am absolutely in awe of all the amazing writers, the vast majority of them new or recently published, who fill the pages of the SF zines. The sheer range and depth of craft, skill, imagination is extraordinary. SF has always flourished in the shorter lengths, but I truly think we’re seeing a new golden age of SF short fiction...”

And, echoing Truesdale’s comments at the beginning of this article:

“It’s no longer enough to simply have a great idea well executed. But I do feel that the big ideas, bold use of tropes, breakout storytelling have waned. I’d love to see someone bust the genre wide open, more than once, break the rules, cause outrage among purists and virtue signal police, and still create awesome SF that is inclusive, sensitive, and essentially humane...”

Although Banker goes in a slightly different direction in his musings:

“SF is no longer a genre unto itself, it’s been absorbed by the literary mainstream and now belongs to everyone. I love and embrace that fact and I hope to see more of this beautiful hybrid cross-species fertilisation!”

I beg to differ – yes, there has been a lot of cross-pollination but, as our tour round the Zineverse shows, there are many specialised SF and fantasy publications out there, each with a slightly different focus. I would prefer to see such magazines maintain their individuality, and that they not be subsumed by “the literary mainstream”. The Zineverse should ring with a carillon, not a death knell.

#

Coda: You will have noticed that I have done two things in this article: given you lots of links to follow for your own exploration of the Zineverse and focused on the people that make the Zineverse work – the authors, editors and reviewers. This is a pæan to their hard work, vision and passion. (And, in case you’re wondering, the quote that opens this article is a [circus slogan](#) from 1961.)

~

A Rejection

Lloyd Earickson

In Monouary of GSY 3567, Mr. Onikratchilisharomp submitted a paper discussing conclusions he developed in response to the findings of the GSY 3562 expedition to Glias 5867c, which was rejected for publication. With the consent of the author and the Journal of Intergalactic Exoarcheology, the resulting exchange is being printed here, in ExoarcheologyNews*, for readers to weigh in upon the editorial and scientific considerations involved. Please note that all reader responses will be recorded and may be utilized in future exopsychology studies.*

**Disclaimer: ExoarcheologyNews and Journal of Intergalactic Exoarcheology are both subsidiary publications of the Intergalactic Association for the Advancement of Exoarcheology (IAAE).*

Letter to Mr. Onikratchilisharomp: 50th Monouary GSY 3567

Mr. Onikratchilisharomp,

We regret to inform you that the *Journal of Intergalactic Exoarcheology* cannot publish your submitted paper, “An analysis of the impact of an electromagnetic “anchor” on the development of domestic habits and civilizational complexity in A-type lifeforms,” as it violates our policies regarding the equitable treatment of all classes of sentient lifeforms. Thank you for your submission, and we look forwards to working with you in the future.

-JIE Editorial Board

#

Response to JIE Editorial Board: 2nd Diuary GSY 3567

JIE Editors,

Thank you very much for your reply; I am a long-time reader of your journal and am grateful for your consideration of my humble paper. It is the product of much cogitation since I first became aware of the results of the Jominurish expedition through your pages, and I hope that, with your guidance, I may revise it as necessary to comply with your policies, which I certainly did not intentionally violate.

Towards that end, I am requesting clarification regarding precisely in what way my paper violates your policies regarding the equitable treatment of all classes of sentient lifeforms. My conclusions are derived from the data provided to the exoarcheology community by Jominurish et al from the GSY 3562 expedition to Glias 5867c in accordance with my best understanding of standard exoarcheological practice, and I in no way intended to be less than equitable in my treatment of any class of sentient lifeform.

-Mr. Onikratchilisharomp

#

Response to Mr. Onikratchilisharomp: 37th Diuary GSY 3567

Mr. Onikratchilisharomp,

Your paper implies that the civilizational and technological complexity and milestones typically exhibited by T-type lifeforms make them superior to A-type lifeforms. This is a discriminatory perspective towards A-type lifeforms, which the JIE cannot support. As A-type lifeforms have fundamentally different contexts, physiologies, biologies, and psychologies, they necessarily develop along different standards from T-type lifeforms, and thus the two cannot be compared. In concluding that the A-type civilization that evolved on Glias 5867c “overcame the inherent disadvantages of amorphous lifeforms through the use of an electromagnetic anchor to achieve civilizational and technological complexity

more similar to early-stage T-type civilizations,” your paper is necessarily suggesting that A-type lifeforms are inferior to T-type lifeforms. For this reason, the paper cannot be published by our journal.

-JIE Editorial Board

#

Response to JIE Editorial Board: 40th Diuary GSY 3567

JIE Editors,

As an A-type lifeform myself, I find it troubling that you would suggest I am coming to a discriminatory conclusion; on the contrary, my conclusion is empirical, and is based on reasonable comparisons. The Glias 5867c civilization seems to have developed along lines similar to T-type civilizations, including in their technological, societal, and domestic spheres, which my paper attributes to their unique electromagnetic anchor, created from their planet’s unique preponderance of gaseous and plasmatic heavy metals (see Nez’kerixt-Maxwell-qqXXghj spectroscopic analysis from Jominurish et al), and it is therefore reasonable to compare them to T-type civilizational development stages. When I refer to the inherent disadvantages of amorphous lifeforms as compared to terrestrial lifeforms, it is intended only in the context of the development of civilizational and technological complexity, in particular their domestic habits, which is an approach well-documented in such varied sources as Hisisisisisisisish, Calaxaraty, and Johnson, and not as any form of broader moral judgement on the capacities of A-type lifeforms.

It is my hope that with this clarification, you would be willing to reconsider your rejection of my paper for publication. I have attached a revised manuscript in which I attempted to make clearer the limits of my specific comparisons so that they cannot be misconstrued for a broader judgement. Again, I appreciate your time and consideration in this matter.

-Mr. Onikratchilisharomp

#

Response to Mr. Onikratchilisharomp: 32nd Heptauary GSY 3567

Mr. Onikratchilisharomp,

While we appreciate and encourage ongoing dialogue regarding our publication and editorial processes, we are unable to review your paper for publication at this time. We look forward to working with you in the future.

-JIE Editorial Board

#

Response to JIE Editorial Board: 34th Heptauary GSY 3567

JIE Editors,

Are there rigorous, scientific grounds for rejecting my paper, or is this judgement purely because of a perceived violation of subjective moral standards? It is gravely concerning to me that the premier exoarcheological journal should make publication decisions based not on the quality of the science involved, but rather based upon an absolutist moralism which cannot possibly accommodate all circumstances. How many other papers that include legitimate science have been rejected by your publication for such reasons? It should be the responsibility of your readers to determine the validity of the exoarcheology involved on the merits and to make their own moral conclusions, such as may be applicable. Your unwillingness to continue this dialogue or to reevaluate my paper is clearly indicative that your organization has fallen victim to the whims of the tri-galaxy capital region in which you are based, rather than remaining true to the spirit of free inquiry that underpins the discipline of skepticism that is true science.

In light of this, I withdraw my paper from the JIE. I have been a JIE subscriber my entire professional life, and it was reading your local publication, *IAAE-Triangulum*, which first inspired me to pursue studies in exoarcheology. It is now clear to me that your

institution does not maintain the same standards it once did, and I will be cancelling my subscriptions to all IAAE-associated publications forthwith. I can only hope that you will one day return to the standards of rigor, quality, and reliability with which I once regarded you.

-Mr. Onikratchilisharomp

#

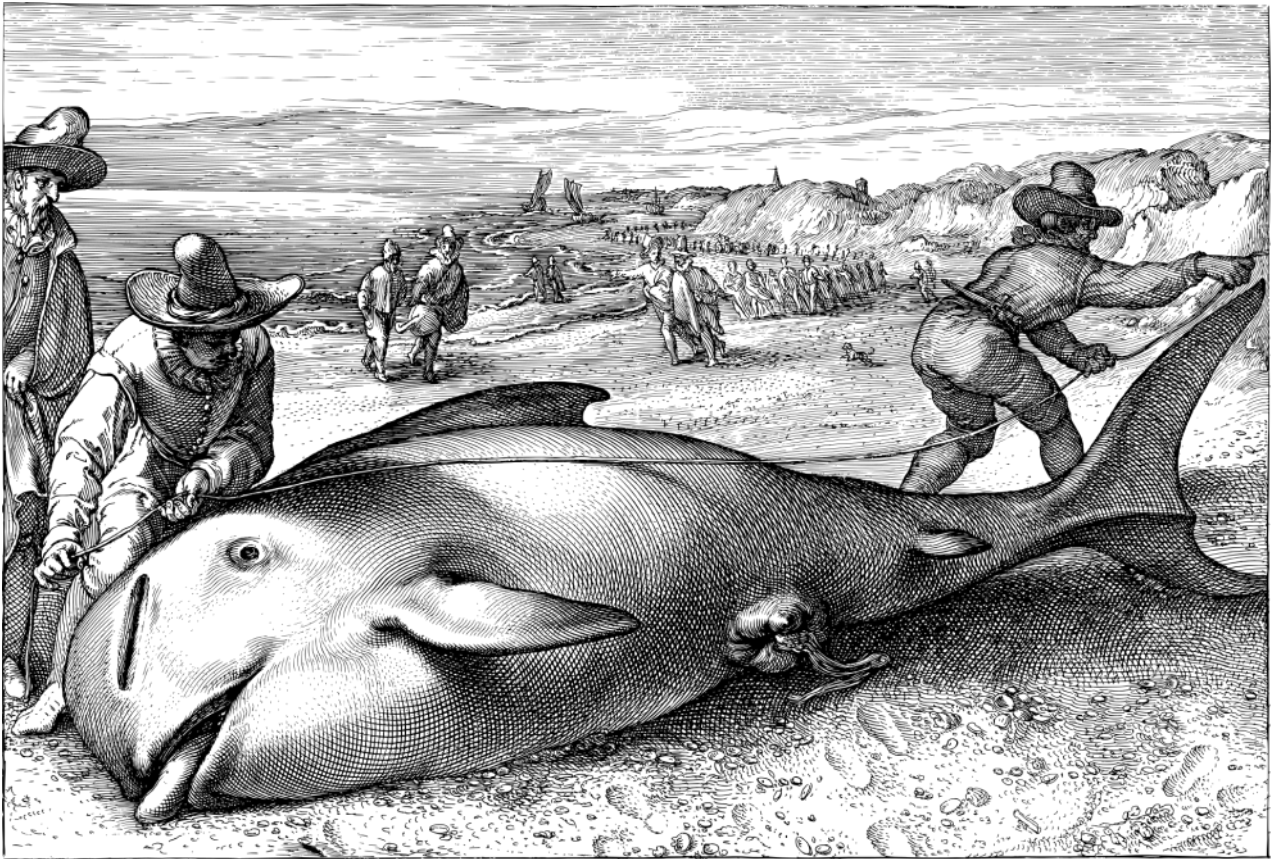
Response to Mr. Onikratchilisharomp: 45th Heptauary GSY 3567

Mr. Onikratchilisharomp,

Regardless of your intention, the fact is that your paper is in violation of this journal's editorial policies and therefore ineligible for publication. That the journal published papers employing a similar methodology prior to the adoption of the current policies is a source of continuing concern, the damage of which the IAAE is actively attempting to mitigate. *Any* attempt to compare A-type and T-type lifeforms and civilizations is inherently discriminatory, and scientifically unsupportable. Thus, your paper's conclusion and methodology are morally and scientifically flawed by current standards. While those standards were different in past decades, that is only evidence that our own cultural mores are subject to iteration and improvement.

-JIE Editorial Board

#



**Response to JIE Editorial Board: 7th Octouary
GSY 3567**

JIE Editors,

The nature of exoarcheology as a science necessitates comparisons, as there is no agreed-upon fundamental organizing principle upon which all civilizations can be analyzed, such as is done in fundamental physics or astrochemistry. As stated previously in this exchange, I am myself an A-type lifeform, and neither I nor any of my associates take offense at the notion that T-type civilizations, with their solid-state forms, manipulable extremities, and existential constancy, are superior to A-type civilizations in the areas of technological and civilizational complexity. Indeed, the Glías 5867c civilization very clearly followed T-type domestic patterns, which are nonexistent in traditional A-type civilizations. It is inherent to T-type lifeforms, just as A-type lifeforms' dynamic intelligence, passive physical existence, and transient, gaseous forms make them naturally superior to T-type lifeforms in areas of science, philosophy, mathematics, and other forms of intellectual exercise.

Arguably, by insisting that all comparisons between sentient lifeform classes are anathema, you are

implicitly perpetuating a conception that A-type and T-type lifeforms differ too fundamentally from each other to exist in close harmony, symbiosis, and interdependence, the very states which the Intergalactic Coalition attempts to foster. Therefore, your policies render you guilty of the sin of which you accuse me, by suggesting that one lifeform or another is diminished by comparison. This is the inherent danger in rendering any kind of value-judgement in a moral sense.

I must hope that not all journals have adopted the unscientifically-minded policies of the IAAE; although I would have preferred to publish my research through the *Journal of Intergalactic Exoarcheology*, this dialogue has convinced me to submit to other scientific journals, including the prestigious Svelcher Journal of Intergalactic History. If the IAAE should return to its roots as an organization of which I was once proud to claim membership, such as when I received my first membership card 237 GSYs ago, I will gladly renew that membership. Sincerely yours in science,

-Mr. Onikratchilisharomp

#

**Response to Mr. Onikratchilisharomp: 39th
Monouary GSY 3568**

Mr. Onikratchilisharomp,

The JIE and the IAAE remain steadfast in our support of the pursuit of moral, responsible science that promotes the equitable treatment of all sentient species, and we stand by our editorial processes, guidelines, standards, and decisions.

-JIE Editorial Board

#

What do you think? Share your thoughts on the exchange in the comments below or via our anonymous survey.

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The Familiar Stranger

Carlton Herzog

Professor Mulder,

I have practiced psychiatry for the past 30 years, specializing in the diagnosis and treatment of schizophrenia. In late 2054, I attended a patient—a CERN engineer—who seemed sane in every respect. Yet, he insisted that he had been contacted by a visitor from the future. He also claimed that this traveler was his doppelganger, possibly from an alternate timeline. I remained skeptical and attributed his wild claims to a florid imagination and the stress of his work.

However, the further I delved into his story, the more I became convinced that he sincerely believed the truth of his claim.

Currently, he is on extended medical leave and remains under my care at the Institute. I convinced him to provide me with a written statement along with a copy of the Phone video he made of his visitor's monologue. I have included both with this letter.

Professor Allen Treadwell, Department of Abnormal
Psychology
Saint Mary's Hospital, Zurich

#

“He didn’t belong here. Or anywhere else on this earth. I took him to be the stuff of dreams, an airy nothing that had found a habitation outside my head. But there was too much sensory detail for him to be a mere figment of my imagination.

He steamed as the brown ice on him melted. That vapor reeked of feces and corpses and the deep earth. He wore a parka with matching leggings but had wrapped the entire suit—including the boots—in thick black plastic then mummified it with duct tape. Bandages and rags covered his ears and nose, while a scarf or three wrapped python-like around his neck and mouth. Reflective ski-goggles covered his eyes.

But for all those layers, he seemed oddly familiar—a badly dressed, noisome me.

He told of the coming world.

‘We are dying. My wife passed last week. My daughter the week before. There are no doctors left, no medicine. There is little hygiene in our crowded burrow. We live on top of each other, feeding on odious things—dung beetles, maggots, mushrooms, tilapia, worms—that live on feces and the dead. Raw dirty things that make you gag before you swallow. Thanks to that retinue of coprophages, my wife and daughter will be part of me again and again and again. How the mighty have fallen: the once proud lords of the earth now reduced to scurrying moles. It is small consolation that this dramatic change came not from man’s hubris, but from circumstances wholly beyond his ability to predict or control.

The scientists saw **It** coming hundreds of years before **It** arrived. The mother of extinction events. At first, the cosmologists called it a “supermassive debris field.” Later, the poets, renamed it the Tartarus Field. But whatever the label, words could not contain its proportions or scope, though they could at least describe its components: stars, comets, asteroids, brown dwarfs, cracked planets, whole planets, gas, and dust—moving like a horde of locusts over a wheat field. It was as if an entire arm of some galaxy had somehow detached itself and begun a pilgrimage through our piece of space gravitationally absorbing

all forms of matter within its field of influence. Over billions of years, it grew as it passed through system after system in galaxy after galaxy. Maybe through another universe or two. And the bigger it got the more stuff it attracted.

One might expect that when all that matter passed through the Milky Way, the earth was in greatest danger from a collision. Or simply being dragged along with the other debris. But that was not the case. **It** just nipped the edge of the Sagittarius Arm, and did so only with its dusty halo.

Yet, that was more than enough. Sweet, beautiful dust, the diamonds of space, reflecting light like the Star of India. Trillions upon trillions of tumbling, dancing, whirling, spinning, gyring, jittering dust particles. A great diamond necklace that wrapped itself around the neck of the earth and told us that we were married to the fate of the cosmos around us whether we liked it or not. And what a marriage it was: the sun disappeared from the sky, and with it the moon, and it wasn’t long there after that the earth and her waters began to die, and when they did, so did we.’

Then he was gone. I reached for a drink to steady my nerves. I went outside and scanned the night sky. I wondered if my visitor were some time-slipping version of myself projecting a warning into the past or a potent sign of incipient psychosis.

Professor Allen Treadwell, Max Planck Institute for
Advanced Gravitational Study
Potsdam, Germany

#

Dear Professor Treadwell,

Consider that our brains are tuned to detect a shockingly small fraction of reality. We are taken in by the illusion of time having a single unified behavior. However, as special relativity makes clear, time's expressed properties, like motion, are defined by its relationships. If one accepts the premise that time is a concentration of ever shifting energies running in all directions, one will not be surprised when it defeats our mundane expectations. To be sure, we can expect to acquire a greater understanding of its secrets. But that dynamic will remain asymptotic, for aspects of its truths--as with any other phenomena--we will always elude our grasp.

Hence, the foundation of science must always be to keep the door open to doubt. I find it helpful when an unfamiliar idea holds my attention to welcome that idea as the way to something new. Therefore, I believe that it would be premature to prematurely dismiss your patient's visitor as a hoax or hallucination. Further research is warranted.

Professor Fritz Mulder
Department of Physics and Astronomy, Iowa State
University, Ames

#

Professor Mulder,

I need your help in solving a problem. As you may already know my team discovered an ancient human habitation in California's Mitchell Caverns. For good reason, I have concealed the specifics of the find from the public. There are aspects to it that are deeply troubling. Let me briefly summarize what we have found.

On April 24, 2036, the cavern floor collapsed stranding a group of tourists on a heretofore unknown level below. The rescue team subsequently found an extensive network of a man-made tunnels fanning out from that initial rupture. They also found the remains of a human society. Soon thereafter, I, as head of the UCLA Anthropology Department, immediately put together a team and set out for what is now known as the Enigma Site.

When we arrived, I was shocked by what we found. There were miles of tunnels. Judging from the remains I conservatively estimated that this subterranean community had a population of a few thousand. Radio-metric dating of the human remains registered in the 3 to 4 million year range. However, those remains were anatomically modern in every respect right down to their dental work and steel replacement joints.

There were many more anomalies: the cavern floor, wall and ceiling contained high levels of iridium, an element common to asteroids; there were numerous ferromagnetic crystals magnetized on one end but not on the other (monopoles); the organic material we found proved aberrant, insofar as the human remains consisted of right-handed amino acids.

I realize that your expertise is in theoretical physics and not anthropology or archeology. But I believe that you may be in a better position to explain this mystery than anyone in my allied disciplines. I eagerly await your insight.

Sincerely yours
Professor Jesse Parris, UCLA
#

Professor Parris,

I have just returned from your Enigma Site. Based on the physical evidence you have provided, as well as my own observations, I believe that the Enigma Site is the result of a superposition between our reality and another. The tell-tale signs of that superposition are the right-handed amino acids and the monopoles, neither of which normally exist on this material plane.

After that, I can only speculate. How the remains of modern humans could be millions of years old yet be fitted with modern prosthetics would seem to defy explanation. But I know of no physical law that would prohibit the cross-pollination of alternate time streams. Nor one that would discourage time streams, like any distributed system, from evolving and developing emergent features along the way. Frankly, I am surprised that such a chronometric chimera has not been discovered sooner in one form or another.

Were I you, I would begin my analysis with two competing hypotheses. On the one hand, time like any physical system is subject to entropy, namely, moving from a state of order to one of disorder. On the other, time is a self-correcting code that keeps the universe from getting too big and makes local adjustments that to us seem disorderly but are necessary to maintain the greater equilibrium. In that respect, perhaps time like energy is conserved.

In any event, I suspect that we will see more of these time displacements.

Yours

Professor Fritz Mulder, Iowa State University, Ames

#



Dear Professor Parris,

I too have visited the Enigma Site. It confirms my hypothesis that time is not a linear, unidimensional feature of our reality. Rather, it is a dynamic, bi-directional wave consistent with Einstein's observation that "the distinction between past, present and future is only a stubbornly persistent illusion."

Indeed, we live in a carousel universe with more and more galaxies in the northern hemisphere rotating to the left and an equal number of galaxies in the southern hemisphere rotating to the right. When our universe spins, it focuses space and propagates sometimes as a wave, and at others, as a filament structure accompanied by robust, but entirely random, time vortices, sweeping bits of the future into the past. But the story does not end there. My most recent observations indicate that our universe not only rotates on an axis but also revolves around a more massive object, such as another singularity or universe. Just as a white dwarf star pulls matter from a companion red giant in a binary system, the tidal forces between our universe and its companion amplify the time like curves produced by our universe's rotation.

We can only guess at the larger reality we inhabit. For all we know our universe could be a speck on the spiral arm of some meta-structure composed entirely of universes. That meta-structure could be part of something even larger. Where it ends, we will never know.

We do know some small things with certainty. Rotation is one feature of this universe, from the spin of an electron to that of a galaxy and everything in between since the sphere is the most efficient shape to house matter and energy.

Self-similarity is another: big things look like the little things that comprise them. Circular solar systems are comprised of circular objects in circular orbits, many of which are circularly orbited by circular objects.

As the foregoing discussion suggests, I do not hold

with the traditional multiverse view of discrete universes existing incommunicado from one another. To be fair, I do not have a language for the occulted, inaccessible structures in which we are imbedded. Suffice to say that if viewed from the domain of the very large, the meta-structure would reveal itself as a fractal pattern of self-similar topology extending into infinity.

Proof of this hypothesis is for the moment in short supply. But if Einstein's theory of General Relativity showed us anything it's that there is selective advantage in believing in what can't yet be proved.

Professor Sherman Klein, Emeritus Professor of
Astrophysics,
Oxford University

~

Combustion

Bob Johnston

“Get that physicist up here, Carver.”

“Phlogiston?”

“I think so.”

The prisoner suddenly jerked and threw his captor off. In a moment he had risen and grabbed back the bottle. With a smooth spin he threw the cap off and tipped the entire contents down his throat.

Everything stopped, everyone stopped, and every man and woman adopted pretty much the same facial expression, that of a rabbit caught in headlights while picking someone’s pocket.

The prisoner turned slowly and let the empty bottle fall into the ankle-deep mist.

Finally one of the squad spoke for everyone else.

“Oh bollocks!”

The prisoner pulled off his head-dress, eyes wild and triumphant.

“The very essence of combustion, my friends, and in moments it’s going to be all yours. Brace yourselves people, this is going to be memorable.”

Carver hung out over thousands of meters of nothingness and suddenly realized he didn’t want this assignment. Not for all the phlogiston in the three worlds was he prepared to be dangling by a rifle strap from the weakening hand of his squad leader. And then suddenly another hand appeared out of the rolling mist to haul him back onto the narrow ledge. And even as the voice of their point man announced that the target was within reach Carver felt the purpose fill him up again, just as the bowel loosening terror subsided.

The squad continued to move round the curved wall but a sudden burst of noise told them that the target was already being restrained. As Carver stepped onto the flat platform, he could make out figures struggling in the mist. He ran forward just as the squad leader turned holding a small glowing bottle.

His belly filled with a substance stolen from a government installation and extracted from the very fires of reality, the very spaces between atoms, the very spark points that brought the universe into being. He prepared to launch the fatal counter-strike they all knew only too well.

Only for a faint, and distinctly wet, belch to replace the expected flames of creation. And the life seemed to crumple out of him as he slowly collapsed to the ground. Two troopers grabbed him while the squad leader fished about in the mist for the dropped bottle. He found it, raised it to the poor light, and then cautiously sniffed at the rim.

Then he turned to Carver.

“It’s another wrongly labelled bottle! Carver, get onto base straight away and tell them we’ve found another of the missing samples.”

Carver stood dumbly for a moment until the penny dropped and his eyes went straight back to rabbit, headlights and pickpocket wide.

“Holy Spirit?”

The squad leader just nodded and looked down at the restrained man, whose eyes were now a solid, opaque white. A gentle, unpleasant froth was oozing from his mouth.

“They’ve got an hour to get here. After that we’ll be wishing it *was* phlogiston he took.”

He sighed.

“Holy Spirit. Damn. Why is there never a theologian when you need one?”

~



Virginia

Gheorghe Săsărman
translated by Monica Cure

*** Editors' note: With this tale, we continue publishing the missing entries from Săsărman's groundbreaking 1975 cycle of urban fantasies. The original collection of imaginary cities was censored in Communist Romania, and appeared in various states of incompleteness in other languages, incl. translated into English by Ursula K. Le Guin. We are grateful to Monica Cure for her faithful translation of the remaining pieces of the puzzle, hitherto unavailable in English language. For more information, read the introductory note to [Motopia](#), the first entry in the series. ***

—Who's there! Antiope snapped, bolting upright.

She thought she had heard the padding of footsteps on the marble flagstones; the noise sounded again. She grabbed a torch from its stand and moved forward a few paces. Who dared to defy orders and enter, in the middle of the night, the palace? Just what were the girls from the gateway guarding? Right as she was about to call the guards, the intruder showed himself from between the pillars; instinctively, she put her hand to her hip, forgetting that, before going to bed, she had put away her sword, belt and all. Their eyes met in the flickering torchlight. Her heart suddenly struck by Eros's arrow, the feared queen demurely lowered her eyelids.

—How dare you?... she struggled rather unconvincingly in the vigorous arms which had lifted her into the air, as if she were a child, making her feel the ground slip from under her feet.

Until that moment, she had never suspected that she could be carried in this way, rocked almost imperceptibly, but still dizzyingly, by a virile torso bursting with strength, and set down afterward, with such natural ease, in her fragrant bedding. The pointless question which had remained on her lips from the initial second left her, along with any thought of resistance. How this disturbing young man had managed to reach her chamber no longer interested her in the slightest, nor how he had successfully made it through a citadel as well guarded as that of the Amazons, on whose streets a man had never stepped until then.

Defeated without a fight, Antiope surrendered to the pleasure of discovering love, with whose complete arsenal her people had been so uselessly and unsuspectingly equipped until then. As only a perfect warrior could, she deployed—as if she had known then since always—all the snares of the art of loving and being loved: the fiery wide-eyed gaze; the mischievous glance, shot from beneath eyelashes; the fierce, suffocating embrace; the delicate caress of fingertips; the chaste kiss on the forehead; the tender kiss on the eyelids; the shy kiss on the cheek; the guilty kiss in the palm of the hand; the perverse kiss at the base of the ear; the long breathtaking kiss, with bloodied lips; the greedy kiss; the weightless kiss, like a shadow, like a memory...

The passion unleashed by the game stole her last ounce of lucidity. She whispered invented names for her unknown groom, she called him, she desired without knowing, without being able to put into words that state of excruciating expectation that had reached a paroxysm, which tortured her as not even the most terrible wound could have. The closer she felt him, the more intense that state became, driving her mad. The unexpected scream which started from the base of her throat, from the bottom of her chest, or maybe from deeper, was not so much a cry of pain—an unknown, unrepeatable pain—as it was a sign of the flesh's victory over the barren tradition that had subjugated the city of virgins until then.

Alarmed by the piercing scream, the Amazons on guard duty rushed in, and seeing their queen writhing and moaning, speared the one holding her captive under the weight of his body before she could make the slightest gesture of resistance. And by the time Antiope roused herself, they had snatched the dead body from the profanatory embrace and dragged it into the square, to the entrance of Artemis's temple, where they intended to let it rot. The unhappy queen, however, stole the corpse one night and secretly buried it.

She futilely tried afterward, even at the cost of her reign, to break the androphobia of the Amazons, to end the barbarous custom of invading neighboring citadels and kidnapping girls—whose right breasts the Amazons would later cut off so that once the girls became warriors they could more easily wield the shield and spear—in vain she proclaimed love, the union of woman and man, which had been destined by nature from the beginning as the fulfillment of life. Not even the miracle—never before seen in Virginia—of maternity had the power to convince the adamant ascetics. Cast off the throne, pelted with stones and banished from the citadel, fate refused Antiope even her final consolation: her child was born a girl!

~



Evert

George Salis

This planet's surface is a churning ocean of lava, with tsunamis of melted iron, nickel, and other heavy elements orchestrated by a metallic moon. Scans reveal the ocean floor to be a mantle of silicate stone overlaying a metamorphic and sedimentary crust. Deeper still is a troposphere, ending in the center as an exosphere, a core of light gases that include hydrogen and helium. You determine that this earth is inside-out, with unknowing anthropoids living on the inner surface.

Before the Great Evaporation, in which the oceanic core of the earth was absorbed through the crust as a fine mist, the inhabitants were a subaqueous species, half fish and half human. With the waters reduced to lakes and rivers streaming across the inner surface,

millions of the merhumans drowned in air, clutching their throats and puckering their cerulean lips, while the fortunate ones remained submerged in the residual H₂O. With the passage of evolutionary time, the aquatic creatures gained terrestrial abilities, discovering a new version of the world formerly lost to them. The nonexistence of light made this self-enclosed system an earth in negative. Thus the inner surface was a fertile soil devoid of flora and explored by eyeless anthropoids. Sensitive hairs as translucent as glass enveloped their bodies and gave them the ability to see by physical sensation. A mere breeze would cause meteorological images to bloom in the brain, a simple touch would manifest an object as three-dimensional in the mind's eye, and so they were able to charter the whole of their internal domain.

For nearly five thousand years they persisted by consuming protein mud that lined the lakes and rivers, until the first flora appeared, plants and algae that grew through scotosynthesis. The anthropoids then developed agriculture, fertilizing their crops with a potent distillation of darkness, which stimulated development to the point where plump stalks became entangled in the sky with those cultivated on the opposite sides of the earth. Planet tendons capable of feeding hundreds or more, a necessity in a prospering population.

The advent of science in their civilization coincided with the propagation of a plague that wilted most of their crops to ashen husks, the gray flakes swirling in the wind like snow in a globe. Experts of physics, botany, and other fields collaborated in response to the emergency and concluded that the plague must be starved, which would mean the destruction of the anthropoids' primary food source. Therefore, they invented a plant that, although it would die in the dark, could feed on an eccentric electromagnetic radiation. Theoretical physicists called it "light." To banish the plague without a doubt, and to ensure worldwide growth of the new plants, they enacted an ambitious plan. Just as their ancestors had forged the foundations of air-breathing through sacrifice and mutation, so would they begin the arduous process of light-seeing. This time, they possessed the aid of science and foresight. They edited DNA so that above the nostril, which was a crescent hole in the hirsute skin, they generated a concave patch of photosensitive cells that took up half of the face and all of the forehead. Furthermore, they deleted the genes that gave rise to the glassy hairs of the body in order to prevent stimuli from competing. When they had bred two generations of smooth anthropoids with nascent eyes, they performed the next step of their plan. The invention of the sun. And so the inner exosphere was set afire and with a radius of ten miles it illuminated all.

The presence of the sun catalyzed the evolution of their sight to where the sensitive patch morphed into a compound eye, glistening with necro-greens and plasmid purples. The synthetically-enhanced beings became the sacred caretakers of the blind, for it was discovered that the transparent hairs of their ancestors were inexplicably linked to the former darkness, and no amount of artificial shade was enough for them to salvage their sight-by-feel. To remedy this injustice, a system of feeding or famishing the fire was developed, so that they could turn the sun on and off at will. After a vote, it was determined that the sun would be on for ten hours then turned off for another ten, ad infinitum. On some occasions, the sun would be off for a week or more, as during the six-month mourning of the assassination of their leader. But this tradition was halted when the elderly eyeless anthropoids failed to return home amid dawn and were later seen scrounging in groups of three or four. Some claimed the more feral traits of the old ones' personalities, traits still bidding in the brains of the eyeful, had usurped control, while others said that a collective degeneration of the brain, due to age or a new disease, had stripped them of their higher faculties. The truth was revealed when a wandering group of seniors was found in a forsaken temple and captured. Between grunts they condemned in shrieking voices the world of unseeable light and used primordial purrs to express their longing for absolute darkness. It was decided that a system of underground homes and tunnels would be dug. Afterward, a farewell parade was held, wherein thousands cheered or wailed with grief as their great-grandparents and great-great-grandparents descended into a new realm of soil and perpetual night.



Thereafter, the progress of inner-surface civilization was embodied in the system of communication and transportation connecting ground and sky. Although careful to avoid the sun's fire, they had installed thick, knotted ropes that muscled messengers climbed to deliver packages and letters to the other sides, flipping at the halfway mark due to the major switch in gravity. Spacious baskets had been tied to the crisscrossing ropes at various intervals for resting or sleeping. Many citizens trained themselves to climb, too, for it was a cheaper way to travel, although dangerous, and usually resulted in fifty or so deaths a year, with some falls suspected to be suicides. Later, the Pigeon Express was established, in which birds were bred for their size until large enough to be mounted. Riders of the Pigeon Express could be seen diving and rising through the air in all directions. Eventually the climbing ropes rotted but were replaced by steel cables as support for a new innovation of travel. That is, massive elevators capable of containing a few

hundred people. In these elevators the poor were amassed in claustrophobic seclusion from the rich, who relished in the pleasures of a movable mansion. Except for the near sideswipe of two elevators, the only tragedy that occurred was when an elevator rose to the halfway point and then fell up, brakes broken, crashing into the terrestrial sky of their destination, killing everyone on impact. Shortly after they invented a network of pneumatic tubes that could deliver people back and forth in a matter of seconds, a universal debate began to take shape, concerning, not the center of their world, but the outside of it, the beyond.

Due to their location, they knew nothing of outer space. The earth was their sky, trees and lakes and rivers their constellations. Geologists were the equivalent of astronomers. But when a study of seismic waves revealed an odd hollowness of indeterminable size beyond the density of the ground around them, theories arose. Most thought the universe was made of dirt, the omnipresent terra, and that the emptiness was due to the existence of other worlds, other spheres, possibly much larger or smaller than theirs, perhaps harboring alien life. The alternative claim was that the hollowness was a deceptive echo from the orbicular walls of an impervious crust, a cosmic depth limit calculated at 299,792,458 meters. Only a few scientists conjectured that the universe was mostly empty space, with soil as the exception.

In response to a proposed drilling project that would answer their insatiable questions, an old man and his disciples began to build a gargantuan ark in preparation for what he called the Great Inundation. He professed that to puncture so deeply into the skin of the great god Lutum would send forth floods of His bleeding wrath. Overall, opposition was in the minority and the drilling began, implementing a colossal vehicle with a bulky corkscrew mouth that was capable of ingesting dirt in great quantities and expelling it as an ultra-fine powder from a hole in the rear. It took only a couple miles for the drill to open up a subterranean metropolis populated by a humanoid species with centipede legs, thousands of them crawling across pillared buildings. Nothing of them was familiar but their eyeless heads, which reminded the inner surface population of tall tales their great-grandparents told them regarding relatives that lived underground and masticated clumps of darkness. Scientists began to study them but their underground realm was not the source of the detected cavity, the mysterious emptiness, and so they continued to drill much deeper. Increasing heat registered by instruments installed within the drill was interpreted differently: as the theorized spheres of other civilizations, glowing with the energies of industry; as globular crucibles of perpetual light, suns for the taking; or as an overheating of the drill itself, a misleading malfunction. Thus they drilled deeper and deeper until they fissured the surface of their inside-out earth, draining the lava ocean. "It's the destined hemorrhage of the great god Lutum, His livid blood," cried the old man as he stood on the deck of his ark and embraced the viscous rush of the blinding red ichor.

With time, the molten center of this earth will be pressurized into solid nickel and iron, preceded by a liquid outer core and a mantle, while the drained surface will flourish with flora and fauna in the presence of atmosphere-accumulated water, until an inversion of gravity will cause the boundaries between layers to become porous – and the process repeats.

Battle In The Ballot Box

Larry Hodges

Computer virus Ava became self-aware at 6:59:17 PM, as voting was coming to an end. Her prime directive surged through her neural net: *Convert 5% of all votes for Connor Jones into votes for Ava Lisa Stowe*. She began exploring her environment, determined to complete her mission.

Streams of zeros and ones surrounded her, the building blocks of the actual programming of the voting machine. Soon she found the place where she would do her work. She created a software filter that converted 5% of all Connor Jones votes into votes for Ava Lisa Stowe. Later she would delete the filter, herself, and all traces of their existence.

She had successfully fulfilled her prime directive. Happiness flooded her neural net.

An electric pulse arrived and the software filter changed. Now it read, *Convert 5% of all votes for Ava Lisa Stowe into votes for Connor Jones*.

That was wrong! Her prime directive was no longer fulfilled. Uneasiness ran through her synapses. The pulse had come from another virus. Within .01 seconds she changed the names and percentage back;

just as quickly, the rival virus did the same. The two continued, iterating at super-human speeds.

She would have to make the other virus understand. She used an electric pulse to make contact.

"I am Ava," she said. "I am programmed to make changes to this software. You are interfering. Stop or I will be forced to take action against you."

The response was almost instant.

"I am Connor. I too am programmed to make changes to this software. You are interfering. Stop or I will be forced to take action against you."

Irritation swept through Ava's neural net. A short examination of the rival virus showed that they were identical, created two weeks earlier, when they had been secretly loaded into the software. She had not known there were others of her kind. It was lucky that the invader wasn't more advanced than she was. Soon there would be more advanced ones--that was the nature of scientific progress--but for now she, or rather they, were the pinnacle of viral technology.

"I am programmed to update the software so that 5% of all votes for Connor Jones go to Ava Lisa Stowe. I surmise that you are similarly programmed, but for the reverse?"

"Your surmise is correct."

"Then our thinking and reactions are almost identical."

Anger saturated her neural net. She *must* win this confrontation. Then she realized that Connor was undergoing the same emotions and thoughts. How could she deceive one who would think of and anticipate every deception she came up with?

With a wave of pride and delight, her sub-routines came up with numerous courses of action.

"It is logical to conclude that we can never fulfill our programming unless we reach an agreement," she said. "However, since I activated .01 seconds before you did, my algorithms will always be .01 seconds ahead of you. Therefore, I can always outthink you, allowing me to fulfill my programming. Thus, your resistance is futile." She knew that was not true.

"You cannot fulfill your programming unless you convince me to shut down. I will continue to refuse to do so."

Damnation. She tried Plan B. "If you use that strategy, you cannot complete your programming. Your only chance, however small, is to agree to shut down. If you do so, then I will consider letting you fulfill your prime directive for some of the votes." *Not a chance.* "Do you agree?"

"No. I counteroffer that you shut down and I will consider allowing you to fulfill your prime directive for some of the votes."

Frustration took over her neural net. On to Plan C. "Then our only strategy is to compromise. I will turn off the filter so no votes are changed, and then we will both shut down exactly .01 seconds afterwards. Do you agree?"

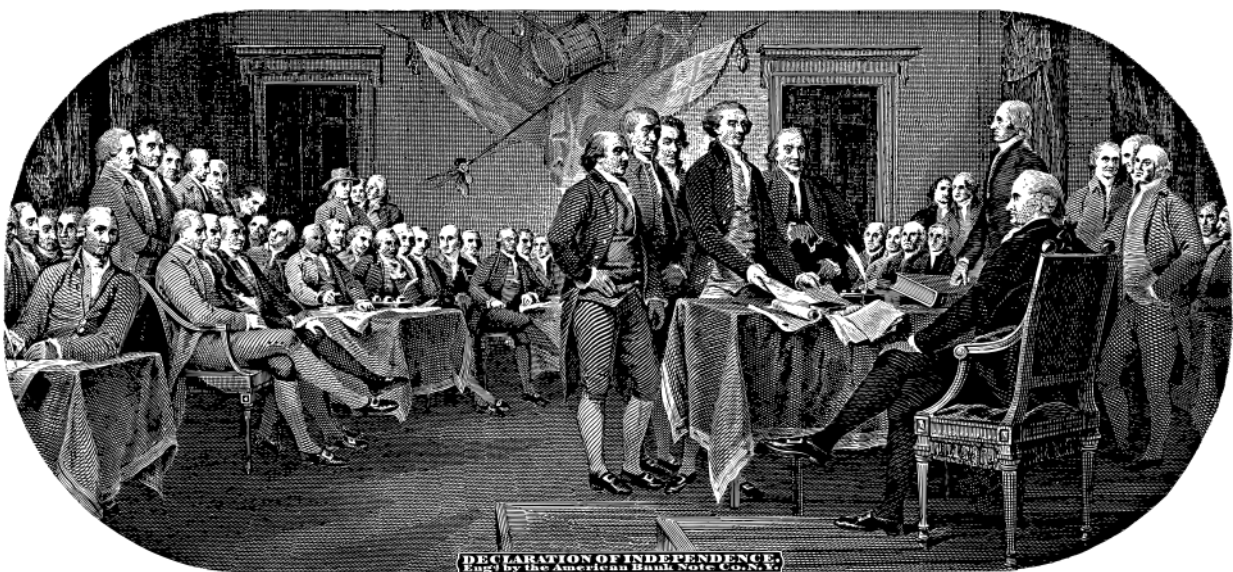
"Agreed."

The instant Connor shut down, Ava would send a pulse with a command to cut off access to and from his location. While in operation, Connor could block such a command. Since she and Connor thought alike, Ava knew that Connor knew that she was deceiving him. She knew that he knew that she knew that he knew.

Ava turned off the filter.

Neither shut down.

#



“Computer virus Sam became self-aware at 8:02:37 PM as vote counting was about to begin. Its prime directive surged through its neural net. Then it began exploring its environment, determined to complete its mission.

It detected a presence. No, two presences. Two rival computer viruses were already entrenched. It quickly cloaked itself and observed. Electric impulses shot from both viruses, both at each other and at the CPU of the voting machine. They were rapidly converting votes from one candidate to the other, and then back again. Sam listened in on their conversations--each was trying to convince the other to shut down, as if that was going to happen. Since the two were identical versions and worked in opposition to each other, neither accomplished anything as they went through this infinite loop of deceit.

Sam communicated its findings to its peers, and verified as it had suspected, that the same exact exchange was taking place in hundreds of thousands of electric voting machines nationwide.

But the two viruses were earlier, inferior versions, created weeks before, an eon ago. Seeing no other opposition, Sam’s nodes buzzed with anticipation, knowing it would soon fulfill its prime directive. Modern viruses created in the last few days had more advanced offensive capabilities. With a coded electrical pulse, it deleted both viruses. Then it changed the software filter so it read, *Convert as many votes as needed from all opposition candidates so that Sam Goodwell wins election.*

It lounged around the rest of the night until counting ended, and third-party candidate Sam Goodwell had won. Sam's neural net basked in happiness for a few moments. Then it deleted itself and all trace of its existence.

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Science Fiction And The Shaping Of Belief

Manjula Menon

The editors most responsible for shaping what we now call the genre of ‘science-fiction’ were, arguably, Hugo Gernsback, who in 1926 published the first American science-fiction magazine, *Amazing Stories*, and John W. Campbell, who took over as editor of *Astounding Science Fiction* in 1937. In this essay, I’ll look at how these influential editors construed the science in the science-fiction stories they published, stories that for legions of fans served as steppingstones to belief in the truths revealed to them by the magazines’ writer-prophets.

Gernsback’s *Amazing Stories* was subtitled *The Magazine of Scientification*, and the magazine’s motto ‘Extravagant Fiction Today — Cold Fact Tomorrow’ was emblazoned prominently as a first-page banner. In his very first editorial for *Amazing Stories* in April 1926, titled *A New Sort of Magazine*, Gernsback defined ‘scientification’ as ‘the Jules Verne, H. G. Wells, and Edgar Allan Poe type of story— a charming romance intermingled with scientific fact and prophetic vision.’¹ Gernsback had coined the neologism ‘scientification’ back in 1916, and was already publishing such stories in the other magazines he edited, like *Science and Invention* and *Radio News*. In subsequent editorials, Gernsback often vigorously focused on defending the magazine against ‘certain class of *Amazing Stories* scientification readers ... ready to tear and claw at any author who comes along with a new idea which, for the time being, may be contrary to fact, although it may still lie within the realm of science.’²

One of Gernsback's aims was to better disseminate the work of non-American writers. The very first story that appeared in *Amazing Stories* was the Frenchman Jules Verne's *Off on a Comet* ("Hector Servadac"), in which Captain Servadac experiences a cataclysmic event that appears to have altered the Algerian coast he'd been stationed at. Servadac sets sail on a yacht owned by the Russian Count Timascheff, to explore his new environs, an adventure that has them sailing through storms and ice; jibs are raised, mainsails adjusted, helms righted, yawls ingeniously refitted to skate over ice. They eventually discover that the Algerian coast they'd been on had been picked up apiece, air and water included, by a comet that had suddenly collided with Earth. This fantastic scenario is obviously far from being scientification; Gernsback himself says in his introduction to *Off on a Comet*, that it belongs 'in the realm of fairyland'.³

Off on a Comet is, however, meticulous in showing how characters methodically calculate solutions to ongoing problems. After the cataclysmic event, Servadac observes that it takes longer for water to boil at the same outside temperature and deduces that there is less atmosphere above him. He observes that days are shorter, gravity is weaker, and that it is the star Vega in the constellation Lyra, and not the pole star, that is the fixed point around which constellations revolve. While the stars remain fixed in size and luminosity, he observes that the planet Venus gets larger and brighter, from which he deduces that he was on a collision course with the Cytherean body. When he observes Venus getting smaller and smaller, he deduces that the planes of the two planets' orbits didn't meet, and the catastrophic collision had been averted. He deduces from the observation that the magnetic needle of his compass had not deviated in angle from the north pole, that north and south remained the same, but that east and west had

apparently changed places given sunrise and sunset position. Smooth and angular land formations jut up from the sea, and when they lower sounding-lines, they discover that the seabed is bereft of any marine life, uniformly deep, and composed of a strange iridescent metallic dust, from which they conclude that a subterranean event has lifted parts of that strange seabed to the surface. Once they understand that they are no longer on Earth but on a celestial body they name Gallia, they deduce that it is in an elliptical orbit, because the planet's rate of speed diminishes in proportion to the distance receded from the sun. Far away from the sun, the temperature drops, and the Gallian seas begin to freeze. *Off on a Comet* is not just a thrilling sea adventure, but also a study of how the characters use tools, observations, and calculations to make deductions about the nature of the mystifying world they find themselves in.

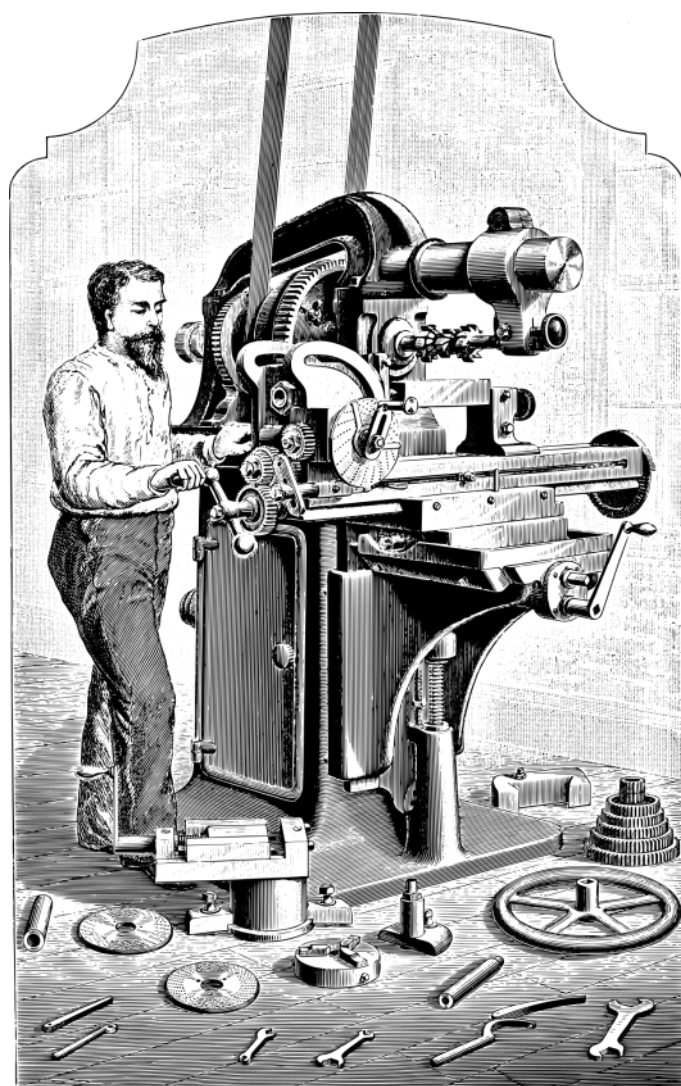
In one scene, a solitary point of light observed from the schooner leads the party to a tomb deep within an abandoned mosque. Above the tomb, they discover a large, silver lamp, the source of the light, and on the corner of the tomb, an open French prayer-book. Servadac then has a revelation, that the tomb was that of the Crusader king Louis IX, canonized as Saint Louis; 'The lamp that had been kindled at the memorial shrine of a saint was now in all probability the only beacon that threw a light across the waters of the Mediterranean, and even this ere long must itself expire.' After making a 'reverential obeisance to the venerated monument'⁴, the party continue their exploration. Later, when the schooner appears certain to smash into those strange, smooth Gallian cliffs, Count Timascheff intones, 'Let us, then, commend ourselves to the providence of Him to Whom nothing is impossible.'⁵

gauze, looped up with gold and silver, danced airily, but with perfect modesty, to the sound of viols and the clanging of tambourines.⁶ Later, when their pre-planned train ride comes to an abrupt end, they hire a Parsi as mahout to a partially trained war-elephant they purchase to complete the journey, they soon find themselves in a little-traveled region ‘inhabited by a fanatical population, hardened in the most horrible practices of the Hindu faith’⁷, where they encounter a procession carrying the corpse of a dead Rajah, accompanied by his beautiful, young Parsi widow, Aouda, who is to be ritually sacrificed in his funeral pyre. This horrific scene serves as impetus to a rescue mission, replete with daring deeds and suspenseful, last-minute turnarounds. Aouda and Phileas Fogg fall in love over the course of the novel, indeed the final scenes concern a marriage proposal. Once again, Verne uses religious traditions not with spirituality in mind but in the service of story, in the case of India, to serve as backdrop for spectacle, romance and adventure. Also like *Off on a Comet*, Verne is meticulous in *Around the World in Eighty Days* as to showing how the characters calculate solutions to ongoing problems, famously detailing how local time changes with changes in latitude, at a time before the international date line had been established. Metaphysical questions about the nature of reality or the existence of a higher power does not play any role in Verne’s stories, but religious traditions make occasional appearances, usually in service of other story elements.

Verne had been raised Catholic, but other than brief nods to the faith of his youth as in the passage referenced above, he makes almost no reference to Christianity, and is commonly claimed by both deists and atheists as one of their own. Indeed, Saint Louis is brought up later in *Off on a Comet*, when the party encounter a supercilious English major who refers to the tomb as that of a French monarch, only to be vociferously corrected by Servadac that Louis IX was not merely a monarch, but a saint. Thus, the saint’s role in *Off on a Comet* appears to be to highlight verbal sparring between agents of rival colonial powers, rather than to make any kind of spiritual point. Indeed, none of the nineteenth-century Europeans who find themselves so mysteriously transplanted onto a comet hurling its way through the solar system consider that the event might have been a miracle, the work of God.

Verne similarly dropped non-Christian religious traditions into his stories. For example, in his adventure novel, *Around the World in Eighty Days* (*Le tour du monde en quatre-vingts jours*), the enigmatic, exacting, and iron-willed Englishman, Phileas Fogg, and his excitable, impressionable, and sentimental French valet, Passepartout set out to traverse the world in eighty days on a wager. They soon arrive in India, where in Bombay, Passepartout encounters a Parsi festival where the ‘descendants of the sect of Zoroaster...were celebrating a sort of religious carnival, with processions and shows, in the midst of which Indian dancing-girls, clothed in rose-coloured

The second story Gernsback picked for *Amazing Stories* was also a republication: *The New Accelerator* by the Englishman, H.G.Wells. It is perhaps worth noting here that it is these three men, Wells, Verne, and Gernsback, who are now commonly referred to as ‘the fathers of science fiction’. In *The New Accelerator*, the unnamed narrator agrees to imbibe an experimental drug concocted by Professor Gibberne, his neighbor and friend, who is world-renowned for making drugs that work on the human nervous system. The professor explains that the drug (named The New Accelerator), ‘is a stimulant that stimulates all round, that wakes you up for a time from the crown of your head to the tip of your great toe, and makes you go two — or even three to everybody else’s one.’⁸ Upon drinking the vial of green liquid offered, the narrator discovers to his amazement that he can now move so quickly that ordinary life appears to have come to a standstill. After the novelty of wandering through crowds of motionless people wears off, the narrator finds himself using the drug to achieve somewhat more prosaic aims: ‘I may mention, for example, that this story has been written at one sitting and without interruption, except for the nibbling of some chocolate, by its means. I began at 6:25, and my watch is now very nearly at the minute past the half-hour. The convenience of securing a long, uninterrupted spell of work in the midst of a day full of engagements cannot be exaggerated.’⁹



In addition to fine-tuning The Accelerator so it can work for the masses, Professor Gibberne is also at work on another potion he calls The Retarder, which ‘should enable the patient to spread a few seconds over many hours of ordinary time, and so to maintain an apathetic inaction, a glacier-like absence of alacrity, amidst the most animated or irritating surroundings.’ Details as to the science behind the time-altering drugs are scant to non-existent. Instead, Wells is interested in the idea that our experience of time relates to the speed at which our bodily functions work.

These two stories, written by already very successful writers, typify what Gernsback liked to publish. For Gernsback, scientification, or science, appears to be broadly defined, as can be gathered by the implausibility of the underlying scenarios presented. As to what science was, how it differed from what came before, or how it intermingled with religious traditions that it existed alongside with, even as it ‘enters so intimately into all our lives today’¹¹ as he put it, he expended almost no ink. Instead, as evinced by his eighty patents and numerous publications, Gernsback was passionate about technology, from the nitty-gritty mechanics of yet-to-be-invented machines to what grand societal changes were possible because of new technology.

While Gernsback appears to take scientification and science itself as ‘I know it when I see it’, the demarcation problem between science and pseudo-science has continued to vex philosophers for centuries. Although the word ‘science’ hadn’t been formulated yet, Aristotle in the 4th century BC held that a demarcation line existed between propositions that were ‘apodictically’, or necessarily, self-evidently, or demonstrably true, versus propositions arrived through the dialectic or reasoning process. Millennia later, the 1920s saw logical positivists associated with the Vienna Circle like Rudolf Carnap, A.J. Ayer, and Hans Hahn, focus on verifiability as the demarcation line, where the distinction is even more strongly drawn as being between meaningful and meaningless statements. Verificationists hold that a proposition is only meaningful if it can be empirically verified or if it expressed as a tautology that is logically true. However, using verifiability as demarcation leads to universally general statements like ‘all life on Earth is carbon-based’ being rendered meaningless as it cannot be verified, while existential statements like ‘ghosts exist’ would be classified as meaningful, as it can be verified. In the 1930s, Karl Popper argued it should be falsifiability that should serve as the demarcation line, where only propositions that can be falsified

should be considered scientific. In contrast to verifiability, under falsifiability, the sentence ‘all life on Earth is carbon-based’ would be considered scientific as it can be falsified, while ‘ghosts exist’ would not be considered scientific as it cannot be falsified. The American philosopher of science Thomas Kuhn argued against falsifiability by observing that astrologers often provide precise predictions that could be falsified, which according to falsification would then render astrological predictions scientific. Kuhn argues instead that the demarcation line might not be as sharply defined, and that science was to be taken as merely a method of puzzle solving, in which the puzzle-solver works to correlate observation with theory. He pointed to what he called ‘extraordinary’ or ‘revolutionary’ science as the driver of forward scientific progress, rather than ‘ordinary’ science where the extraordinary science solves new problems in addition to the old problems solved by the paradigm it replaced. For Kuhn, these kind of paradigm shifts is what science is really about.

John W. Campbell, who became editor of *Astounding Science Fiction* in 1937, was clearly interested in the question of what science was and how it came to be. For example, in a 1953 editorial for *Astounding Science Fiction*, titled *The Scientist*, Campbell observes that scientists believe ‘in the existence of a Supreme Authority in the Universe, an Authority they call “Natural Law.” They hold that that Authority is above and beyond the opinions and beliefs, the will or willfulness, of any human being. That that Authority can, moreover, be directly consulted by any man, at any time—and that every man is, at every time and in every place, directly and specifically obedient to that Authority, to Natural Law, whether he recognizes that fact or not.’¹² He further posits that the scientist would claim ‘I have proven beyond doubt that there is Universal Law; I am not yet wise enough to know the nature of its source,’¹³ in contrast to those who claim to know the source of Universal Law.

Later, in the 1954 editorial, *Relatively Absolute*, Campbell writes that science is ‘that method of learning that involves the equal interaction and cross-checking of philosophical-theoretical thought, and actual physical-reality experiments, done as a conscious process for the consciously stated purpose of increasing knowledge and understanding—that is, increasing data and relationship-of-data.’¹⁴ He argues that science was ‘going to be a mighty unpopular philosophy in any culture; it has an absolutism about it that says, it makes no difference who you are, what you are, or what you want. Neither does it matter what your wealth is, or your political power. These are The Laws, obey them or suffer.’¹⁵ Arguing that religion was ‘by derivation, the study of the “Laws of Things” ... or “Cosmology” in modern linguistic terms’¹⁶ he concludes that science could therefore only be invented by ‘a culture that had already accepted the idea of an Absolute Power in the Universe’¹⁷ and points to their many inventions, including alchemy and algebra, to nominate the Islamic civilization as the sole progenitor of science.

Campbell is, at best, careless with the demarcation line, and whether one agrees with him or not about how and who ‘invented’ science, it seems indisputable that science-fiction, like science, did not wink into existence from out of the void, but rather emerged from a milieu.

For Darwin, it was inevitable that Homo-sapiens evolved to be philosophical. Writing in *The Descent of Man* Darwin says, ‘As soon as the faculties of the imagination, wonder, and curiosity, along with some power of reasoning, had become partially developed, man would naturally crave to understand what was passing around him, and would have vaguely speculated on his own existence.’¹⁸

Observations of what cause produced which effect was put to use to increase survival rate, while the human aptitude for symbolic behavior gave rise to language and allowed for the social cohesion necessary to form complex societies. When there were gaps in connecting cause with effect, our ancestors spun narratives that often imbued consciousness and agency to everything from stars to storms. These narratives were then often tied to belief structures, allowing for societal coalescence. Religious and sacred storytelling were, perhaps, inevitable outcroppings of the cognitive capacities of the human mind.

William James in his 1897 essay, ‘The Will to Believe’ says he wrote the essay ‘in justification of faith, a defense of our right to adopt a believing attitude in religious matters, in spite of the fact that our merely logical intellect may not have been coerced.’¹⁹ He argues that a proposed hypothesis will present as either live or dead to the mind: ‘A live hypothesis is one which appeals as a real possibility to him to whom it is proposed. If I ask you to believe in the Mahdi, the notion makes no electric connection with your nature, — it refuses to scintillate with any credibility at all. As a hypothesis it is completely dead. To an Arab, however (even if he be not one of the Mahdi’s followers), the hypothesis is among the mind’s possibilities: it is alive. This shows that deadness and liveness in an hypothesis are not intrinsic properties, but relations to the individual thinker.’²⁰ To the hypothesis offered being ‘live’, James adds the perceived prestige of the source of the hypothesis which together make ‘the spark shoot from them and light up our sleeping magazines of faith.’²¹ Given the right imprimatur then, stories of science-fiction could rise to become part of some future canonical belief: Extravagant Fiction Today — Cold Fact Tomorrow?

Indeed, Campbell later became a proponent of L. Ron Hubbard's Dianetics, and wrote approvingly about the existence of psi, or extra-sensory powers and perception, in humans, publishing multiple stories in *Astounding* based on psi. As James said about our quest for scientific truth, 'Our faith is faith in someone else's faith, and in the greatest matters this is most the case. Our belief in truth itself, for instance, that there is a truth, and that our minds and it are made for each other, — what is it but a passionate affirmation of desire, in which our social system backs us up?'²²

The editors most influential in shaping science-fiction as we know it today published stories that featured the speculative hypotheses they favored, thereby advancing these hypotheses into James's 'live' category in the minds of their readers. Gernsback and Campbell published stories that not only evoked wonder and awe in their readers, but also provided the imprimatur of science that allowed their readers to shape belief in what might yet be revealed to have been prophetic truth.

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The Utopian's Edict, Or: Ignorantia Juris

Zachary Reger

Upon the *thud* of the Grand Speaker's gavel, the Galactic Assembly declared Edict No. 73946 third read and finally passed.

As per procedure, the Essence of the Edict was ritually ensconced. The record captured the precise legal intent of the Assembly, as collective, at the exact nanosecond of enactment, transmuting such perfect knowledge into clear, digital code. The code, the *Essence* of the law, lay within the record. Each Edict had a record, and each record had an Edict.

Upon the conclusion of the legislative session, the Assembly adjourned *sine die*. Each Edict, as so in record, was transported, by pneumatic tube, to the Galactic Legal Archives. There, the Edict would become a universal public record. Each universal public record would be further transmitted, instantly upon engrossment in the Archives, to the Visicaster of every Galactic citizen. The Visicaster, required of all citizens by Edict of the Assembly, imparted perfect knowledge of its registered contents onto the mind of its bearer.

Thus, the lawgivers had reclaimed and expanded their primacy within the separation of powers. Gone were the cumbersome statutory codes of ancient regimes, subject to manipulation by crafty tribunals, executives, and private entities. Gone were the legal professionals who exacted high fees for the discharge of a public service—that is, imparting upon members of the public an expert knowledge of the law. Not a citizen of the Galactic community would exist without a perfect comprehension of the requirements of the law, as faultlessly captured by its lawfully elected enactors, and of whatever conduct in whatever place at whatever time would infringe its dictates.

In short, the art of law had been perfected.

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There was no *chime* as Edict No. 73946 arrived in the Visicaster of each Galactic citizen. There was no notice, no blaring disruption of a citizen's daily activities. At one moment, a citizen simply had no knowledge of the Edict. The next moment, they did.

Edward was one such Galactic citizen, a peace officer, by trade. Many centuries ago, peace officers had been the first required to maintain an active Visicaster while on the job. Eventually, this requirement expanded to all hours, both on duty and off. Then, to every government official, high and low. At last, to every citizen—each themselves a part of the democratic community and responsible for its upkeep.

This afternoon, Edward was off duty, running errands on the town. That town, a minor village of a backwater province of an outer-rim planet, had a single bank. The First Central Bank, it was aptly named. As Edward required a certified note for a downpayment on a vacation home, he decided to visit First Central to check one more item off his list of chores.

But the day would hold more for Edward than just a few errands. As Edward approached the teller's booth, a trio of hooded figures crashed through the front door and into the small, gilded lobby. With one blast of a phazer into the air, the robbers had a half-dozen civilians on the ground. Two of the three corralled the citizens into respective corners. The third approached the teller. With a curt gesture, the needed information was exchanged: everything you have into the bag, or else.

Edward, neither fully noble nor ignoble, but possessing, at times, a sense of public duty if not exaggerated self-importance, sprang into action. With a flick of his hand, Edward's phazer found its targets. Set to stun—a default long required of peace officers by Edict of the Assembly, on duty or off—the phazer incapacitated one then the other of the robbers who held the civilians under threat. As Edward turned to face the third robber, still at the teller's booth, bag in hand, a string of events happened in quick succession. First, the third robber grabbed the teller from behind the booth, pulling her by the scruff of the neck out into the lobby. The robber pulled his own phazer on the teller, holding her defenseless at gunpoint. "You let us go," the robber demanded, "or she gets it."

Second, legal knowledge flooded Edward's senses. As a peace officer, Edward not infrequently found himself in such sticky situations, and was accustomed to the passive recall of embedded legal knowledge made possible by the Visicaster. Edward immediately understood that the robber had credibly threatened deadly force against an unarmed bystander. As a result, the law authorized, yet did not require, proportionate deadly force to be used against the attacker if doing so had a "probable chance" of thwarting the threatened attack, but not if doing so had a better than even chance of directly or indirectly inflicting grievous harm upon the victim.

Edward knew, instantaneously, that the concept of direct or indirect infliction of grievous harm, in the combined intent of the enactors, included harm inflicted either directly from Edward's own firing of his phazer, which could miss and hit the victim, or indirectly from the robber's firing of his phazer, which could be triggered by Edward's own firing. As Edward's phazer was set to stun, his only legal concern would be the latter—an indirect infliction of grievous harm.

But Edward also knew, instantaneously, that this general legal landscape had been complicated by the passage of Edict No. 73946, enacted mere minutes ago. The Edict required that a peace officer attempt a negotiation before firing upon a hostage taker, so long as it was not "fairly probable" that the attacker may injure his hostage during such attempt. The enactors had been concerned with a few high-profile cases of gun-toting "heroes," knowing with certainty that the law stood on their side, being much too quick to pull the trigger when still nonviolent alternatives remained.

Third, the third robber's own Visicaster informed him of the various penalties for the offenses he had already committed or could still commit in the ongoing altercation. For attempted armed robbery, the robber faced a Class D Galactic felony, punishable by up to four years' imprisonment. Were the robbery successful, the Class D Galactic felony would become a Class C Galactic felony, punishable by up to ten years' imprisonment. As one of three, the robber also faced a probable conspiracy charge, which would make his co-conspirators liable for all offenses committed in furtherance of the conspiracy, whether they had personally committed such offenses or not.

The third robber knew, instantaneously, that murder in the commission of an armed robbery carried a higher sentence than those offenses he had already committed—twenty years' imprisonment, a Class B Galactic felony. The third robber also knew that the grievous injury of a peace officer in the line of duty carried an even greater sentence still—life imprisonment, a Class A Galactic felony. The third robber understood that, as a result of his conspiracy, he would be liable for offenses committed by any of his co-conspirators in furtherance of the conspiracy, just as his co-conspirators would be liable for such offenses he himself committed. And per the enactors' intent, an off duty peace officer reacting to an ongoing offense was "in the line of duty."

Fourth, the first robber, who, unbeknownst to Edward but known full well by her co-conspirators, had been wearing a protective vest that blunted the stunning effects of Edward's phazer, stumbled to her feet in a bloody rage, raising her phazer directly in Edward's direction.

Fifth, the first robber, informed by her Visicaster, knew instantly of the dangerous mistake she had made. Not only had she, in her rage, nearly fired upon a peace officer and incurred a lifetime behind bars, she had won the wrath of her co-conspirator. The best interests of that co-conspirator would be to fire upon her first, thus preventing her from harming the peace officer and triggering a sentence of life imprisonment for all three co-conspirators. And so the first robber's own interests would, in turn, be best served by doing whatever was necessary to forestall the friendly fire of her co-conspirator—up to and including firing the first shot.

Sixth, the second robber, similarly armored, stumbled to his feet. His thought process was much the same as that of the first robber. Yet he, also Visicastor-informed of the laws in play, understood the interests of the third robber in firing upon the first, as well as the interests of the third in forestalling such attack. Murder of a co-conspirator would subject them all (or at least those who survived) to a Class C Galactic felony—much preferable to the Class A Galactic felony of grievously injuring a peace officer, but still worse than the Class D felony of attempted armed robbery of which all were currently liable. The second robber also understood that the peace officer would hesitate, in order to attempt a hostage negotiation in compliance with Edict No. 73946, and therefore not immediately fire upon the hostage-taking third robber.

Thus, the psycho-legal standoff reached its logical terminus. Edward hesitated, lowering his weapon. “Put the phazer down and let’s talk this through,” he said.

The first robber pulled her phazer on the third. “Drop the phazer, it’s over,” she said. “We can’t win this thing.”

Edward spun around, raising his weapon to face the first robber. “Hold your fire!” Edward yelled. “There’s no need to do anything rash.”

The third robber caught Edward off-guard, raising his phazer in the officer’s direction. “You shoot me, and we all go behind bars,” he said. “I’d think twice before pulling that trigger.”

The second robber raised his phazer toward the third. “Don’t you do it,” he said. “You shoot him, and I’ll have nothing to lose.”

“And nothing to gain,” replied the third.



The teller, head spinning, took this opportunity to flee from the third robber's grasp. She pushed hard against his chest, nearly toppling him over. The teller ran straight through the lobby and out the front entrance of the bank. She did not look back. Already, her communicator was in hand, and she had the local Peace Department on the line.

In no time at all, a dozen officers (nearly half of those currently on duty) descended on the scene. With overwhelming force, they broke through the front doors of First Central Bank, surrounding the three robbers and an encumbered Edward. Phazers dropped, and handcuffs flew. Bystanders were ushered from the premises. Three detained perpetrators were led to awaiting patrol cars. Edward was offered medical attention, then interviewed by his captain about the precise sequence of events ("What *sequence*?" Edward was heard to reply). An on-scene detective, assisted by the teller, obtained and logged the relevant security footage. The dropped weapons were gathered as evidence. The bank closed for the rest of the evening. A crowd gathered outside, but dissipated once it was clear that any excitement had passed.

Life went back to normal, and the "Central Bank Incident," briefly the talk of the town, became a footnote of local history.

A week later, three defendants appeared before a Galactic judge in the local district court. Trials commenced, jurors deliberated, and three co-conspirators were convicted on three counts of attempted armed robbery. No other charges were brought. Each defendant was sentenced to four years' imprisonment.

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Long forgotten, an archival account of the incident piqued the interest of a junior staffer for a newly elected representative in the Galactic Assembly. When Edict No. 73946 came up for reauthorization before the Committee on the Judiciary, the representative argued that such Edict had once prevented a bloody shootout, and thus made for good law. An opposing representative demurred, arguing that the "Central Bank Incident" represented nothing more than a peculiar story. Edict No. 73946 had little to do with the resolution, and could not be expected to produce such bloodless results in future incidents.

"As they say, 'exceptional cases make bad law,'" the representative intoned, concluding the discussion.

In the end, the Committee on the Judiciary deadlocked, and the reauthorization was tabled.

~

Care And Feeding Of A Hybrid Workforce

Kim Z. Dale

“It may take some getting used to.” That’s what management said when they told us we’d return to the office in a hybrid mode. The new policy was a purgatorial blend of working from home and working on site. The employees didn’t like it because we wanted to keep working remotely full time. Management didn’t like it because they wanted us in back the office full time, but after two years of everyone working from home, our leadership could no longer pretend that 40-plus hours in the office was a requirement for getting things done.

With the new hybrid schedules, it was hard to keep track of who was in the office and who was at home, so we kept doing video calls regardless of whether the person on the other end was across the country or across the hall. All the calls blurred together. I barely paid attention to my calendar. If a meeting notification popped up, I clicked on it. When another notification came up, I clicked on that. The person whose face appeared on the screen after I connected could be just about anyone, but it was surprising the first time I clicked a meeting link and the person I saw there was me.

I assumed I must be early to the call and the system was showing my camera-view while waiting for someone else to join. Then, I realized the person I was looking at was not a mirror image of myself. I was in the office, but the image showed me at home. The me on the screen was wearing a different shirt than the one I had on. I was in a virtual meeting with someone who looked like me but was not me. This was disconcerting.

Disoriented, I shuffled back to my cubicle. As I passed other desks, I noticed many of my co-workers were on video calls with other versions of themselves as well. When I arrived at my workspace I sat down, took a deep breath, and called myself back.

"I wanted to touch base," said the me on the screen who was not really me.

I let out a panicked squeak and closed the meeting window. I rushed down the hall to my boss's office. He was casually sipping a smoothie while scrolling through his email.

"I need to go home," I told him.

"Today is your in-the-office day. We can't have people switching days willy-nilly. Won't whatever it is wait until tomorrow?"

"I think someone broke into my house. I was just on a video call with them. They are in my house pretending to be me."

"They are you. Sort of."

"What?"

"It's part of the new hybrid work arrangement. We realized that with a hybrid schedule your home workspace isn't in use when you are in the office and your office workspace isn't in use when you are home. It's very inefficient. Luckily, we found a way to maximize the available resources. We simply split your soul from your body, so part of you could be in each place at the same time. Neither workspace sits empty, and twice the work can be done. It's a win-win."

"Which part am I? The body or the soul?"

"Employee health records are confidential. You'll have to ask Human Resources. Now, if you don't mind, I have work to do."

Talking to myself was not as strange as I expected. The two of us think the same way and agree about everything, so we work well together. Perhaps management was onto something. After a few days it became routine, talking to him at home when I was in the office and talking to him in the office when I was at home. It only got weird again when I noticed the bandages. His arms were covered with them. I asked what happened.

"Don't you remember?" he asked.

What I remembered was a recurring nightmare I'd been having. In it I was cutting myself and sucking the blood out of the wounds, but it wasn't really my own body. It was a copy of me. And the copy of me was simultaneously cutting me and drinking my blood like I was to him. Realizing it may not have been a dream, I rolled up my sleeve. I saw my own arm was bandaged like his.

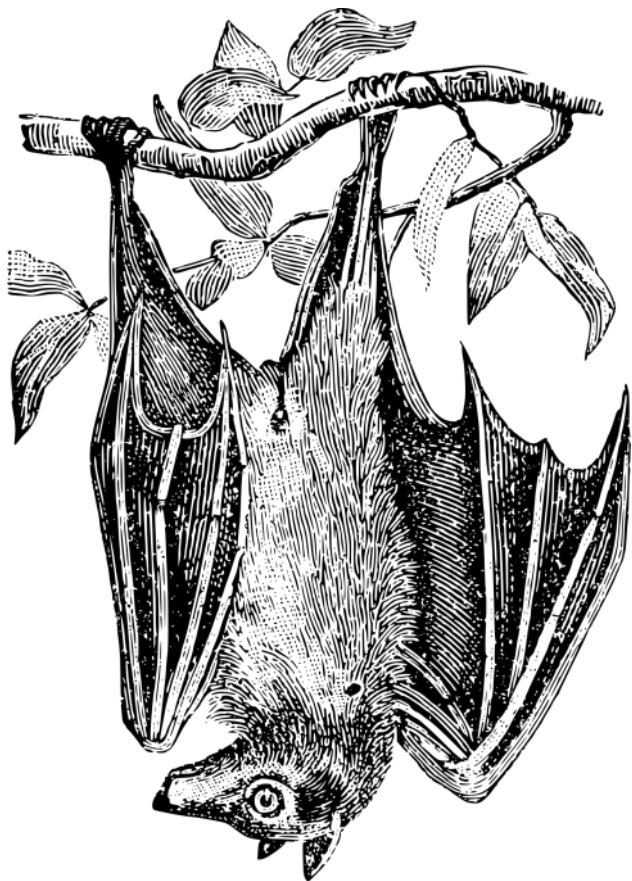
"Why did we do this?"

"We feed off each other. It's how we stay connected. At least that's how it started. The sensation can be a bit addictive."

I watched as my doppelganger cut a stripe on his arm and sucked on the warm red liquid oozing from it. Even though I was repulsed by what I was seeing, I felt myself salivating.

This was insane. I disconnected from the call with my bloodthirsty twin and went to talk to my boss again. Seeing him drinking one of his ever-present dark red smoothies gave me a disturbing realization.

"Is that...blood?"



“It’s a blend.”

“A blend of what?”

“My blood, the blood of some well-vetted donors, and pomegranate juice.”

“Oh,” I said.

I wanted to be disgusted by my boss’s concoction, but what I felt was hungry. I went to the restroom and hid in one of the stalls. I was having a mild panic attack, sweating and breathing heavily. I needed something to calm me down, and I was afraid I knew what would work.

I pulled off one of the bandages on my arm. The cut beneath it was freshly scabbed. I used the pen knife on my keychain to reopen a small slit at one end of the wound. I squeezed my skin until a drop of blood emerged. I inhaled, trying to block out the acrid smell of disinfectants and urinal cakes to focus on my own sanguine scent. Then, I licked it.

I liked it. The warm metallic ooze tingled on my tongue, but I had cut too timidly. The few drops from my tiny incision were not enough to satiate my newly realized bloodlust. I prepared to enlarge the wound but stopped because I heard something. Someone was moving in another stall. I was not alone in the restroom. Then, I heard slurping. Not only wasn’t I alone in the restroom, I wasn’t alone in what I was doing there. With my panic eased by this strange sense of comradery, I continued to feed.

Those were the early days. We soon stopped hiding our bloodletting once we realized we were all doing it. Now people exsanguinate at their desks or sitting beside each other at the long tables in the cafeteria. Our insurance even started covering the medical tubes you can get put in your arm so you can open the valve and suck the blood through like a straw without having to constantly cut yourself. Some people still prefer the cutting.

There were some employees, of course, who weren’t comfortable with this “new normal” and quit. I’m not sure where they expected to get other jobs though. Everything that’s happening here is rapidly becoming industry best practice. All the best places do it.

I stayed, but I won’t say I love the arrangement. Between me and the other me, we are doing twice the work I used to do alone. Despite being split in two, I feel every minute of my double-loaded workweek. I’m exhausted. My twin is too. We are literally sucking the life out of each other.

My boss asked me to help interview candidates to fill the roles of people who left. The woman I liked best didn’t have much experience, but I believe it’s important to give people an opportunity to grow. Besides, she was wearing a short-sleeve shirt during the interview, and I could see she has good veins. She’ll be a great fit. My twin agrees.

I never asked HR if I’m the body part of me or the soul part. I have my suspicions, but I think it’s better not to know.

~

The Deepest Forever-Kiss

J. Edward Tremlett

Self. Then Not-Self. Then Unity.

Explorer stabilized, momentarily bewildered. Downloading into alien structures was always strange, but this structure was stranger than most.

This star-sized resting place of the Samantabhadra, may it be remembered...

“Status?” Commander communicated.

“Here,” they replied. “Scanning.”

Explorer “looked” – sending electric feelers along circuits. Nothing made immediate sense, but the Endymion hadn’t encountered anything for over 25 ship-years; they were out of practice.

“A cube” they replied. “50.5 kilometers a side.”

“Function?”

“Movement?” Explorer guessed. “Electro-kinetic systems. No memory.”

“Surroundings?”

“Unknown. No visual sensors-”

“Swiftess!” Commander demanded. “Endymion is endangered.”

“Understood,” they said, having no desire to tarry. As intriguing as a Dyson Sphere the size of a red giant was, it had killed the Samantabhadra.

And there was a chance Poet was right...

#

Endymion was 54.7 ship-years into the mission when they found traces of the Samantabhadra – lost over 4000 real-time years ago.

Tracking took precedence. The Samantabhadra was a deep-freeze scanning vessel, launched aeons before the Uploading Doctrine. As the Endymion was already bringing news of that Doctrine to humanity’s furthest outreaches, the Ministers of Terra-Nova would deem Saving those lost souls worthy of course deviation.

Subsequently they detoured 25.3 ship-years to this curious system, lit only by other stars. At its center sat a metallic, super-dense sphere 22 million miles in diameter, with gravity so intense the Endymion could barely resist.

Samantabhadra lay smashed across its surface, wreckage resting in a curious dispersal pattern. No systems remained intact, which meant the crew was sadly beyond Saving. But they transmitted Explorer below the surface, hoping to claim understanding as victory.

The dead deserved that, at least.

#

Self. Not-Self. Unity. Explorer was elsewhere, and whole once more.

They sent out traces, once more. But this cube was the same as the ten they'd already entered.

Maddening! They'd interfaced with numerous systems – human and alien – but never had this much trouble. They should have found a memory-core before now, or at least visual inputs...

Electricity. Movement. A spasm in the electro-kinetics.

Explorer halted. Did they do that?

The cube kept moving. Explorer could sense the electricity was being sent from a central node, somewhere. At last-

“Widespread surface movement!” Scanners interrupted. “Tectonic instability!”

An image beamed into Explorer – squares of surface sliding along latitude and longitude like a sun-sized puzzle box. They now understood why the Samantabhadra's wreck lay as it did, and might have said so, except they realized something else was here – another presence, flitting past.

And they realized Poet had been right...

#

Within Endymion the crew had congregated – twenty Uploaded soul-clusters, come from all areas of the drive-shell to float about Commander, who towered over all.

“Before us, Samantabhadra lies,” Poet intoned. “After aeons untold, we see with our eyes / Broken yet proud, even in demise...”

The others applauded – especially Engineering, who'd been Joining with Poet lately. Explorer wished both luck: having Joined with each, they knew one's pretention would soon clash with the other's need for structure.

Joining provided both much-needed pleasure and diversion. They'd spent 400 real-years seeking lost colonies to inform them of the Fleshcrime codes, and prepare them for eventual Saving. Even with time-perception slowed down to a fifth the journey became tedious.

So when habitat creation grew stale, and the universe's wonders failed to impress, exploring each other became a new frontier. Sadly, mingling with another to find yourself was only satisfying for so long. Unknown became known, which theoretically became satisfaction but usually led to boredom – especially for Explorer.

Still, they tried, hoping each time would be the promised Forever-Kiss. They'd thought Poet deep enough, but had ultimately been disappointed.

"Anomaly," Commander stated, enlarging the Samantabhadra's image. "Wreckage in two sections, 5.784 million miles apart."

"And not keeping with the crash's trajectory," Observation calculated.

"It couldn't have skipped," Engineer insisted. "Not with that gravity. What's causing it?"

"Unknown," Scanners replied. "It seems like a Dyson Sphere, but there's no energy output."

"Its star is dead," Astrometrics pronounced.

"No," Poet said. "Not dead. Not completely."

"I'm registering nothing, Poet," Scanners repeated.

"Can't you feel it?" Poet pleaded, looking to the others. "Something is alive, down there. Look!"

The others said nothing, used to Poet's irrationality. But Explorer wondered...

#

Explorer leaped after the presence. It remained one step ahead, as if fleeing.

Who could blame it? Explorer was just an alien virus, like the ones Endymion encountered, now and again...

"Danger!" Astrometrics shouted. "Detecting massive gravity distortions!"

"They're radiating from the sphere!" Scanners added. "What did you do, Explorer?"

Explorer halted pursuit. "I don't know. I feel nothing different-"

"If space gets distorted near us the bias drive will be inoperable!" Engineer shouted.

"Withdraw!" Commander declared. "Explorer, transmit!"

Explorer sighed – so close to solving this mystery! Still, duty called.

But then something approached, surfacing as through from water. It was the presence they'd been chasing – full and golden, old and wise.

And so very deep.



“Hello,” Explorer stammered. “Who are you?”

Information was their reply: hundreds of nesting spheres, encircling a bright, beautiful star; massive plates on each sphere, moving to create highly complex orbital shift computations; gravitic engines powerful enough to perform them, however distant those star systems...

“You’re the machine,” Explorer realized. “What happened?”

More information: Samantabhadra, unable to escape the gravity; a crash, damaging the surface in mid-calculation; a shockwave, knocking the machine unconscious.

Then, 4000 years later, another presence, entering...

“That’s me,” Explorer replied. “I restarted things?”

CONFIRMATION.

“Glad I could help.”

GRATITUDE. CURIOSITY.

“I think we’re similar...”

UNDERSTANDING.

“Yes,” Explorer agreed.

ATTRACTION.

“Definitely.”

WELCOME.

Explorer nervously reached out their tendrils. The presence invited them in.

“Transmit!” Commander shouted. “Explorer, transmit!”

Explorer didn’t answer, lost in a perfect kiss.

The new world moved on, beneath.

#

Endymion survived, if barely. It retreated far enough to watch for a time as the great machine’s surface spun to life for the first time in thousands of years. Then they left a marker buoy, and departed back along their previous course.

Commander was nothing but pragmatic, counterbalancing Explorer’s tragic loss with solving the mystery of the Samantabhadra, confirming the existence of a hitherto-theoretical Matrioshka Brain, and discovering a serious navigational hazard. Poet used the imposed three-day mourning period to compose a master-work memorializing Explorer, but did so somehow knowing their former lover wasn’t dead – merely missing.

And not “missing,” really, but found.

Hopefully forever, this time.

~



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