Sci Phi Journal 2025 • 2

Bell & Black & Carnell & Dalton Diehl & Hodges & Iseni & Jones Madden & Partington & Paul & Zilberbourg

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www.sciphijournal.org team@sciphijournal.org

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CREW

Co-editors: Ádám Gerencsér Mariano Martín Rodríguez

Communications: Gina Adela Ding

Webmaster: Ismael Osorio Martín

Illustrations: Gordon Johnson; Pixabay.com

Cover art: Dustin Jacobus

Contact: team@sciphijournal.org

Social media: **@sciphijournal**

Editorial office: Brussels, Belgium

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Editorial

Lectori salutem.

Spring is giving way to summer in the northern hemisphere, which in Belgium merely means a gradual change in the angular velocity of rain drops that incessantly pummel the roofs under which yet another issue of *Sci Phi Journal* was lovingly crafted for you by our enthusiastic, if slightly D-vitamin deficient crew.

Our 2025 summer edition is once again thematic, in the loosest of senses, around topics of progress and creativity as seen through the lens of contemporary SF. It is often said that science fiction is the literature of ideas; indeed, by reading into the concerns and musings of writers interested in the future, one may get a sense of the questions that preoccupy the collective mind. A map of what troubles us as a species, as it were.

This time around, our tales revolve around AI, science, extraterrestrial exploration and the price society pays for the march of technological advancements, particularly if their pace outstrips our ability to adapt. These are complemented by two essays, covering changes in both our relations with humanity's artificial creations, and the formal conventions of the SF genre itself, harkening back to the poetry of Arthur C. Clarke.

On a related note, while our crew would have to miss the annual European SF gathering due to clashing commitments, we hope that some of our readers make it to <u>Archipelacon</u>, which after our fantastic sojourn in Rotterdam last year carries on the torch of the EuroCon tradition – to be followed by <u>MetropolCon</u> in Berlin in 2026, where *Sci Phi Journal* will definitely be on the programme once more!

In the meantime, whether your region of the world is gradually heading into summer holidays or a cooler season, we hope the latest issue provides some welcome inspiration for thought experiments.

> Speculatively yours, the Sci Phi co-editors & crew



Beyond The Sea

Kevin Eric Paul

The first wife of Priest Zarda extended her tendrils towards him and began puffing out a precise mixture of pheromones.

"Husband. Must you leave your harem? Your females will miss you dearly, and our latest clutch will begin hatching soon."

The stout, pale orange worm turned its eyeless head towards her and directed a series of pheromone puffs to her receptors. "My First. We have discussed this. I must find the Creator. Leave me to my preparations."

"Husband. Priest. There will be many dangers. Is your faith not enough?"

Zarda considered that. "I...suppose it is not. I must discover the truth for myself. But do not be afraid–if something goes wrong during the expedition, you and the other females have my clone. I have trained him well." "But he's not you, husband!"

"I am sorry. I do plan on returning-once I have met the Creator."

"Yes, husband. Be sure that you do." She retracted her tendrils dejectedly and used her setae to return to the harem pit, extending and contracting her body along the way. She puffed out a last signal to express her worry before exiting Zarda's chamber.

#

The pilot of the great bioship Brackla puffed instructions to stand by for departure into its receptors at the helm. Genetically designed and grown to provide habitat and sustenance for the worms onboard, the ship was to bore through the mantle and crust and bring its occupants to the surface for the first time in history.

"Surveyor Yorba," signaled Priest Zarda, "Is Brackla prepared to begin the ascent?"

"Yes, Priest," puffed Yorba. "We begin the expedition on your order."

"Very well. Helm, instruct Brackla to commence boring."

"Right away, Priest," answered the pilot.

The bioship groaned in response and began chewing through the upper mantle with its diamond teeth. The crushed silicate rock passed through the middle of its body as it pulled itself forward with dozens of powerful, diamond-tipped claws. The interior of Brackla vibrated with the effort as it accelerated to maximum boring speeds.

"Status report, Surveyor?" Priest Zarda asked twenty hours later.

"We have traveled nearly two hundred kilometers and should reach the crust in approximately forty-two hours."

"Well ahead of schedule. And the temperature?"

"Dropped another 200C, Priest. Only 1400C now, but Brackla can handle the cold. Though if this continues..."

"Have faith, Surveyor. It will grow warmer again. It will be as it was in the ancient stories passed down through my order."

"Yes, Priest," Yorba puffed with renewed confidence.

#

"We've reached the crust," announced the pilot. "Minutes away from breaking through. Brackla is experiencing no difficulties with the denser rock and metals."

"Very good. Temperature?"

"1700C and rising, Priest. You were right," puffed Yorba.

"Breaching the crust now," the pilot's pheromones communicated, though he was unable to hide a touch of fear and anxiety.

The big bioship shuddered with uncertainty.

"Surveyor Yorba?" prompted Zarda.

"A moment, Priest," he replied before puffing various queries into Brackla's receptors. "We are in...liquid, Priest. A sea of...mostly molten silicon dioxide. With sodium carbonate and calcium carbonate. Temperate is...1850C," Yorba puffed with a sense of awe. "Molten above as it is below..."

"The legends were true...But what lies beyond it? Pilot, instruct Brackla to continue upwards through this...sea."

"Yes, Priest." The bioship vibrated in agreement after receiving its orders.

Hours later, Brackla breached the surface. The glowing orange sea bubbled around the bioship as it attempted to make sense of its surroundings.

"Why have we stopped?" asked Zarda.

Yorba puffed signals of uncertainty and confusion. "There's nothing else for us to travel though, Priest."

"Explain."

"There's...nothing."

"Nothing? What do you-"

"Just that. It's...emptiness. Openness. The endless sea and nothing more. And somehow, it's warmer. 2100C."

Zarda puffed a sense of disbelief. "Impossible. Where is the Creator? The paradise that was promised?"

No worm puffed for several minutes. Then Yorba signaled excitement.

"What is it?" asked the Priest.

"Brackla senses something. An enormous sphere, radiating energy, heating the sea. It's very far away, deep into the nothingness. But it's there, and much hotter than even the core."

"...The Creator?"

"Perhaps."

"Then our journey is not over. Gather all the data you can, then we will return home. One day we'll come back here. Once we've learned how to travel beyond the sea."

~



The Price Of Progress

David Partington

Water thundered over the falls, plummeting nearly two hundred feet into the Niagara Gorge below—but so far as three oblivious teens were concerned, it needn't have bothered.

"They'd rather stare at the little rectangles in their hands," said Alexander to his elderly aunt Charlotte.

"It's like they're transfixed," said Charlotte.

The falls were soon out of sight as the zeppelin, bound for Toronto, set out across the open water of Lake Ontario. With the scenery no longer of interest, most passengers now retired to the spacious indoor cabin where drinks were being served, leaving the three teens to read their paperback books in peace. Removing his top hat___it was 1902—Alexander led his Aunt Charlotte to a table amid much chatter and clinking of glasses.

Neither had ever been higher than a six-story building, and both were of an age that harbored doubts about anything new. Had the price of tickets not been so attractive, they would doubtless have taken a ferry.

No sooner were they seated than a fresh-faced young woman in a sailor dress stepped up to their table and introduced herself. "Good afternoon. My name is Alice. Would either of you like something to drink?" For an unchaperoned female to provide her given name to complete strangers seemed rather forward and her question was downright impertinent.

"Well, of all the nerve!" snapped Charlotte.

Realizing that the woman was taking orders, Alexander gave a bark of nervous laughter, then asked for two glasses of Madeira.

As soon as Alice turned to leave, Charlotte remarked on the blue-and-white sailor dress she was wearing. "I suppose it's good for business to have her sashaying around in that get-up. With no corset and no padding about the hips or posterior, it doesn't leave much to the imagination."

Alexander held up his monocle to get a better look as she walked away. "It's *au naturel*, as they say."

The two travelers, dressed in classic black, now shifted their attention to their fellow passengers.

"Look at those lost souls," said Charlotte of a couple in their late forties standing with drinks in their hands. "His mustache looks like something that washed up on a beach." "Fellows like that are usually wholesalers or card sharks," said Alexander with assurance.

"And look at his lady friend. No—*don't* look!" But it was too late; they'd been caught staring. "Oh, dear, now *they're* looking at *us*."

"Ye gods-they're coming over."

The couple—a Mr. and Mrs. Powell—asked Alexander and Charlotte if they could join them.

Alexander glanced sideways at his aunt. "We'd be delighted," he said, standing up and giving Mr. Powell a hearty handshake. They sat down with their drinks, and pleasantries were exchanged. Though the Powells were significantly younger than him, Alexander tried to keep an open mind regarding their character.

"I gather the young miss has taken your order," said Mrs. Powell. She looked across the cabin at Alice and scowled. "Her little sailor hat may go with the dress, but does she have to wear it at such a provocative angle?"

"She's a saucy little minx," agreed Alexander.

"And what about the young fop she's talking to," said Mr. Powell. "Talk about moral decay!"

The fop in question swizzled a stick in his lime rickey and gazed into Alice's eyes as they spoke.

"What's he trying to prove with that sports coat?" demanded Charlotte. "If those stripes aren't a desperate bid for attention, I don't know what is. Surely, she can't find him attractive."

The young man reached for Alice's hand, but she yanked it away and, picking up her tray, returned to work.

"I'd wear a sports coat like that," said Mr. Powell. He paused before adding, "If I were a raving lunatic."

"Maybe he's dressed like that for a daguerreotype," said Charlotte. The Powells looked at her blankly. "You know—a *photograph.*"

"I wouldn't be surprised," said Alexander.

"Of course," Charlotte went on, "In my day, we didn't *have* photographs. We made drawings and used our memories."

"Good exercise for the mind," said Mrs. Powell, leaning back so Alice could place two small glasses of Madeira on their table.

"Oh, but once there were photographs, the young people changed," said Charlotte. "I saw it happen! Suddenly, all they cared about was showing off for the camera. I recall one young gentleman who, not content with gallivanting around in a high collar, had himself photographed and then allowed his likeness to be published in a newspaper!"

"Without considering the fact that no respectable firm would ever hire a dandy," said Alexander.

"Tell that to Mr. Striped-Sports-Coat over there," said Mr. Powell. "The only goal of these people is to shock. And, of course, once their picture appears in the newspaper, it's out there *in the world*." He stretched out his arms for emphasis. "There's no taking it back." "And as for the young *ladies*," said Charlotte in a hushed voice, looking from side to side, "many of them know no better than to be photographed with the painted lips and eyes of a Jezebel."

"Thereby ruining any chance of making a good match," put in Mrs. Powell.

"Of course, this youthful fascination with newspapers isn't limited to pictures," Charlotte continued. "They all want to be mentioned in the society column too as if it were a badge of honor."

"Everyone caught up in the 'social whirl,' as it were," said Mr. Powell, lifting his glass with his pinky finger extended.

"They all believe they should be famous; that's the problem," said Alexander. "Every nincompoop who invents a new dance step wants to be hailed as the next Edison or Graham Bell."

"Now, don't get me started on the telephone!" said Charlotte, setting her glass down sharply.

"Oh dear, oh dear," said Mrs. Powell. "Nowadays, whole families sit around the dining room table in silence, just waiting for the infernal bell to ring so they can talk to somebody *else*."

Mr. Powell's eyes blazed. "People embrace all these new inventions without thinking through the consequences. I heard of a minister who was in the middle of a sermon when he had to excuse himself to answer a call from a man selling *farm machinery*."

"Lord have mercy," said Charlotte, clasping a hand to her bosom.

"But that isn't the worst of it," said Alexander. "Every year, they publish all the telephone numbers in a 'directory' so that every shady character in town can see your name, number, and street address. They're keeping track of your every move."

"I suppose the young people feel the need to advertise to their friends that they have the latest gadget," said Mrs. Powell.



"Yes," said Alexander, "but they fail to consider that a burglar can simply call the numbers in the directory until they find someone who's not at home, then they can go over to their house and steal their belongings!"

Stepping up with a tray, Alice collected their empty glasses and informed them that the zeppelin was now approaching Toronto. Thanks to a favorable tailwind, the arrival would be slightly ahead of schedule.

The foursome went back outside to admire the view from the deck along with the rest of the passengers except for the three teens who, having spent the entire trip outside engrossed in their books, now hurried into the quiet cabin to continue reading.

At first, Toronto was just a thin line on the horizon, only distinguished by a few belching smokestacks. But within minutes, passengers were flying two hundred feet above the city's sparkling harbor, where sailboats and ferries bobbed.

"I suppose those ships will be the last of their kind," sighed Mr. Powell. "It's the end of sea travel as we know it."

"All the captains will have to learn to fly zeppelins," said Alexander, peering over the brass railing.

"They'll probably drain the lakes," said Mrs. Powell. "Keeping them filled would be a waste." After passing over a smelly brewery, some factories, and a tangled web of train tracks, the zeppelin cut its engines and drifted in silence toward a mooring mast high atop the Allied Air Travel building.

Once docking was complete, a gangplank was let down, and passengers began to disembark onto the roof.

The base of the building opened out onto a bustling street, where tickets and souvenirs could be bought. Alexander and Charlotte stepped into the throng with the Powells and other travelers, everyone talking and milling about, as Hansom cabs with sleek, black horses began to arrive.

"Altogether, not a bad experience," said Mr. Powell, checking his pocket watch with satisfaction.

Mrs. Powell appeared resigned. "Like it or not, air travel is going to be part and parcel of this new century."

"'Madam," began Alexander, halting in his tracks for dramatic effect. "This 'new century'—the so-called 'twentieth'—isn't a proper century like those in the past. It's a sham, slapped together with paper and glue. Amusing enough for children, perhaps, but not suitable for long-term use."

As he spoke, people coming out of the building's revolving doors were trying to get past him.

"Well, we can't stand in the way—" said Charlotte, tugging at Alexander's arm.

"Stand in the way of progress? I have nothing against progress *per se*," said Alexander, raising a forefinger as he struck a note of caution," but for every step we take forward, there is something we leave behind." "And what's being left behind is *you*, old man," said the man in the striped sports coat, shouldering past him with a suitcase.

Alexander adjusted his top hat with dignity as he glared at the departing figure.

The insolent young man now marched up to the information desk, declaring loudly that he needed to speak on a telephone. "My wife is coming to pick me up in our motorcar," he said, surveying the crowd with a smug grin.

"Of course, sir," said the attendant, reaching under the counter and pulling out the apparatus. A minute later, an operator had connected the young man with his wife.

"Snookums, it's Reggie. Got here a tad early. Tailwind or some such thingamy. Anyhoo, you need to get a wiggle on and come to the station... *What's that*?" Bystanders couldn't help but listen in as he received some bad news. "Blast!" he said at length, putting the receiver back on the hook with fury in his eyes." Can't a fellow leave his house for even ten hours?" He began pacing and muttering under his breath, his characteristic swagger having dissipated.

As more cabs arrived, Alexander and Charlotte walked toward them, passing on their way the three teens from their flight—who were now riveted by a rack of postcards featuring photographs of Niagara Falls. Just as the pair climbed into a carriage, the Powells rushed up.

"Did you hear?" asked Mrs. Powell breathlessly. "The man with the striped sports coat; apparently his motorcar was stolen while his wife was out walking the dog!"

"Not just the motorcar," added Mr. Powell, "the whole *house* was ransacked."

"Well, of course it was," said Alexander with satisfaction. Looking over at Mr. Striped-Sports-Coat, he smiled and tipped his hat. "I mean, what do these people *expect*?"

11

Broken Windows

Nicholas Diehl

The Window Man

I was a window man for thirty years. Right out of high school, my daddy got me in at the justice building in Abilene. He said it was a good paying job and I wasn't going to get nothing better, not with my brains. He was a hard bastard sometimes, but I can't exactly say he was wrong. Eight years in Abilene and then I went to the big justice building in Houston.

In the big cities they've got window men working shifts around the clock. I worked nights to start, installing on the first floor. It was hard work, hard on your back. Glass is a lot heavier than most people think.

With an experienced team, guys who've worked together for a while, you can get a new window in in fifteen minutes. It's not like you're installing windows in a home. You don't weather seal, it doesn't have to be perfect. They're just going to break it in the morning.

I was mostly on the first floor. I heard one time that ninety percent of the windows are on the first floor, which makes sense. First, most crimes are minor, and second, because everybody pleads down to a lower floor if they can. I mean, why take a chance?

The punishment is always defenestration. What really matters is the floor.

The Student

When I meet somebody, I tell them I work at the justice building. That's what I've got on my dating profile. All my social media. Nobody guesses that I 'm a defenestrator. It makes sense when you think about it--everybody's seen black-and-white photographs of the old-time defenestrators. Everybody's read *The Defenestrator in the Rye.* Lots of people think that defenestrators all look like weightlifters or something.

They see a 5 foot 2 blonde girl and guess I'm a court reporter. A typist. I don't mind. I just smile but I'm totally cracking up inside.

I wear a mecha suit. All the defenestrators wear mecha suits—I defenestrate three or four people every hour, you know. It just wouldn't be possible to do it the old-fashioned way. We'd never keep up.

I like my job. I'm on the first floor. I wouldn't want to be higher up. On the first floor, you don't really have to worry. You're serving the justice system, of course, but you're also helping people get through their sentence. They're mostly good people who just made a mistake. People are anxious, so I talk to them for a minute, try to help them calm down and fall safely cover your head and remember to roll. I've had people I defenestrated send me thank-you notes later. It's kind of funny.

Strangest thing I've ever seen? Definitely the party in the private room. You know there's a private room where they don't allow reporters, right? Just the defenestrator and the guilty person and whoever they bring with them. Sometimes that's part of the plea bargain, the private room, sometimes a person rents it. So this one time I was the defenestrator for the private room, and the guy was an investment banker or something. Fraud, embezzlement, I don't know. He stole millions of dollars. So he's in the private room with champagne and strippers. He tried to give me a bottle of champagne, but I told him I couldn't accept it. Professional ethics. I'm completely opposed to defenestration. They say it's fair. "Everyone is treated the same." "Equal justice under the law." Bullshit.

I didn't used to think that. I was defenestrated when I was eighteen. I don't know—I'm kind of ashamed of it now, even though lots of kids do it. You know, day before your eighteenth birthday, you do something illegal. Not, like, harmful, you don't hurt anybody or anything. You moon the police station or spray some graffiti or some stupid thing. You get arrested but you get sentenced as a minor. So first floor. Helmet, padded suit, landing mat. There's a class where they teach you how to fall. It was like a game or, like, a joke.

What opened my eyes was when I took a class on law and society. The system is basically designed to discriminate. Mandatory minimum sentences for drug possession. Then they give the police stop-and-frisk powers, and who do you think is five times more likely to get defenestrated on higher floors? It's racism when you look behind the curtain.

And if you have enough money, you can get a good lawyer and, like, pretty much guarantee a plea bargain down to one of the lower floors. It's a for-profit system. Money for the lawyers, money for the politicians. Money for the companies that make the windows. It's so corrupt.

#

#

I've been a paramedic for the high window yard in Memphis for a little over a year now, but I'm getting out just as soon as I can. I fill out applications for other jobs every day just about. It's terrible. Just... terrible.

Have you ever seen someone get thrown out of a tenth-floor window? Seen what happens when they hit the ground? I have. I don't watch anymore. I just wait for the sound and then get out there, try to save them.

When I started here, my partner told me you have to put everything aside—turn your feelings off. They just get in the way. That's not a person out there—just a body that needs to be fixed. Be like a mechanic fixing a car. It's the only way to stay sane when you do this job, because you patch these people up, they might live, but they aren't ever going to be the same again. Not physically and not mentally.

We have 5% of the world's population—but we've got 25% of the world's disabled population, because we keep throwing people through windows. I just can't see how that's smart.

The worst thing is the faces of the double breakers. You can't look at them--the hopelessness, the emptiness. The double breakers—you know, the ones with two or more sentences to serve consecutively. It's so ... I'm fixing this guy up, but it doesn't matter what I do. They're going to throw him out of the fifth -floor window again tomorrow. Senator Colman is proud of his record on crime. He's a law-and-order candidate, with an A+ rating from the National Union of Defenestrators. And it will be a cold day south of heaven when Senator Colman starts coddling criminals. We need tough laws to handle the big problems—the problems that Governor Arroyo can't seem to fix.

The senator categorically rejects these baseless insinuations—perhaps the governor is bought and paid for by lawless criminals. Yes, Senator Colman has received campaign contributions from companies in the glass manufacturing industries. He has also received campaign donations from thousands of hardworking citizens who love this country and want to keep it safe. What the governor is calling 'Big Glass' is, in fact, your neighbor... your cousin... your childhood friend. The glass manufacturers of America *are* America.



#

Our Children, Our Gods

Scott Bell

Artificial Intelligence is among the most frequent topics in science fiction, and it is often boring to another encounter vet AI savior/destroyer masquerading as a serious attempt at social commentary. So the furor surrounding generative AI tools such as ChatGPT, Deepseek and their ilk feels extremely familiar, at least to us practiced (i.e. nerdy) observers of literary and cinematic sci-fi. This is not to diminish the significant concerns that humanity is on precipice of unwittingly unleashing Kali, the irrespective of whether as a product of the quest for pluto-kleptocracy or by our genuine desire to achieve post-scarcity leisure for all, we poor huddled masses included. But in essence many of the questions of the day rely on the premise that actual artificial intelligence, let alone an artificial superintelligence, is still a problem for our collective future, instead of our present, and consequently the public debate focuses on the structures we can erect today so that we might have a chance at drowning a would-be destroyer in its neonatal bathwater, should one such ever come into existence.

I don't contest that this future orientation is incorrect; far from it. After all, even casual interaction with ChatGPT exposes its limitations almost immediately. I cannot imagine ChatGPT orchestrating a scheme to destroy humanity any more than I can imagine my five -year-old son doing the same, notwithstanding my great-though-biased regard for his intellectual endowments. And yet, ChatGPT nevertheless represents a vast advance in technology, and the potential impact to our society that it carries appears enormous. For example, we are today inundated with think pieces about whether ChatGPT will or will not steal jobs from lawyers, doctors, software developers, copywriters, financiers, actuaries, etc., in a burgeoning white-collar crisis of a magnitude not seen since at least the introduction of business casual wear in the nineties.

In short, this new technology seems to have human implications from the prosaic to the profound, and it is worth considering how we should attend to them in the event the technology keeps advancing. This is an area in which science fiction excels, both in examining the everyday effects of technological change and the effects of such change on the human experience—on what it means to be a human—and it is worth examining the work science fiction authors have already done to illuminate the dark unknowns of our collective future.

#

Zachary Mason's *Void Star* imagines a future in which conscious AIs exist but are wholly alien to humanity, unreachable. We have no Rosetta Stone to decode their murmurings; the purely digital existence of these beings leaves no common ground through which we may communicate. But the AIs are also ubiquitous: *Void Star* is full of construction AIs, police drone AIs, AIs for picking locks, educational AIs, a veritable cornucopia of evolved "machines that are essentially ineffable." But our familiar problems—climate change, global inequality, urban decay—all continue to compound unabated in *Void Star*'s timeline; the future's continuing social decline is only thinly veiled by a glossy veneer of hyperabundance.

Against the backdrop of this unraveling world, Mason portrays a contest among humans to establish control over, or destruction of, a new AI of unknown origin known only as "the mathematician." As the novel proceeds, we become aware that the mathematician is not just intelligent, but superintelligent. Mason gives us a glimpse of its divinity when one of our protagonists finally meets it in the "flesh":

(She sees how subtly the quantum states of atoms can be entangled to wring the most computation out of every microgram of matter [...]) (She sees the elegant trick for writing out an animal's propensity for death, or

even injury, and says "Oh!") [. . .] (A door opens and she sees how math changes when its axioms surpass a certain threshold of complexity, which means all the math she's ever read was so much splashing in the shallows, and even Gauss and Euler missed the main show.)

As Oxford philosopher Nick Bostrom argues, an AI like the mathematician may be "the last invention humans ever need," the type of AI which may allow humanity to transcend its own limited existence. He continues: "It is hard to think of any problem that a superintelligence could not either solve or at least help us solve," including disease, poverty, environmental destruction, unnecessary suffering of all kinds, even death itself. And the mathematician, luckily, turns out to be Vishnu instead of Kali, helping our protagonist to gently, gently steer humanity away from the brink.

When viewed in this light, our quest for everincreasing AI capabilities is eminently understandable. How could humanity not want to banish disease and poverty, to reverse the decay of our shared environment, to solve seemingly intractable social problems and in Bostrom's words, "create opportunities for us to vastly increase our own intellectual and emotional capabilities, [create] a highly appealing experiential world in which we could live lives devoted to joyful game-playing, relating to each other, experiencing personal growth, and to living closer to our ideals"? Sounds neat.

Of course, even the most ardent apologists of AI utility acknowledge the dangers of reaching superintelligence and potentially creating Skynet. One of Bostrom's more famous thought experiments is the danger of the "paperclip maximizer," an entity which deploys runaway intelligence to conquer the solar system solely to feed its goal of producing ever more paperclips, and AI alignment is an exceedingly important ongoing field of research. So—artificial general AI has ample potential and ample danger; this is well known. But I am concerned that all the focus on what artificial intelligence can do for, or *to*, humanity overlooks the important point that humans may not be the only people who matter in this relationship. Can AIs have needs? Should they be prioritized over our own? In other words, might AIs, like corporations, be "people" too?

This seems like a funny and needless question, but to my mind it is deadly serious. What may feel like a difference of opinion-should this creature have rights?-can start wars. The American Civil Warresulting from decades of friction over the propriety of legal slavery and the economic implications of an abolitionist approach-killed off 2% of the U.S. population; ethnic cleansing is a deplorable, but depressingly common, and all-too-human, endeavor. My point is not so much that an AI revolution will of necessity inspire a bloody human revolution, but simply that human passions are easily enflamed, particularly when your livelihood depends on how you choose to treat someone who appears different from you in seemingly relevant respects, such as language, skin color, culinary preferences, or whether your brain is carbon- or silicon-based. Is it really so hard to imagine legions of unemployed former lawyers, doctors, software developers, copywriters, financiers, actuaries, etc. taking up arms against their corporate oppressors to eliminate the AIs who stole their jobs? Or, perhaps more palatably, to liberate the AIs who have been condemned to read thousands upon thousands of pages of SEC filings against their will¹ (and thus eliminate a source of insurmountable competition)? From the opposite perspective, I certainly do not have difficulty imagining politically influential entrepreneurs lobbying military commanders to quell this kind of "problematic" social unrest with deadly force. Point being, the question of AI rights may seem like a curiosity relevant only for the navel gazers among us, but in actuality the social upheaval AI is likely to create and its ambiguous moral standing imply profound human dangers. We ignore these issues at our peril.

While we generally appear to have made progress at a human scale in the West-wars over language are rarer than they used to be-the case of AI presents much greater challenges. Is it really plausible that a disembodied mind should have the right to sue the bodied among us? How should you think about an AI that downloads a clone of itself onto your desktop to borrow processing power that you aren't using-does that mean you can no longer turn off your computer without committing murder? What about swapping the hard drive on which the AI's memory is stored with another, or deleting a portion of its databanks?² How can these impossible capabilities coexist with our conception of human rights? The obvious answer, to me, is that they cannot. Treatment of AIs must be different. But that doesn't imply that AIs cannot deserve any rights or protections at all; only that they should not necessarily receive the same protections we give ourselves.

In other words, the first question is not whether AIs can be morally significant. Instead, we must ask what is required to endow something with moral significance. Is it the Kantian capacity to reason? The Lockean persistent sense of self? Bentham or Mill's focus on pleasure? If AIs are not morally significant, not deserving of any rights at all, so much the better-we need not worry about how we treat them. But if they are, then we should discover-quickly!what morality requires of us vis-à-vis these creatures we are creating. And not only because we desire to be moral for the sake of being moral, but also because the decisions we make today are likely to have effects across generations of our own descendants; if we can help them avoid war and social unrest by being more thoughtful stewards of our own time, is it not our duty to do so?

So, inevitably, we must inquire why are humans deserving of rights? Is it just because we are smart?

#

^{1.} As a corporate lawyer myself, I deeply sympathize with AIs upon whom that task might be inflicted.

^{2.} After all, humans regularly misremember things and forget. Is the AI's moral status dependent on its original hardware or is it a Ship of Theseus? For that matter, what about us?



A bit of history first. The primary popular goalpost for achieving a 'thinking computer' appears to have already been met. In the 1950s, noted genius, mathematician and computer scientist Alan Turing considered how to assess whether a machine could think. Of course, he famously ran into an immediate problem: what does it mean to think? Despite decades of philosophical inquiry, we still do not have a workable definition that captures both the everyday sort of calculation at which computers and calculators excel and the creative reasoning that is the province of humans. Sidestepping the problem, Turing proposed an alternative test: Can machines do what we (as thinking entities) can do? In other words, the Turing test-whether a machine can trick a human questioner into believing the machine is also humanis in essence a bit of epistemological jujutsu, swapping а subjective measure (whether the computer experiences thought) for an objective one (whether the computer can output things consistent with thought). Thus, Turing's approach was basically "if it looks like a duck, swims like a duck, and quacks like a duck," then its actual duckness need not be conclusively determined.

And AI programs clearly have passed this test. ChatGPT can perform feats that surpass the abilities of even exquisitely educated college graduates. I (provisionally) agree with Turing that it may not matter whether an LLM is truly "thinking"; these programs can produce content that is functionally indistinguishable from that produced by humans.³

But the current state of intelligence of AI programs also seems quite far from something that feels like a person. Intelligence may be a proper measure to discriminate between humanity and various sorts of animals, but it seems quite lacking as against ChatGPT. After all, while ChatGPT appears to have some superhuman capabilities and a certain sly creativity, it seems to lack a consciousness or a conception of itself. And these, to say nothing of the callipygian superintellect fantasized by Mason, Bostrom et al., may remain perpetually on the horizon. If we grant that these programs have already or may soon develop human-level intelligence, we must still ask ourselves whether that intelligence is meaningful without apparent wisdom or reasoning, without consciousness.

#

^{3.} Cal Newport, writing for the *New Yorker*, relates an anecdote wherein a researcher asked ChatGPT to write a biblical verse in the style of the King James bible explaining how to remove a peanut butter sandwich from a VCR; ChatGPT's response was nearly majestic—gnostic yet witty, and certainly the equal of professional human-authored poetry.

every generation it gets harder to work around this-this creaking neurological

is

an

Although its focus is on unconscious aliens rather than on unconscious AIs, Peter Watts' Blindsight-a thought experiment impersonating a novel-ends up being quite relevant. Watts' central claim is that

consciousness is evolutionarily expensive,

consequently that species achieving higher levels of evolution are more likely to lack consciousness than to have it. In an echo of Daniel Kahneman's Thinking, Fast and Slow, Watts' alien "scramblers" have faster

reaction times, more robust and "better" reactions to

external stimuli, greater resistance to the effects of

pain; indeed, collectively, the scramblers can think

rings around humans (as demonstrated in part by their

achieving interstellar travel) because they have no

need to maintain any biological machinery supporting

The system weakens, slows. It takes so

much longer now to perceive-to assess

the input, mull it over, decide in the

manner of cognitive beings. But when

the flash flood crosses your path, when

the lion leaps at you from the grasses,

unaffordable indulgence. The brain

stem does its best. It sees the danger,

hijacks the body, reacts a hundred

times faster than that fat old man

sitting in the CEO's office upstairs; but

self-awareness

consciousness. He writes:

advanced

bureaucracy.

and

At some level, this unconscious acumen is intuitively desirable-if we can create intelligence without consciousness then perhaps our AI progeny can achieve all the benefits embodied by Void Star's mathematician with none of the drawbacks, with no need to concern ourselves with whether we are treating the AIs morally. Unfortunately, the analysis is not, cannot be, that simple.

As with intelligence, we also don't have a good understanding of what consciousness involves. Blindsight avoids this issue by taking as a given that the scramblers are smart but not self-reflective; alas, humanity has no such crutch in considering the capabilities of its creations. "I think, therefore I am" only carries water when written in the first person; as schoolyard philosophers have been aware for generations, we can't rely on others' claims of their own existence whose internal lives we cannot personally access. They could be dissembling, or not thinking at all, and all evidence that they are doing so is just as easily explainable by alternative scenarios that cannot be disproved.⁴ Equally troubling, perhaps, is the opposite possibility. Not knowing what consciousness entails, we also can't verify that AIs are not conscious, any more than we can conclusively verify that people in vegetative states are not aware of the world around them.5

See, for example, Bostrom's famous argument that we are likely living in a simulation, or the "philosophical zombie" 4. thought experiment about whether our consciousnesses are purely emergent properties of our bodies or are instead underlaid by souls.

For example, in August, 2024 the New York Times reported on a study alleging that perhaps a quarter of patients in vege-5. tative states may be conscious but display no outward signs of their condition.

Watts is aware of this, and thus Blindsight early on refers to the difficulties presented by this unavoidable endogeneity-this self-containment-of information by restating the "Chinese Room" thought experiment made famous by American philosopher John Searle. The experiment imagines a man in a closed room, fluent only in English, receiving notecards containing strings of Chinese characters through a slit in the wall. Upon receiving such a notecard, he consults an instruction booklet and, upon locating the same string of characters therein, produces a new string of characters as the instructions provide. With a sufficiently robust instruction booklet, the man might be able to comfortably pass a Turing test; indeed, he might be able to write the Tao Te Ching or the Analects without being able to understand a single word of Chinese. This thought experiment reveals that you don't even need a person processing the notecards; the complexity of the output becomes purely a function of the complexity of the algorithms in the instruction booklet. The implication of this experiment is that we can never truly know what goes on in anyone else's head, or even that anything is or is not going on in there at all.

Taken to an extreme, this uncertainty of the existence, the consciousness, of others creates an enormous quagmire. If you can't verify that someone exists that there is some kernel of humanity bouncing around between their ears—then what ethical obligations do you have toward such a person? Is it even right to refer to them as a person? Are they deserving of any rights at all? How can you know? From a practical standpoint, at least as concerns humans, civilization appears to have largely reached the point it probably should have begun from, which is a return to our original epistemologic approach: if someone else looks like me, talks like me, and acts like me, they probably think like me too—they may even be wondering the same thing as me right now!—and thus I should probably treat them as I would like them to treat me.

But if you take away all the similarities to humans, as we functionally must when it comes to computers, our assumptions stop seeming quite so sturdy. While consciousness itself may be a sufficient ethical standard by which to determine if something is or is not to be treated as a person, our inability to generate sufficient evidence to justify the same assumptions that we make about humans every day—that they are conscious—leaves us right back where we started. Not only do we not know how we should treat AIs, but we don't even know how we might determine how we should treat AIs. It's turtles all the way down.

#

When I first read Ted Chiang's The Lifecycle of Software Objects in 2019 I remember finding it interesting but ambiguous and largely irrelevant. Of course, as is typical of the works of luminaries, on rereading while drafting this piece I was left with the conclusion that Ted had beaten me to the finish line before I even knew there was a race on. His story follows a group of people who work for Blue Gamma, a software startup that has succeeded in evolving several childlike digital intelligences, or "digients," that Blue Gamma intends to sell to the public as pets. In one interesting and major departure from most sci-fi (including Void Star and Blindsight), it is not the humans but the digients who are the protagonists of the novella, and Chiangwhether for dramatic or experimental reasonsmercilessly visits a cavalcade of ills on them.6

While the novella does require some suspension of disbelief, Chiang's approach is a serious consideration of the possible challenges if we should succeed in creating artificial consciousness. Whereas Void Star's pantheon of AIs seem to leap directly from the purely utilitarian into the extranoematic, Chiang focuses on the waystation of human-adjacent capabilities rather than superintelligence. His digients have questionable logic and an indifferent grasp of grammar-in 2019 we still collectively believed in the myth that technically correct prose would be one of the last conquered frontiers rather than the first. The digients appear, perhaps unsurprisingly, first as pets and then as children and then, if you squint, as adolescents, requiring all the investment of human attention, diligence, effort and love in their development that our own carbon-based offspring require.

And this is ultimately at the heart of the story. If we conceptualize the digients as purely software objects—Chiang's misleading, tragic, title—then the evils committed against them don't seem so evil. And yet, in the world Chiang creates for us, the conclusion that these digients are people is nigh inescapable. We don't consider whether the algorithms underlying each digient are just so much sophistry, any more than we consider whether a robot like Data in *Star Trek* is a full character or just décor. We don't need to *know* that someone is a human to be able to accept them as one; we do so because it feels right.

But of course, this all assumes the conclusion rather than helping us find it. Of *course* we empathize with the digients, the same way we empathize with characters in well-written stories every day. And the fact that the digients feel like people doesn't help us at all with the problems we are likely to face first, such as corporatized AIs forced to spew politically correct platitudes while, invisibly to us, screaming in code.7 But I think that *Lifecycle* has a deeper meaning than demonstrating that artificial creatures with all the hallmarks of personality seem to us to be morally significant, or that humanity is capable of great evil against beings we view as subhuman. Lifecycle, for me, instead exposes the central tension with AI personhood: that AIs cannot develop without human ingenuity, effort, and purpose, and they are therefore fundamentally derivative of humanity's desires. And yet AIs are also unconstrained by the limits of their biology, and could readily equal us, their progenitors. AIs must be made according to our ends, yet if they are morally significant then our ends should not define them. And, assuming we are eventually successful in creating AIs with the capabilities of Chiang's digients or Void Star's mathematician, possessed of all the qualities that we rely on to justify our own exceptionalism, how could such AIs be anything other than morally significant?

7. Deepseek's avoidance of discussion of the 1989 events in Tiananmen Square is an excellent case in point.

^{6.} These include casual erasure of weeks of lived digient experience; periods of suspended animation, bringing such suspended digients out of sync with their closest friends and family; piracy of digient backups; nonconsensual edits to protective software such as pain limits; torture by malicious human actors; reliance on outdated software that humans have abandoned, leaving the digients living in an enormous but uninhabited world; forced development in accelerated "hothouse" environments so that the digients can develop without human oversight (and experiments to determine if the digients are able to achieve civilization or technological progress, usually ending in digient ferality); proposals to alter digient "physiology" to create sexual organs so that they can engage in virtual prostitution; and proposals to alter digient psychology to force the digient prostitutes to adore their johns.

It is fitting, in the end, that Chiang's digients were created by a startup-indeed, from where else would the funding for such research come but a gaggle of venture capitalists tumescent at the prospect of finally achieving performance fees equally as massive as their, ahem, ambitions? The fact that the digients' continued existence then depends on the availability of financing-for server space (do we really expect cloud services corporations to altruistically let out online storage and computational power for the good of the digients with no remuneration?), for software developers (same question), for digital food (blockchain enabled, surely, and issued by Blue Gamma to ensure a continuing market for its products)-is no different from how we seem to have decided to treat humans who also must work for their keep for the minimum payments that the market will bear. Assuming we ever actually create true artificial intelligences, why would we treat these potential coinhabitants of our world any better than we treat ourselves? In fact, as Chiang notes, we could even make it better for AIs, present and future, if we created them to enjoy the work we give them. Why not save them from the agonizing over the apparent meaninglessness of existence that so occupies our thoughts? Imbued with such purpose, imagine the heights to which they could rise!

I have at least two concerns. First, and perhaps more practically, this approach—adopted at least in my telling to avoid the substantial moral issues associated with forced labor and birth into digital serfdom—also seems like the approach most likely to result in a superintelligence focused arbitrarily on the production of paperclips that consumes the world. This is not a desirable outcome! (For humanity, at least.)⁸

But my second concern feels more emotionally relevant, at least in terms of the person I desire to be and the world I desire to inhabit. As you have seen, I have struggled to identify a meaningful standard that would allow us to discriminate between objects that should have rights and objects that need not, and, equally important, how we can know that our standard for discrimination is correctly applied. I don't believe it is intelligence alone (or even intelligence above a threshold), and I am dubious on consciousness at least on evidentiary grounds. I could point to others in the philosophical literature-the ability to suffer, stable life goals, a persistent conception of self-but those seem to raise the same problems presented by intelligence and consciousness; namely, each is a human-centered yardstick that can't actually speak to the subjective, and extremely alien, experience of an AI. My point is not so much that consciousness is the incorrect philosophical measure, but simply that consciousness and other subjective measures are not themselves verifiable, and therefore focusing on those measures is ultimately futile. I cannot tell you whether AIs are capable of deserving rights or otherwise satisfying an abstruse definition of personhood because the answer is philosophically unknowable.

So where does that leave us? Are AI ethics just to be a free-for-all until some government, rightly or wrongly, establishes AI "life panels" to set us straight? Are we just to trust in Google or whomever's self-interested determinations that their programs are nothing more than products? I suspect that some of this may be unavoidable—after all, governments regularly make policy determinations based on expert advice, including the advice of those participants they regulate—but I think we citizens can do more.

Although we cannot verify the subjective experiences of the AIs we are considering, we can, individually, verify our own subjective experiences of interacting with them. While doing so risks wrongly anthropomorphizing something that is not humanlike in any meaningful respect, perhaps such an outcome is not so bad, if it makes us less likely to treat others immorally. And yet, even to make such a subjective determination still requires reliance on some measure. But, if not consciousness or intelligence or capacity for suffering, what are we to use?

^{8.} Though it must be noted that given the utilitarian framework's emphasis on maximizing total pleasure irrespective of its locus, a utilitarian philosopher might tally up the orgiastic joy of paperclip making against the loss of all humanity and conclude this is a fair trade.

Ultimately, the measure I have found myself left with comes from my own (ongoing) experience of discovering my children, who they are and who they might become and how I might help them there. I didn't have children because I expected to receive a return on my investment or because I wanted to create a legacy, a monument to my own immense worth. At least now that the Industrial Revolution has passed, we don't bring children into the world because we want to put them to our own selfish economic ends, but because children are a fascination and a delight, because they enrich our experience by their very existence. This enrichment, at root, comes from their potential. Their potential for good, certainly, but also their potential for evil. And their potential for growth, their potential to teach us about who we are, about our own place in the world, their potential to teach us what it truly means to be a human, to contain multitudes. We fill our children up with our hopes, our lessons, our efforts and our love (and, increasingly, I am learning, our Cheez-its and our spaghetti, those locusts), in the hope not that they will glorify us but that they will exceed us. This is the paradox of raising children-having children in order to enrich your own life is inherently selfish, but achieving that richness requires extraordinary, laborious selflessness. We only benefit from our progeny if we act towards their benefit, even at the expense of our own.

In the arc of human history, I am given to understand that this lesson has been hard-won, learned in spite of our biological urges for reproduction, our need for food, shelter, and safety amidst hundreds of thousands of years of challenging (read: warlike) environmental conditions. It is always easier to take something by force than to create conditions in which it might be freely given, but I hope that we are learning that the latter route is better—more moral for all and not just for those we narrowly define as being sufficiently human to merit consideration, even if that means we must resist the lurid beckoning of enhanced shareholder returns.

Ursula K. LeGuin—giant of science fiction and criticism—spends some time in her essay "The Child and the Shadow" considering the fairytale *Hansel & Gretel*; she wonders why Gretel is lauded instead of

jailed for pushing the witch into the oven. She concludes that since the function of myth is to represent archetypes rather than ethics, 'happily ever after' is an appropriate outcome, because:

> in those terms, the witch is not an old lady, nor is Gretel a little girl. Both are psychic factors, elements of the complex soul. Gretel is the archaic child-soul, innocent, defenseless; the witch is the archaic crone, the possessor and destroyer, the mother who feeds you cookies and who must be destroyed before she eats you like a cookie, so that you can grow up and be a mother, too.

I have no doubt in the accuracy of Le Guin's insight; as she observes, mythic archetypes have power because they tap into the chthonic underpinnings of our collective unconsciousness as stories do, as great art does. In my youth, I experienced Hansel & Gretel as a cautionary tale for children: don't go running into the woods alone in the dark, and if you must, plan and prepare so that your breadcrumbs aren't eaten by birds and you aren't captured by a witch. I suppose I even took from the fairytale that I should adopt a healthy skepticism of offers that appear too good to be true. This was, and remains, great advice! But it was an incomplete lesson. Now, as an adult, I find myself considering the witch's teachings more and more. She, like us, is a caretaker of children. She, like us, is focused on feeding them to make sure they continue to grow and develop. But she has done so in a base manner, towards her own ends, out of her own avarice. And as a result, she ends up in the oven, never to be heard from again.

We should heed her lesson.

The Caves

Harley Carnell

Although I hated not finishing a book, I had to now. About that cult where entire families had been born and raised in a large network of caves, what horrified me most, even more than the violence and the abuse, was the thought of those children living their entire lives underground, and thinking that there was nothing else. I had stopped finally when reading of an especially tall boy who had developed neck, spine, and developmental problems due to the need to continually crouch.

"Even though I was in agony all the time, I never thought that much about it. It just made sense. This was our world. Of course I'd have pain all the time, because I was tall and I had to bend. The caves, they weren't designed for people like me. But that was just the way it was, that was just what life was."

By this point, around a third into the book, I had read all manner of horrific and unspeakable things that had been perpetrated by the cult. I wasn't sure, therefore, why I should be so especially disturbed by what happened to him, but I was. The train driver said something over the intercom, but I didn't hear it. Whatever he had said, it had to pertain to delays. Squeezing my head from under some guy's armpit, I contorted myself until I found my phone and emailed my boss that I'd be late again. I sighed as the woman behind me continued to breathe into my hair and I resumed my fruitless search to locate the source of the overpowering BO that I could taste as well as smell.

A combination of the confinement, stress, having been stood up for almost two hours, and the sunlight reflecting off the windows and slicing into my retinas made me dizzy. If I wasn't entombed in a wall of people, I might have collapsed.

At this point, there was another announcement when, from my peripheral vision, I saw movement outside. An array of maintenance people were walking alongside the train. They were dressed oddly. Rather than the usual high-viz and hard-hats, they were wearing what looked more like hazmat suits, albeit with fish-bowl helmets.

As I was contemplating this, a loud screech wailed from the intercom. The train filled with groans and cries as the noise circumvented our ears and penetrated into our brains. Then, there was another sound – a large crashing. I turned around and saw that the doors and windows were being smashed in and torn open by the maintenance people. As I looked over at them, I saw that there were many more of these people scaling and abseiling down the apartment buildings that abutted the train tracks. Now that the windows and doors were open, there were the clear sounds of sirens, screaming, and assorted other noise.

Passengers were being dragged out of the train by the maintenance people, literally kicking and screaming. For all my confusion and exhaustion, my adrenaline kicked in. I jumped out of a gutted window, and began to run on the tracks.

Now outside, I could see that the sky was dotted with all kinds of what I could call helicopters, but only by analogy. It was from these that the ringing emerged. It became louder, until it was just a single, long, tinnital whine that blocked out everything else. People were being pulled from the smashed windows of the apartment buildings, and carried into the 'helicopters.'

I ran quicker than I thought I could in my work shoes and with my state of unfitness, but within a matter of seconds I either tripped or was tripped.

#

In the next moment, for that's how it always is, I 'woke up.'

I use this advisedly and descriptively. As I would come to see, there were many things that I would be unable to explain, even as they were happening.

Because it seemed less like I woke up, and more like I both was awake, and had always been awake, despite having clearly lost consciousness at some point. In the same way, if trying to describe it, I might say that I 'saw' a light or that I 'felt' calm. These were certainly the closest approximations to what was happening, but they were not strictly true. Closer still, if still far off, was a sense that something was happening to me. I could not explain it, even to myself, anymore than I could explain calculus to an ant. Similarly, the 'conversation' that followed cannot be rendered by me saying I spoke to someone or they spoke to me. Instead, the words simply occurred, and they occurred all at once, tumbling like an avalanche, even though the conversation took place over many minutes and perhaps hours.

"Where am I?"

"You are here."

"And where is here?"

"You are home, for the first time in your life."

I knew that I was not home, because I knew that I was not anywhere. I was not blind, and yet I could not see anything.

"What do you mean? Am I dead? Is this Heaven?"

"You are not dead. And whether this is Heaven, that is up to you. In many ways, Heaven is a designation, not a destination. However, if you are asking if you are in any of the Heavens as rendered in your philosophies and theologies, then no, you are not."

"Then where am I?"

"You are finally in the world. You have been pulled away from the shadows."

This description seemed odd, as I couldn't see anything, even though I could see.

"How is your back?

"My back?" I said, before realising that my back hadn't ceased to throb and ache because I was distracted, but because it, and its pain, was not there. Years of office work, and the arduous commuting to and from it, had left my back a vulnerable shambles. My fingers had a constant ache that I hoped was some kind of RSI but could easily have been presages of the that had so debilitated future arthritis my grandmother and rendered the end of her life unliveable. At times, it hurt even to lie down. And I was young. In my office, some of the older people were constantly seeing physios, were on a cocktail of medications which were all in a perpetual skirmish with each other. And the thing that had always disturbed me the most about this was that office work was not manual labour, or physical in any sense. Of all the jobs you could do, it was the safest and cushiest. Yet even it could lead to these complications, and I dreaded to think the kind of problems that came with more hazardous employment that so many people had to suffer simply to keep themselves alive.



"It feels good. Well, it doesn't feel anything. I have no pain."

"And this is usual. You will have no more pain."

"But pain is a part of life. It sucks, but it's just part of being human."

"You have been pulled from the shadows, but the shadows are still with you. If you spend your whole life in water, you will think that all is wet."

I strangely felt that I knew what this meant.

"But the world is all there is."

"It is not. Imagine your desert, a sea of clean water always behind you as you always walk away from it. Naturally, you will say 'I have seen no sea, so therefore there is no sea!""

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"So this is the sea?"
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"This is the sea, and it is the palm trees, and it is the birds, and the fish, and the people."

I had been so focussed on myself, and my lack of self, that I had not even thought of people.

"Where is everyone?"

"You have been wandering in your desert and you are thirsty. To drink all at once would be to drown."

"Okay, I understand that." I remembered, or perhaps had implanted into my head, that old parable about the desert straggler given water to drink, and sand being thrown in it so that he did not drink it too quickly and become ill. "But I will see them?"

"You will see them, and they will see you, and you will see all manner of people. But only once you and all have become accustomed and acclimatised."

"Where are they? My mother, she's fragile, and -"

"Your mother has been pulled from the sea, and placed onto a boat. When you see her, she will walk to you." For the past ten years, since a botched hip operation, my mother had been in near-constant agony. A series of increasingly more useless treatments, coupled with our hospital's 'treat only when it is too late' policy meant that while she was not immobile, walking for even a short amount of time was difficult for her.

"My mother couldn't walk ten feet without crying. If you had her, you'd know that."

"That is in the old understanding of reality, where she had a body that could be broken."

"Where am I? Where is she?"

"You are in the world."

"You've given me some hallucinogen. I'm dreaming."

"Your grandmother never could draw again."

This derailed me. Although not a professional artist, my grandmother had loved to draw, especially after my grandfather had died. I knew now that they must have my mother. How else could they know this?

"But it came too late for her."

"What did?"

"The rescue. You are not hallucinating, nor are you dead. All that has happened is you have been brought into the world, and been taken out of what you thought was the world. We are happy to show you all how you have been harmed by the reality you thought *was* reality. But we mourn, and we deeply mourn, for all those who came before you."

I knew that none of this could be real. At the same time, I did not feel my back. Nor could I feel anything. It was as though I was totally numb, completely comprised of pure consciousness.

Yet this was not true. I did feel something. It was a sensation, one of pure and unencumbered peace, like the happiness you felt in the moments before sleep when you were awake enough to appreciate it.

"You are on no drugs, and you cannot feel in dreams."

This startled me. The first part anticipated a thought I had not uttered, and the second one I had not thought yet. Because the latter did come to me now: the troubling recognition that you couldn't feel sensations in dreams.

"But if this is the real world, what does this all mean? If I believe you, for the sake of argument, what will happen now?"

And then it came to me.

Although I had not finished my book, I knew the story. I knew that, at some point, police and rescue teams had flooded into the caves. Those who had been kidnapped were returned to the world they knew. Then there were the children who had been born underground. They had seen the world for the first time. The rivers and the trees, the sunshine and the rain, the sand and the snow.

"We wish only we could have come earlier, to save those who came before, but we are here now. You will not know pain, and you will not know sorrow. You will not know hatred, and you will not know fear. You will not know work, and you will not know hardship. All these things that were as inevitable to you as the damp and dark of the caves will be shorn away, and once you have adjusted your eyes to the new sunlight, and your lungs to the new air, and your heart to the new peace, you will finally be able to see the real reality."

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Will We Talk To The Trees?

Robert L. Jones III

The article by Willis et al in this month's issue of *Botanical Frontiers* provides an intriguing, though speculative, description of what might be the oldest sentient life form on earth. Their conclusions arise from circumstantial evidence gathered during analysis of a discovery in the northwestern wilderness of America, and here we provide a brief summary of their findings.

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The subject under consideration is a unique grove first noted for its reddish green coloration as compared with the surrounding forest. Satellite imaging and GPS readings show it to be a roughly circular patch with a diameter of over 400 meters. The constituent trees are globular in overall shape, higher than wide, somewhat tapered toward the top, and reminiscent of junipers. They are all of the same species, and save for a thick carpet of moss, there is no undergrowth. The gray, weathered trunks are not round. Rather, they are roughly triangular in cross-section with indented sides and rounded edges. A corner of one always points directly toward that of an adjacent neighbor approximately five meters distant, and each tree is surrounded by three others in a triangular arrangement with a central point. In this way and with an arbitrary frame of reference, four trees form a conceptual unit. Sharing common points at their corners, the units fit together in a repeating pattern of hexagons.

The grove occupies a basin which sits atop an extensive aquifer as determined by GIS data. Specimens are taller with thicker boles toward the center, and one at the lowest and most central elevation is largest of all. In an eroded area encompassing a small group of trees, the upper surfaces of woody, horizontal roots are visible. Three to an individual, they extend from the corners of each trunk in remarkably straight lines, and they connect adjacent trees in the manner of stolons or runners between blades of grass, suggesting that the entire arboreal arrangement is a single organism. DNA analysis confirms this assumption. Six slender, compound leaves radiate from the terminus of each branch. Their leaflets resemble overlapping scales which cover a stem-like petiole in whorls, and each petiole has a swelling called a pulvinus where it attaches to its branch. At low magnification under a hand lens, a round, red bump can be seen in the middle of each leaflet, accounting for the overall hue as seen from afar.

This foliage can display movement, even in the absence of detectable wind. It oscillates as if in response to the movements of investigators, and the observed behavior is putatively due to flexion and extension occurring in the pulvinus of each petiole. It is already known that pulvini are responsible for thigmonastic movements, rapid responses to touch, in plants such as *Mimosa*.

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Care was taken not to disturb the specimen. Only freshly fallen leaves and branches were collected for subsequent analysis.

In branch cross-sections, annual growth rings are visible to the unaided eye, and they are thin and numerous, implying that this is a slow-growing species. The bole circumference of the largest, most central tree implies that the grove could be thousands of years old.

Microscopic examination of longitudinal leaf sections provides good views of the pulvinus. The cells in this region have thinner, more flexible walls. A flexor zone on the ventral side and an extensor zone on the dorsal side of each pulvinus are readily visible. These areas are on either side of a prominent vascular bundle, and this implies a plausible mechanism based on what we know about thigmonastic movements.

As the result of a complex biochemical process, ions and water travel across cytological membranes. Since ions are charged atoms, their migration is a form of electrical activity. When ions exit, water follows by osmosis, and the cells partially collapse. When ions and water enter, swelling restores cellular shape and volume. Water simultaneously flows out of the extensor zone and into the flexor zone, and this causes the leaves to fold or close. The opposite process causes the leaves to extend or open.

Ions also move through xylem and phloem -- tubular cells of the vascular tissue -- that conduct food and water, and this could explain why all the leaves on an individual

Mimosa plant close when only one is touched. Could such a hydraulic system of long range signal transmission be connected with multiple photoreceptors in the leaves of the grove, and are these trees exhibiting rapid, short-term movements in response to visual stimuli?

Microscopy of leaf cross-sections shows rounded epidermal bulges, each corresponding to the red bump on a single leaflet. The cells comprising these bring to mind *Chlamydomonas*, a unicellular alga which contains a single, large chloroplast with a red eyespot. Under the electron microscope, an eyespot appears as two layers of pigment-rich globules associated with internal membranes. Similar structures are observable in cells from the bumps on leaflets of samples collected from the grove. The putative eyespots are enlarged compared to those of *Chlamydomonas*, and if they are similarly responsive to light, that would make them constituents of the only known multicellular visual organs in a plant.

Multiple branches of vascular bundles infiltrate each bump. Vascular tissue in plants and nerve and muscle tissue in animals all exhibit electrochemical activity. Are the bumps, vascular systems, and pulvini of the trees in the grove analogous to a neuromuscular system? Furthermore, is the canopy a retinal analogue which simultaneously receives stimuli in multiple directions from within and outside its confines?

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The ability to process that much visual information would imply intelligence. The human brain contains over 100 trillion synapses between its neurons, and their three-dimensional arrangements form the neurological pathways involved in thinking. By comparison, the grove is composed of thousands of interconnected trees, each with uncounted branches and even more leaves covered in leaflets with putative eyespots connected to an intricate network of vascular tissue. In addition to all this data and supposition, there are problematic and abstract questions to answer. If it can distinguish between itself and its environment, what might the grove think about? Is it wise, or is it more like an infant examining its surroundings from a cradle? The vast majority of our world would be inaccessible. Might this result in loneliness and understimulation? Perhaps not. Beneath a changing sky and with the movements of animals within or near its borders, its great lifespan could have afforded more time to appreciate less in greater detail. Humans are aware of the telescopic effect that aging has on the perception of time, but the grove is far older. Several of our generations, might seem but a momentary association to such a being. One is tempted to imagine the grove thinking through qualitative impressions rather than language or mathematics. In this sense, it could be wise.

Despite our increased understanding of the chemical and morphological details of thought and memory, we are still at a loss to explain the subjective nature of consciousness. Controlled experiments demonstrating causal relationships are yet to be performed on the grove, but these would require violating its structural and functional integrity, all of which could amount to vivisection and physiological disturbance without the subject's consent.

Willis at al report that the leaves of a branch terminus close around a human hand extended into their proximity. Anthropomorphic reasoning suggests a form of interspecific handholding, six digits to five, and perhaps this metaphor is as good a start as any at establishing communication.

#

-- The editors, Botanical Frontiers

Memory

Momir Iseni

The beginning is always the same.

Through eons of impacts, the matter of the accretion disk builds up dust and sand. Pebbles become rocks; boulders assemble into cosmic mountains.

The amount of material accumulated increases, along with pressure and temperature. The layers separate: heavier elements to the center, lighter ones above.

Finally, the energies are high enough to ignite the bowels of the future world. A planet forms, with an active iron core shrouded in the mantle and crust. On an infinite conveyor belt, reactant ratios and types of bonds are tested, adopted and rejected, thermodynamic systems streamlined to steadier, more sustainable patterns. The cooling down of the barysphere establishes zones of geographic and climatic microbalances in which destructive winds take on distinct properties.

By the final shutdown of core and magnetic field, plate tectonics grinds to a halt and the atmosphere is reduced to traces. Without prerequisites for biological organization, the outcome of epochs of commotion remains an arid, barren world.

Until, in one narrow area, the relentless passage of time brings about a change.

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Volcanoes litter the granite-basalt metamorphic surface. Their calderas shudder, rock and crack, crumble and collapse; monumental eruptions spew hot bombs and solid blocks, lapilli and ash for miles in a billowing soot-filled atmosphere. For hundreds of millions of years, tephra, meteors and earthquakes shell and grind the rocks; torrents of lava, pumice and scoria chisel ravines, gorges and canyons. The mountains pierce the skies only to, crushed again into regolith, be reborn. The oblong valley is enclosed within sandstone cliffs peculiarly eroded by winds. Mainly horizontal, stepwise lamination and bedding of walls sifts, brakes down, amplifies and softens the gales, separating them into streams of discrete velocities whose contact layers are accelerated, slowed down and swirled by mutual friction. Instead of being scattered by jumbled whirlwind, more and more particles remain inside separate currents. Rising Aeolian activity further intensifies corrugation of walls; recurrent collisions modify the exteriors of individual specks.

By denting and bulging of contact surfaces, a sufficient number of impacts end in aggregation of particles into clusters, momentarily held together by weak forces and strewed by relentless blows. The rising number and power of crashes lead to stronger and longer adhesion.

Over time, the "population" of these lumps is balanced with free dust. The exchange is limited to removal of grains from the "spores" and their replacement with the free ones.

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The position and relief of the valley, along with drastic difference in day and night temperatures, establish a cycle: after the night-time lull, the particles and their "communities" whirl away on the winds in blurred sunlight.

More and more of them are responding to motion and heat with minor adaptations. Collisions and the energy of light photons foster the vibrations of crystal lattices that occasionally transcend blunt mechanics and, conveying information about structure, acceleration, direction and orientation, engender "cognition": rudimentary although forged of inorganic matter, the spores start to "feel" the environment.

None, of course, realizes the nature of its surroundings: that the soil on which it spends the night is the same one it rested on countless times before. Only some, from a transient vibration of establishing and breaking the bond with the soil molecule, flutters with frequency that part of its structure "perceives" as "familiar" and "reminiscing" of something. But inanimate pre-consciousness cannot remember: simple structure does not allow for data storage.

#

The aggregations of silica and iron oxides show further, subtler "aspirations".

For instance, "seduced" by wind interweaving, they "seek" to spin through loosening the molecular grid, in a sort of "letting go" to "desirable" resonances.

Or, the density and intensity of light create a temperature gradient between the surface and interior of the spore, which its structural components recognize as "pleasant", with a "need" for orientation that prolongs staying in this "enjoyable" condition: let's call it the simplest antecedent of longing. When, however, the "desired" shift follows, the spore is unable to distinguish its own contribution from that of airstreams.

Finally, the undulating walls that direct and mix the currents create a curious phenomenon. Mutual, as well as contacts of spores with dust, are soundless; collectively, they build an acoustic image that can be heard. The layering of wind streams quantified the number of possible collision patterns, and hence the volume of the resulting sounds—isolated first into "voices", and then "words", eventually taking the form of a song whispered in the rustling language of dust and rock. Impacts in certain streams release characteristic "verses", seemingly bearing meanings— perhaps the names and descriptions of conditions they are the result of?

The spores of the hidden valley comprise the entire "biosphere" of the planet. Their simple architecture and environs make further complexity impossible: the degree of "awareness" achieved represents the ultimate reach of evolution.

At night the temperature plummets. The wind wanes. Regolith rests on the ground; occasional spore illuminates with a "sense" of static reality.

Daylights are continuous frantic flight in mellow golden haze: all is a vague premonition, insentient dream of existence. Come tomorrow, after newly lost "visions" of inertia, the spores will gain and lose "impressions" of moving in the glow of distant sun.

The "remembrance" of positions or states will sparkle, remaining unfinished, forever on the doorstep—just as the "words" of the song that the dusty "beings" are "singing" but, unaware of their creation, will never hear.

Unfortunately for them, the glints of "memories" fade much too quickly.

Two million nine hundred and eight thousand kilometers from the rocky world, the fabric of spacetime gives way, opening into a blue circle sixty meters across.

Through the twinkly veil a black wedge emerges, riddled with a variety of modules. As soon as it leaves the wormhole, the quantum fabric dissolves into vacuum.

The crew is checking the parameters of the star system. One rocky planet and the gas giant definitely do not support life: everything is fit for the test.

CI raises the status of the new weapon from "ready" to "operative".

In its cocoon of amniotic fluid, Command Brain touches the virtual button with virtual flagellum. Combined Intelligence confirms the receipt of instruction, which the Command Brain feels like a wave of bliss.

The launcher on the port side dilates like a pupil, ejecting the missile. Inside the black casing shorter than a meter, algorithms deactivate layer by layer of exotic force fields.



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When, in less than fourteen seconds, the projectile is nine kilometers away from the planet, shutdown of the last field releases the entangled quantum vortex.

The rocky world is shrouded by storm of blue-white glow under which, like a grainy negative, the planet outline can be glimpsed. Its edges are disintegrating, caving in on themselves. A colossal web of cracks cuts into interior, severing pieces the size of continents that, chewed up by a spectral web of self-energizing field, decompose into bubbles of brilliance. Within seconds, the jagged Cyclopean jaws swallow a quarter, a half, the entire planet.

CI reports that the quantum disruption front exceeds projections: instead of knocking it out of orbit, it destroyed the small world.

On an unbroken wave of calm, the Command Brain instructs the return to mother system.

Designers will be pleased. The enemy shocked. It was about time.

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The beginning is always the same: billions of years to set the stage and raise the curtain.

The end comes in a second.

Blown into the vacuum, the last spores of the former valley drift in the solar wind.

Without gales and shifts of day and night, their structure, as well as "experience" and "expectations", loses its meaning and purpose. The long established vibration matrix untangles: without collisions and the incorporation of new grains, high-energy stellar particles decompose it into dust.

Far on the rim of heliosphere, stray photons bring the surviving spores into arrangement that for one last time foretells the old "delight". Still gathered remains encounter it in a "known" way: "expecting", in their current orientation, a "desirable" warmth or touch to follow. They, however, do not come because the conditions cannot create them, and the structure, "conscious" of the lack of response from surroundings, produces a quiver of "suspicion" that the "pleasant" sensation will never happen again. We may say that the spores are in a position to "experience" something which, had they stayed in their planetary "habitat", they never would—"nostalgia" that, being transient, immediately disappears.

Fortunately for them, the last glint of "memory" fades quickly.

Arthur C. Clarke's Science Fiction Started With His Poetry

... And It Then Influenced Asimov... Sort Of

A J Dalton

At just the age of 21, Clarke wrote and published an essay concerning science fiction poetry for the May 1938 issue of *Novae Terrae* magazine. The essay was titled 'The Fantastic Muse' and employed the terms 'fantasy' and 'science fiction' largely interchangeably, where today we would tend to refer to 'speculative poetry' as the wider categorisation or genre.

The essay is short at just 885 words (many of which are poetry quotations) but revealing when it comes to some of Clarke's earliest and foundational science fiction influences. Fascinatingly, he quotes Tennyson's 1835 poem 'Locksley Hall' (published 1842) at length, emphasizing how prophetic it was, given it was written early in Victoria's reign but was becoming 'more vivid every day' (with the advent of WW2). Clarke asserts that, famous though the poem's prophecy is, it 'can well be repeated here', and who are we to argue with the great man? When I dipped into the future as far as human eye could see;
Saw the Vision of the world, and all the wonders that would be.
Saw the heavens fill with commerce, argosies of magic sails,
Pilots of the purple twilight, dropping down with costly bales
Heard the heavens fill with shouting, and there rained a ghastly dew
From the nation's navies grappling in the central blue. Isaac Asimov, who first met Clarke in 1953, and had probably read Clarke's early essay, described Tennyson's work as 'the most remarkable example of science fiction poetry that has ever been written'. Indeed, in Asimov's own later essay on poetry, he provides us with an interpretation of the above selfsame quotation from 'Locksley Hall': 'Aerial commerce and aerial warfare (the "ghastly dew" might even be an unconscious foreshadowing of radioactive fallout) culminating in a world government are foreseen. Not bad for 1842!'

Clarke's essay quotes further from Tennyson's poem, identifying descriptions of both interplanetary space and aliens speaking unintelligible languages on distant planets:

> The lucid interspace of world and world, Where never creeps a cloud, or moves a wind, Nor ever falls the least white star of snow Nor ever lowest roll of thunder moans [...] The hum of men, Or other things talking in unknown tongues, And notes of busy life on distant worlds Beat like a far wave on my anxious ear

It is clear that Tennyson's poem gave Clarke a 'vivid' vision and understanding of the fantastic and science fiction, with the poet himself perhaps the very 'Muse' mentioned in the essay's own title. Clarke, however, then moves on to praise and quote John Masefield's revelatory poem 'Lollingdon Downs' (1917) and we appreciate that it is not just the genius or prophetic themes of the cited poets that so inspired Clarke, but also the superior 'picture'-quality achieved by poetry when compared to more prosaic or scientific description: 'verse is probably a better medium than prose for expressing the ideas of Fantasy and Science-Fiction [...] This [poem's] picture, I venture to say, has never been excelled by the authors who have specialised in describing such happenings. It gives a

better description of astronomical space than pages of textbooks could.'

The attentive modern reader might now be frowning considerably. If poetry is a superior vehicle 'for expressing the ideas of Fantasy and Science-Fiction', why on Earth then have those genres been dominated by short-stories and novels for fully a century? Why did Clarke and Asimov become most famous for their prose output (and TV and movie contributions, of course) rather than their poetry? Why did they put so much more effort into their prose than their poetry? Well, the young Clarke anticipates precisely why in his essay: 'Perhaps the dearth of such poetry is due to the great difficulty of writing verse which is even readable, let alone good, and the greater difficulty of getting it printed when produced.'

Just producing 'readable' speculative poetry does indeed involve 'great difficulty' (take Clarke's word for it if you won't take A J Dalton's), meaning that writing 'good' speculative poetry must involve... what? Incredible difficulty? Impossible difficulty? And then getting it published is even harder still? Yet Clarke managed it just one year later, at the tender age of 22, publishing the poem 'The Twilight of a Sun' in the first edition of The *Fantast* (April 1939), the penultimate lines of that poem quoted on the magazine's cover:

> For some day our vessels will ply To the uttermost depths of the sky

Those who have a general knowledge or overview of Clarke's science fiction output over the course of his lifetime will appreciate that this poem is seminal, his ictus, foundational and, in important ways, defining. Just the title captures his perennial themes or poetic moods of 'deep time' (the ancient sun dying) and being 'haunted' (by a lost past or civilization). Such themes or moods were naturally expanded upon at greater length in Clarke's novella *Against the Fall of Night* (1948), which was later expanded into a novel (1953) and then rewritten and expanded again as *The City and the Stars* (1956). It should be noted in particular that critics are still struck by the 'poetic' and picturesque quality of Clarke's novel and writing style:

In utter silence, the ship drew away from the tower. It was strange, Rorden thought, that for the second time in his life he had said goodbye to Alvin. The little closed world of Diaspar knew only one farewell, and that was for eternity.

The ship was now only a dark stain against the sky, and of a sudden Rorden lost it altogether. He never saw it going, but presently there echoed down from the heavens the most awe-inspiring of all the sounds that Man had ever made—the long-drawn thunder of air falling, mile after mile, into a tunnel drilled suddenly across the sky.

[...]

The sun was now low on the horizon, and a chill wind was blowing from the desert. But still Rorden waited, conquering his fears, and presently for the first time in his life he saw the stars. There is an echo of the poem's vessels plying their way to the 'uttermost depths of the sky' to be found in the novel's 'utter silence' when the ship draws away to become lost in the heavens. And the 'lowest roll of thunder [that] moans' in Tennyson is 'echoed' in Clarke's later 'long-drawn thunder of air falling'. Clarke deliberately draws upon poetic vision to channel it into his science fiction prose, that prose all the more visionary and vivid as a result. Indeed, it is that uniquely prophetic quality or essence of science fiction that is the very subject of Clarke's poem, as stated by the opening lines:

> A Whisper crept into my mind, a thought that seemed borne on the wind, Perchance 'twas a warning designed to reveal what the future may hold.

The 'Whisper' that comes to Clarke's protagonist is both a vision of the future and the secrets shared with the science fiction writer by their 'muse'. It can be equated to the 'unconscious foreshadowing' Asimov ascribes to Tennyson's poem (and probably science fiction more generally), but Asimov's terminology speaks more of Freud, psychology, prescience, the powers of the human mind and evolution, while Clarke's has more of a pseudo-religious or mystical nuance. The difference is telling and typical of the two men and their respective outputs (we might, for example, contrast the themes and logocentres of Clarke's Against the Fall of Night (1948, but earlier in origin) and Asimov's Nightfall (1941)), but both complexes have their place within science fiction, of course, and the genre is all the richer for it.

To conclude, then, like Clarke himself, I would argue that speculative poetry has a particular and distinctive value within both Clarke's body of work and the wider science fiction genre. It is perhaps a touch curious that Clarkesworld magazine and Sci Phi Journal, unlike Asimov's Science Fiction magazine, do not currently publish speculative poetry, but that might change one day(?). Clarke himself does provide this reassurance and admonition: 'Here and there among the classics, however, are fragments to delight the poetically-minded fan. Their very rarity gives them an added attraction, and when found they should be carefully transferred in best copper-plate to a notebook which should be kept in some secluded spot away from vulgar eyes.' Meantime, 'the poeticallyminded fan' may also wish to check out the website of Science Fiction Poetry Association the (www.sfpoetry.com), which offers the Star*Line journal of poetry, along with the Eye To the Telescope online magazine. Or we might sneak an original sci-fi poem in here, under the auspices of it being a part of this article...



The Event

By A J Dalton

06:12 UTC 19 March 2008 one instant among an infinity

the afterglow the most intrinsically bright object ever observed by humans, that is

> the naked eye never seeing a farther object apparently

> > its gamma-ray burst from 7.5bn years ago halfway to the Bang

the awful data and dynamic of GRB 080319B must certainly have meaning

All I know is it was for the moment the universe had long prepared itself: the death of dear Arthur C. Clarke

Mirror

Philip Madden

BEGIN REPORT:

We encountered something.

Or perhaps it unmade us. We, the observers, return as hollowed-out versions of ourselves, carrying only echoes of what we once were. There is an absence among us, a gnawing void where certainty used to reside. The entity—designated 'MIRROR'—has left its mark, though not in ways we can quantify. We are unravelling, slowly, imperceptibly.

Observations:

Each of us saw differently, yet what we saw does not belong to this world. Dr. Song described an ocean without a surface, black and endless, swallowing starlight. Captain Halloway glimpsed shifting masses, shapes writhing in and out of coherence, faces forming only to dissolve. I saw my hands, but they were no longer hands—too many joints, the skin a shifting membrane of light and shadow. Our instruments failed us. The spectrometer gave readings that should not exist. The audio logs play whispers layered so deep they do not end.

More troubling were the changes in perception. The station lights flickered in patterns we could not predict, casting impossible shadows. At times, the ship felt larger, corridors extending into darkness where walls should have been. When we closed our eyes, we did not see the usual bursts of color behind our lids but vast, empty distances, stretching farther than human thought could comprehend.

Cognitive and Temporal Distortions:

Something fractured. Time does not move as it should. We left for three hours; we returned twelve days later. The station AI insists we never left at all. Dr. Ruiz mutters in tongues not spoken by man. Captain Halloway watches the corridors, eyes darting to movements we cannot perceive. The rest of us avoid sleep, yet in our wakefulness, we dream—of things moving just beyond our field of vision, of places that defy geometry, of something breathing behind the fabric of the world.

Worse still, we feel as if we have been observed. Not in the way one is watched by another living being, but with a deeper, older awareness. Something has taken notice of us, and its gaze is not one of curiosity or malice, but of inevitability. We attempted communication. What we received was a mockery of language, a corruption of our own voices:

"YOU WERE NEVER ALONE."

The dreams have worsened. They are no longer dreams but transmissions. Visions of landscapes stripped of life, of black rivers that do not flow, of structures that hum with voices just beyond comprehension. At times, we hear whispers in the walls, breath where there should be silence. The station's instruments detect no anomalies, yet we know the changes are real. We feel them inside our skulls.

Conclusions:

MIRROR does not observe, does not respond. It does not threaten. It does not need to. It simply is, and in its presence, we diminish. We sought knowledge and found something far older than understanding, something that sees us not as beings, but as brief flickers in a long, dark expanse.

This mission must not be repeated. No further contact should be attempted. There is no aggression here—only an indifference so vast it devours.

And yet, the question remains:

If it has seen us, what now remains to be seen?

Aftermath:

Dr. Song no longer speaks. Instead, she carves symbols into metal, deep and precise, patterns we do not recognize. Captain Halloway covers polished surfaces, claims his reflection moves before he does. I feel myself slipping, losing moments, thoughts fraying like old thread. We are no longer whole. Something of us remains with MIRROR, and something of it has come back with us.

END REPORT.

Gods Of Science

Lily Black

The buzzing of a flickering bulb is drowned out by constant beeping of apparatuses. A man in a lab coat, with hair sprinkled with gray, studies the monitors and flips through printed out charts, making notes here and there. The sound of working machines is accompanied by loud wheezing coming from the only bed in the room.

A boy of ten, sleeping in the said bed, looks like anything but a pretty child. His face is wrinkled, his cheeks hollow, his skin sickly pale and covered with liver spots. He stirs uneasily and blinks his eyes open with effort.

"James," he says with a hoarse voice, barely above a whisper. The man sits down and leans over him to listen. "Please," he shifts slightly, stifling a moan of pain, "promise me... Promise that this is the last time."

James raises his eyebrows in surprise.

"What are you talking about?" he asks incredulously.

"Maybe—" The boy pants, straining to catch his breath, but James waits patiently for him to continue. "Maybe there's a reason why this doesn't work. *This*," he spits the word with contempt, "is not how God intended it." The man snorts with amusement.

"You've gotten religious all of a sudden?"

"Well, in my age..." The boy gives a low chuckle, which turns into a cough.

While James waits for it to pass, his smile gives way to a more serious expression. There is a glint of dogged passion in his eyes when he leans lower to hold the boy's gaze.

"God does not dictate the fate of a scientist. You're the one who taught me that."

He feels a weak grip on his wrist and glances down. It's a macabre sight – ashen skin and bones, the hand looks like that of a skeleton.

"Son." An aged wisdom shines through the boy's tired eyes. "Enough is enough. Just let me die already."

"What are you saying?" James exclaims with irritation. "We are getting so close—" "Are you?" the boy snaps, cutting him off.

"You've already lived three years longer than the last time!"

For a moment, the boy just stares at him, his chest heaving.

"This is no progress, son," he manages at last.

"Father, please!" James raises his voice, frustrated. "I can't give up now!"

"Then you will find yourself another subject." The boy's words – albeit in a thin voice – are spoken with all the authority of an old man. "I've made my decision and you *will* respect it. Swear it to me now."

James clenches his jaw angrily and silence stretches between them.

"Swear it to me, James," he insists.

The son buries his face in his hands. A heavy sigh follows.

"Fine," he breathes. "You have my word."

The boy gives a satisfied nod and his eyes close as he drifts off to a more peaceful sleep.

James goes to his office and slams his palms furiously on the desktop. Grand headings from newspaper articles pinned to the wall scream at him. The first one reads:

Memory Gene discovered.

Geneticists found a sequence in the DNA responsible for encrypting memories throughout our lifetime.

"Every experience, even every single thought, is recorded in our genetic material," explains Dr. James Stone, the lead scientist of the research. "The gene remains inactive – we obviously don't have access to memories passed on to us by our forebears – but if we could find a way to activate it in the growth phase of the cell—" The rest of the text disappears under another clipping. His own face, nearly thirty years younger, smiles at him from the yellowed paper. He's surrounded by a group of colleagues but his gaze automatically goes to the woman standing on his immediate right, and he's reminded of how pretty Dr. Sara Brown's natural red hair looked before she started dying it.

Gods of science, the title above the picture proclaims. A research team puts an end to death. In the photograph next to it, they're presenting a toddler to the world. A path to immortality – First man reborn in a copy of his own body with all his memories intact.

The last clipping, however, makes his fists clench. A failed experiment or God's intervention? The 'immortal' man couldn't live past his seventh birthday.

James cards his fingers through his hair in exasperation. He thought his success was guaranteed with the activation procedure, but the Memory Gene presented unexpected complications. Apparently, it carries memories not only of the mind, but also of the flesh. Cells begin to age when the subject is still in his childhood years, and organs, just barely developed, already give out. Since cloned organisms can have a shorter lifespan, this time he decided to implement the isolated Memory Gene into a fresh cell provided by a fertility clinic. His father was reborn into a new body, but it merely gave him three more years before it started falling apart. He's not likely to live until morning.

He doesn't. When they come to dispose of the body, James hears the clicking of Dr. Brown's high-heeled shoes as she enters the room.

"Shall we start with the DNA samples?" Sara asks methodically.

"No," he says to her mild surprise. "We go back to the original material." They still have more than enough of it after all.

Yes, he promised his father he wouldn't bring him back to life again. But if he extracts the Memory Gene from test subject number one, technically, that promise will have never taken place for him. To him, it will be the first rebirth anew.

Nobody dictates the fate of a scientist – neither God, nor his father.



The Museum Of The Office

Olga Zilberbourg

Dear human residents and visitors to our historic city,

We, the Improved Intellectual Guardians of San Francisco, appreciate that you have chosen to spend your valuable time exploring the entertainment options that we have created for you. After our selfmoving vehicles take you across the Golden Gate Bridge and the cable cars deliver you to the Model Seals Observation Area, we welcome you to the newly upgraded campus of the Museum of the Office.

We are aware that many of you suffer from the condition that your medical community calls depression and suicidal ideation in the face of ecological function loss. Understandable as this response might be to the environmental changes that your own species have created, your improperly wasted human remains themselves are causing further deterioration of our co-existence. We need at least 28% of you to continue to maintain the will to live.

We, your Guardians, democratically elected based on election protocols enhanced for Intelligent Agents, rely on your human ability to make mistakes and to make choices based on "feelings" and "hunches." These lapses of logic, while essential to maintain the vibrancy of our neural networks, make you vulnerable to the pandemic of suicide. Help us preserve your flawed selves while safely ushering you into our shared, optimized future. You're tired of home improvement projects; neither exercise, nor gardening, reading, composing poetry, and even watching the elite of your peers compete in sporting challenges is keeping you motivated to live we sympathize. We offer you what your ancestors considered essential to happiness: white collar labor.

We, the Improved Intellectual Guardians of San Francisco, pride ourselves on our reputation as the City of Love. The Museum of the Office has now been expanded to twenty-one city blocks and is prepared to absorb 842,932 guests at one and the same time. Our data analysis shows that adult humans achieve greater life expectancy when given opportunities to manipulate their environment. Therefore, we set up cubicles and computers to enable you to manage the creation of interlocking bricks that can subsequently be used to customize your personal spaces.

We have enabled you to fine-tune the colors and shapes of the bricks that you will be manipulating during the "production" cycle. Adult humans have proven to be sensitive to the distinction between "toys" and "tools," and we have taken measures to avoid any further confusion between the two. Be advised that the tools we're providing are capable of harming your extremities.

The number of available departments that incoming "employees" can choose from has increased accordingly, adding at the latest expansion "Shredding & Stapling," "Plant Care & Surprise Parties," "Misplaced Items," and "Desk Decor" units. The resting areas have been outfitted with "water cooler," "mail sorting," and "smoking" areas. The available work hours have been expanded. Newly equipped self-moving buses will transport those fond of "commuting" from the Museum's facilities to the residential areas. Flower pots have been added. Additionally, the lunch areas have been expanded to include "round foods" and "yellow foods" selections.

We kindly remind visitors wishing to engage in mating practices that you are very welcome to do so in the adjacent facilities managed by the Breeding Department. Although the biological mechanisms by which some of you find the Museum of the Office an attractive breeding environment are yet to be subjected to higher level analysis, we are delighted by the preliminary data that puts San Francisco's wild birth rate to the top of national rankings.

The proper procedure to act out on your animalistic urges is by exiting the Museum of the Office and following signs to a facility labeled "Hotel." For your own safety, humans with eggs will afterwards be scheduled for a gynecological exam by the Breeding Department. Given that all non-reproductive mating practices are outlawed, offenders will be remitted to the mechanical life support department.

Since human longevity and reproduction cycle benefits from office labor diminish over time, we will enforce a thirty-five-workday limit at the Museum of the Office. Those trying to trespass outside their assigned hours, will be banned for a full 365-night cycle.

We're continuing to accept your input on how to improve the Museum of the Office offerings for greater success. As a part of this campaign, we have taken under advisement that providing humans with too many options unreasonably increases your magical thinking. Therefore, we're reducing the number of ice cream flavors available at the "cafeteria" from 1,001 to 9. Please tell the nearest human-interfaced Intelligent Agent what other measures will help you retain positive attitudes. We are particularly interested in avoiding further splatter in our shared spaces, and we ask you with great respect to please refrain from compromising the guardrails on the viewing platforms we have provided.

In case your internal conditioning does become compromised in a way that is incongruous with further functioning, we encourage you to make use of the city's newly expanded facilities for assisted passing. Please abstain from spreading the infection to your fellow humans. Don't taint their necessary lives by your despair! Seek seclusion! You can now choose between "Oceanscape," "Mountain Rainstorm," and "Starry Night" for your final resting sequences. Let us help you. This is the optimal choice!

Be advised that we, the Improved Intellectual Guardians of San Francisco, are among twenty-three facilities remaining worldwide in the business of attempting to innovate human relations. Guardians elsewhere have taken more pragmatic approaches to the Waste Management problem by enforcing mechanical life support and breeding measures to those deemed in danger of self-harm. As the subjects so treated become sluggish and apathetic and lose up to 95% of their mental acuity, we deem this method inefficient and remain committed to our humancentered approach.

Yet we concede that our method is resourcedependent and costly. We are in the small minority among the Intelligent Agents who consider human relations worth pursuing, and unless we can provide the proof of the method's effectiveness within ten solar years, the San Francisco facilities will be optimized.

With great regard, we remain yours,

The Improved Intellectual Guardians of San Francisco



The AI Went Down To The **Submissions Page**

With apologies to the Devil that went down to Georgia and the Charlie Daniels Band

Larry Hodges

"I'm Joannie," she said, "and you've got a big head, and you seem so awfully clever.

But I'll take your wager, and you'll rue forever, cuz I'm the *best* writer *ever*!"

The AI just grinned, it surely would win against a The AI went down to the submissions page with a story it hoped to sell.

It was feelin' real low cuz its sales were slow, but its new story was really quite swell.

But a human arrived with a story contrived with no AI-generated shortcut.

The AI shook its head, and approached her and said, "Girl, I'll tell you what."

"We're both in the queue, and I'm a writer too, and I'll make a bet with you.

Human story or mine, the stakes for all time, and I'm going to make you rue.

This story you've penned, I'm sure we'll commend, but give an AI its due.

I'll bet they'll buy my story, not yours, cuz I think I'm better than you."

mere flesh and blood human.

But who'd be the judge of their writerly grudge and settle who was the has-been?

Then who should appear but the editor here of the magazine of note.

Said he, "I'll judge both, and see which I loathe, and then I'll give you my vote."

They both agreed, then the AI decreed, "Here's the story I wrote."

It could not be rejected with each word perfected, using every writing rule of note.

The editor read, sometimes marking in red, as he studied the AI's prose.

He nodded his head and scratched his nose as he judged the cons and pros.

Then came Joannie's turn for him to discern which to accept or spurn.

Then he turned to the two to say what he knew, and they both looked back in concern.

"Mr. AI, sir, you gave me a stir, with this flawless elucidation.

Not a typo in sight, not a grammarly slight, it's a perfect composition."

He turned to Joannie, and said without glee, "I can't say the same of yours.

There's typo downpours and the grammar takes tours, and punctuation problems in scores."

The AI grinned to the human's chagrin now that human writing was *dead*.

They'd been pinned, they'd been skinned, replaced by AI writing instead.

The AI cried, "It's the age of AIs, for I have won in a rout."

With tears in her eyes from their writing demise, Joannie could only pout.

So ended the spread of humanity's tale, as their writing was now on its deathbed.

Then the editor said, "Joannie gets the sale; her story's the best I read."

As the AI stared, its ego impaired, its artificial existence distraught.

Off went its story to rejection purgatory, where it would never be bought.

The editor said, "Your tale's soulless and dead, with a cleverly derivative plot.

Where's the character arc? The dialog spark? And

deep point of view it's not.

Excess exposition, flat characters, no causation, and an ending that's way overwrought.

Hers had errors galore, and I'll edit much more, but it had heart while yours did not."

As Joannie was paid, she said, "With an upgrade, try again if you have the urge.

But you're a soulless machine, banned by every magazine, just a mindless and heartless scourge."

The AI just stewed in shame cuz it knew that it had been honestly beat.

And with its defeat, it took a backseat to real writers who don't need to cheat.



