

FRANKLY SPEAKING

Olin's unofficial,
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source.

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FREE, AS IN BEER

Vote for Your Olin

Ike Walker (*he/him*)
Contributor

The day after this article is published, the voters of the US will decide the future of this country. Next week, the students of Olin will decide our own future.

On November 16, Olin students will have a chance to vote on a referendum supporting the divestment of Olin's endowment from fossil fuel industries. Divestment is the act of taking an organization's investments out of an industry or company for moral or financial reasons, and it is an accessible tool for combating corrupt or immoral corporations and industries. More importantly, divestment is *effective*. In 2016, when the world's largest coal producer - Peabody Energy Corp. - declared bankruptcy, they cited divestment as one of the primary reasons for going out of business, and fear of divestment has led many fossil fuel companies to lobby for legislation prohibiting it. Voting yes on this referendum will demonstrate the student body's care about our planet's future, but above

all it will put direct pressure on the board to divest Olin's endowment from fossil fuels.

But why should you care? You've already heard about the fatal warming trend, the rising sea levels, the incredible loss of biodiversity, and the catastrophic increase in weather events that come with climate change. What's more important is that, as Oliners - and frankly just as people - we have values that we need to uphold. We value equality, yet the impacts of climate change will disproportionately affect those in need. We value sustainability, yet the practices of the fossil fuel industry are exploitative and irresponsible. We value integrity, yet fossil fuel companies have consistently lied about the impacts of their industry. We are at THE defining moment where we can truly stand by these values. Hundreds of colleges and universities have already divested. We lag behind with \$8 million of our endowment still invested in fossil fuels. More than the money, the lack of action by the college that touts itself as a

forward-thinking institution is a noticeable silence, and honestly, a hypocritical embarrassment. So let's make them **do something** about it.

The Olin administration has always said that it values the voices of the students; here's a chance to use it. If you vote, you're putting immediate and direct pressure on the board to divest our funds from fossil fuel industries and making a statement that will pave the way for even more institutions to follow in our wake. This is a chance for YOU to make a real difference - to improve not only the health of the planet, but to uphold our values as responsible stewards of our communities. It's only a little time out of your day, but it is an action that will have large ripples.

So as the Town Hall comes up on November 16th, we need you to vote for our planet, vote for our future, vote for divestment.

Climate justice cannot wait.

Alumni Statement: It's long past time to divest

We are Olin alumni who began calling for fossil fuel divestment more than 7 years ago. We support the CORE referendum on divestment and stand in solidarity with the community groups organizing for a sustainable future. Fossil fuel investments go against Olin's commitments to sustainability, equity, justice, integrity, leadership, and "doing good for humankind". **Divestment is long overdue. It's time for Olin to walk the talk.**

*Charlie Farison '13, Amos Meeks '14, David Pudlo '15, Aaron Greiner '18,
Anisha Nakagawa '18, Linnea Laux '19, Izzy Harrison '19.5,
Tommy Weir '21, George Tighe '22*

New Title IX Coordinator Can't Wait to Meet Us Live and in Person

Kelly Stellmacher (*They/Them*)
Writer

Justin Bell (he/him) is our new Title IX Coordinator and the Director of Non-Discrimination Initiatives. He is a shared resource between Olin and Wellesley, having a primary role in the conduct of both schools. Justin is also responsible for ensuring that our school acts in accordance with Federal NCAA rules. He is currently working remotely, but hopes to begin in-person work in the next few weeks.

Justin began his career in college athletics with stints at Fairfield University, Northeastern, and the University of Hartford. He became interested in Olin

through Wellesley, and was drawn to the campus atmosphere, attracted by the idea that students are listened to and treated as partners to the faculty and staff. During his application process, when he was told that students would also partake in the hiring decision, that only made him want to be a part of this community more.

Since starting work here, Justin has experienced proof of our school's positive feedback and partnership culture.

One thing that Justin wants to convey here is that his office is not just meant to for filing or disputing complaints. The Title IX and Non-Discrimination

sector can be a place to learn and ask questions, and it is a place people can go to for resources or advice. In an ideal world, it should be a place where people aren't afraid to seek guidance in any form.

As of this issue's publication, Justin is most accessible via email at jbelle@olin.edu

Keep an eye out for a new presence on campus in the coming weeks!

New Director of Wellness Says “Be Kind To Yourself”

Kelly Stellmacher (*They/Them*)
Writer

Frances Mantak (she/her) began working at Olin during Family Weekend. She is our new Director of Wellness (as you may have guessed by the title of this article).

Her main role in our community is to be a resource to support the physical and mental health of our student body. Her job involves both supporting us directly as well as educating us on how to support ourselves. She is what one could call a “Public Health Nerd.”

She was drawn to our community because of the features that make the school different from others she had worked at. Features such as the small size, the solely undergraduate focus, the sense that someone could really get to know people here. Moreover, she was attracted by the potential for a single person to have a large positive impact.

Since coming here, Frances has confirmed a lot of her expectations, and in a



concrete and tangible way. She’s excited to learn what else this community contains.

On any college campus, relationships and friendships can be challenging. “That must be especially hard at Olin,” she says, “so I want to help students navigate relationships in healthy ways.”

One way to do that is to have compassion for yourself. Self-compassion is an effective method of helping with all kinds of stress, conflict and mental health concerns. Frances enjoys giving presentations on this topic and wants everyone to know that you can find lots of

resources at www.self-compassion.org. Simply put, self-compassion means “giving ourselves the same care we would a close friend.”

Frances’ dog Max wants you to know that if some snuggling would lower your stress levels, he’s here for you. Her foster-fail kitten, Dr. Marmalade, isn’t available for visits because of her busy medical practice, but she’ll gladly share some of the Dr.’s gorgeous photos to make you smile.

Stay in school!

Estimating the Probability That an Explosion of Ink Prints a Dictionary

Braden Oh (*He/Him*)
Contributor

A few years ago, I heard someone compare the probability of life originating by random chance to the probability of a dictionary being printed in the explosion of a printing shop. The numbers that person was using were clearly made up, but I still wondered - what are the odds? It turns out that quite a bit of scientific thought has been put towards calculating the probability of life arising [1-3] as well as calculating the probability of other highly unlikely events. These include the probability of The Flash quantum tunneling through a wall [4], a monkey with a typewriter producing the works of Shakespeare [5], and a fully intact brain appearing out of quantum fluctuations in the vacuum of space [6-7]. Yet somehow, no scientific thought has been given to the odds of an explosion in a print shop creating a dictionary. That seemed to me to be a great tragedy!

To construct a solid starting point for future researchers, I imagined a highly simplified abstraction of the print factory thought experiment: a sphere of ink

explodes within a spherical shell composed of pieces of printing paper; the sphere contains exactly enough ink to print one copy of the 1989 Merriam-Webster English dictionary, and at the instant of the explosion, the sphere atomizes into droplets sized to print 300 dpi pixels.

The ink-sphere abstraction allows us to model the ink sphere as a sum of sectors. Each sector is a rectangular pyramid that contains enough ink to print one page of the dictionary. During the explosion a pyramid expands outwardly until its footprint perfectly covers a target piece of paper. A diagram of this is shown in Figure 1.

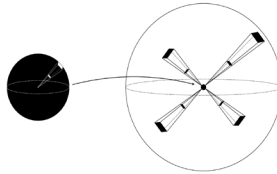


Figure 1: A sphere of ink modeled as a sum of pyramidal sectors explodes inside a shell of printing paper

The sector abstraction allows us to model each pyramid as a stack of discrete sheets of ink droplets: the volume of a pyramidal sec-

tor is given by a 3D Riemann sum, and we can count the number of ink droplets directly!

The possible arrangements of these droplets are modeled by combinations and permutations that require the evaluation of enormous factorials to solve (e.g., 5,025,780!). These factorials are too difficult for a computer to evaluate by multiplication (even using tricks such as Stirling's approximation) due to limitations in compute time, memory, and decimal precision. I bypassed this problem by performing all of my computations in log space (since multiplication in linear space is addition in log space) with Python 3.8.5 floats, which have 17 decimal places of precision. At the scale which emerged from these factorials my error was objectively enormous, yet it was still 15 orders of magnitude below 1%.

Using this model, I found the probability of a dictionary being printed to be $1.30 \times 10^{-817,692,555}$, or on the order of 10^{-10^9} . More conventionally, this can be expressed as 1 in 7.68x10817,692,554 (that is

7.68 followed by over 817 million zeroes) Numbers at this order of magnitude are absurd to describe; for instance, 10^{10^9} is much, much larger than a googol, but much, much smaller than a googolplex.

To compare this probability to other unlikely events, the reported probability of The Flash quantum tunneling through a solid wall is approximately $10 \cdot 10^{-28}$ [4], while the probability of a monkey randomly typing the complete works of Shakespeare is approximately $10 \cdot 10^{-7.15}$ [6]. Hence, in a world where The Flash runs at a wall, a monkey has a typewriter, and spheres of

ink are exploded, a dictionary will be printed well after the monkey types Shakespeare, but long before The Flash runs through the wall. However, the universe will end many times over before any of these unlikely events occur.

I've shown my work in a full writeup available on the Frankly Speaking website. I've also composed a technical paper which has been rejected by over half a dozen journals. Do you have a suggestion for where I can send it next? If not, I intend on publishing at SIGBOVIK 2023 this coming April.

[1] A. Loeb, et al. "Rela-

tive likelihood for life as a function of cosmic time." 2016.

[2] D. Kipping. "An objective bayesian analysis of life's early start and our late arrival." 2020.

[3] C. Scharf, and L. Cronin. "Quantifying the origins of life on a planetary scale." 2016.

[4] A. Alam, et al. "The flash and quantum tunneling." 2016.

[5] E. R. Weaver. "An exercise in probability." 1965.

[6] C. Kittel and H. Kroemer. "Thermal Physics." 1980.

[7] D. Page. "Return of the boltzmann brains." 2006.

The Two Planets

Ian Eykamp (Any)
Writer

Second installment (see the October issue online for Chapter 1).

Chapter 2

Within ten years the first civilians made the trip from Venus to Cyro; within twenty years twenty ships a day ferried passengers and goods; and within fifty years it was two hundred ships a day. In a hundred years, the ships were as big as container ships carrying kilotons of cargo from one planet where it was abundant to the other where it was scarce.

Contrary to the imagination of the first diplomats, the cargo did not consist primarily of containers of hot and cold air from the respec-

tive planets' atmospheres. To be sure, there were forms of bulk heat transfer to power the refrigeration units at Venus' chemical plants and parts of Cyro's steel industry, but even with advanced heat transfer mechanisms, ferrying Kelvins via rocket was hardly economical. In the words of a would-be entrepreneur, "Schlepping gold just isn't lucrative when the gold in question is lighter than air."

However, the two planets had natural resources and industries that complemented each other quite perfectly in many ways, and the expedience of the new avenue of trade would have brought tears of delight to

any economist of the period. Cyro churned out coal and iron ore and sent it to Venus where the furnaces were cheaper to operate. Venus had the sand to make glass but not the technology to make it strong and insulated like the marble windows Cyro's cities were known for. Cyro had advanced research in pulmonology after an airborne disease had ravaged their population generations ago; Venusian teeth sparkled and seduced because Venus was home to acclaimed schools of dentistry. On and on the examples went, without limit, and increasing all the time.

Bi-globalization, as it was called, brought on an-

other industrial revolution for both planets. Prosperity increased for everyone, but especially for the wealthy, and life expectancies rose across the board. New diseases naturally spread from one culture to the other after millenia without contact, but with them spread new cures, new drugs, and new vaccines, the subsidized sale of which generated enough money for the pharmaceuticals that they could parley the official number of cases down to about ten percent so that nobody knew exactly how much they were paying.

Around this time, a new currency was minted by Venus' Planetary Government to mirror the system in place on Cyro: not so much a currency as a communal ledger, to replace the old custom of carrying around a tank of cold gas to pay for things. Every house in every city on Venus was by now connected to a central cold reservoir which was maintained by the government at great cost using the most sophisticated refrigeration system known to humankind. Everyone was allocated a share of the cold reservoir, according to their wealth, and anyone could make purchases or transfer their currency to another person by flipping a switch on their wall and receiving a blast of hot air into their living room as coldness was sucked into the system, or they could withdraw funds to bathe at their leisure

in chilly air.

When they made the switch to the communal ledger, there was quite an uproar from certain posh parts of the capital city, because the government's assessment of each person's wealth—on which allocations of the new currency were made out—was based on information collected from the last year's tax returns. It came to light that certain individuals' actual wealth exceeded the numbers reflected on their tax forms by a factor of at least tenfold, and those individuals made a swine's stink about being swindled by the government's allocation scheme. The mayor pointed out that if they wanted the government to allocate the new currency correctly, perhaps they should not have deceived the government on their tax returns, and the certain individuals hired lawyers and went on a witch hunt as the press called it for other anomalies in accounting. They found a handful of isolated cases where other people, mostly lower class, had been paid too little, but overall the lawyers only made a fool of themselves, and even still they sued the government and won.

The transport ships were owned by a private company named Guildman, which had gotten its start two centuries ago selling cooling mechanisms for Venus' wealthiest homes. The first commercial devices used water for evap-

orative cooling, which made them prohibitively expensive; later, around the same time as the printing press, they learned to use an energy source to drive a reusable fluid through a compression cycle to take heat out of the air. (History textbooks, whose authors never disclosed how well they were paid, declared that it was the Air Conditioner, not the Printing Press, that marked the end of the Middle Ages on Venus.)

Harrison Guildman, the founder and namesake of the largest monopoly on both planets, was three hundred years old and had been dead for two hundred and thirty, but that did not bother him; to this day, he steered the company with an iron grip. Since the founder's untimely death, no new chairman had ever been elected. None needed to be. For in his last days, spent alone without food nor drink nor certainly sleep, he had written out a strategic plan for the company which was so detailed and forward-thinking that no one had needed to take his place at the helm for two whole centuries. The actual plan remained highly classified and had only ever been read in its entirety by a dozen or so of its top executives as they carried out his words. But certain passages had been made public for promotional events, including for the first time when Guildman announced that

it would be dedicating its facilities to supporting the Ferry Commission in its bid for building the first inter-planetary shuttle.

It was right there in Harrison Guildman's own handwriting, on parchment cracked and the ink of two hundred years ago faint but still legible: "Shall the government of Venus ever deem it of national importance to establish communication and trade with the White Planet through the means of space travel, the Guildman Corporation shall be the first to announce its full support for the program and dedicate at least one-half of its research facilities and budget to the mission."

As soon as the project was underway, and Guildman's indispensability to the project had been established, it was revealed that the document in fact continued: "In exchange, the Guildman Corporation will demand full ownership of the space vehicles under development, although the ports themselves, being a matter of national security, may remain under government operation and control." And no one had much choice but to go along.

To accommodate the boom in trade, the Venus-Cyro Transportation Authority (the first inter-planetary, bi-governmental body) worked frantically to ex-

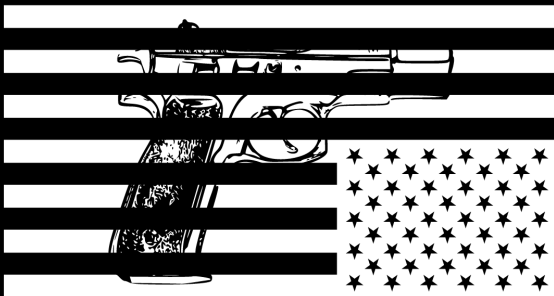
pand its ports on both planets. Another super-port was built from the ground up every five years, along with a whole new city to match. At first they kept up with demand, but the ports' infrastructure was built hastily and not to last, so they soon fell into debt and Guildman took over the operation of the ports, too.

It was never established whether this final consolidation had been prophesied in the founding documents, but cynics didn't put it past the man who had thought of every possibility at once, while at the same time thinking of nothing at all but his company's own insatiable expansion.

FWOP PRESENTS

ASSASSINS

A MUSICAL BY STEPHEN SONDHEIM



FRIDAY (11-11): 8PM
SATURDAY (11-12): 8PM
SUNDAY (11-13): 2PM (STUDENTS ONLY)
IN THE NORD!!!

Drunk Horoscopes

Oliver Buckwald (none of the above)

Kate (all of the above)

Jadelin (your pronouns are become mine)

Audrey (you know)

Reuben (yes)

Clark (you know em/you love em)

Anna (she/her but I don't think we're actually writing our pronouns on here)

Beli (I use she/her but I guess you can use dumb and dumber)

Taurus (Apr. 20 – May 20):

Eat a delicious ham that has been unearthed from parcel B. Burrow into the ground, you will find what you are looking for. After a thousand years of waiting, now is your chance.

Aemini (May 21 – Jun. 20):

Ask Chris Lee to slow down. Slow down like a slug running from a speeding train. Slither on the train tracks. MechSolids and dynamics are hard but they don't have to be that hard. Solids can be soft and slimy like your slug self.

Cancer (Jun. 21 – Jul. 22):

Once in a while you are a green sour skittle. But sometimes you are the sexy m&m. Consider dissolving skittles in vodka if you like your vodka tasting like skittles. You should also venmo @oliver \$0.15

Leo (Jul. 23 – Aug. 22): By the time you graduate Olin you will have become a solar house. We know it is your fault that the mac gets so hot during the day. Maybe chill out a little bit. Maybe install blinds. But remember to wear safety glasses.

Virgo (Aug. 23 – Sep. 22):

Don't do crypto currency. Do cryptocurrency if you are snorting it with your nose. Or with your elbow. Don't even think about that, just focus on the sweet sweet smell of cryptocurrency entering your nasal passages.

Libra (Sep. 23 – Oct. 22):

Don't date people. Go out into the woods on a rainy night and look for frogs. Befriend french frogs. Just don't be French. Don't french kiss the frogs, you might get chytrid.

Scorpio (Oct. 23 – Nov. 21):

You are bioluminescent, you just haven't noticed yet. Spend more time in the dark or the bio lab. If you have questions, talk to Jean. Shine bright like a diamond baby!! ;) :diamond_emoji:

Sagittarius (Nov. 22 – Dec. 21):

Set something on fire this month. Commit arson. Burn down the

tent in the O. You won't do it. You coward. Maybe light a candle then I guess. It's not the same but you can pretend that it is.

Capricorn (Dec. 22 – Jan. 19):

You are made out of snakes. All snakes are you. There are so many snakes inside of you. You should not think about this too much. sssssssssssssssssssssss

Aquarius (Jan. 20 – Feb. 18):

You should send spreadsheet poetry to your crush. They will appreciate the data and your formulas. And the plots. The more plots the better: plots are the purest form of love.

Pisces (Feb. 19 – Mar. 20):

Don't spray perfume. don't spray any aeroilized or pressurized things unless you are in the LPB paint bay. With the fume extractor on. Just don't use the damper because it was never connected in the first place. Open the bay doors instead. You're not british

Aries (Mar. 21 – Apr. 19):

Learn to weld. Snow IS a weldable material. Build a fantastic igloo. Think about the possibilities - you could weld anything if you put your mind to it. You could weld a snow table. You could weld a bird bath. You could even weld a SAE clean snowmobile.

Kill the president. Win a prize!

November 11th-13th

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KSTELLMACHER@OLIN.EDU

Or check out the website at

[HTTP://FRANKLYSPEAKINGNEWS.COM](http://franklyspeakingnews.com)

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