



cryhonk  
Next term is nearly last term  
and every term is stupid

fingersinsockets

## “WHAT’S YOUR FAVOURITE NON-mathNEWS CLUB?”

Haiiii everyone! (/ω\ ) It’s a new issue!

(I’m writing this **mastHEAD** at midnight after an 11 hour long work day. My screen is blurring in front of me. I need help (;ω; `).)

Do you guys actually read this? Or do your eyes glaze over the back of the front cover, letting me speak into a void? My words emblazoned upon a garishly coloured piece of paper, touched by hundreds, hovered over by even more. Airtime means nothing if people won’t read what you have to say. Maybe I should try more stimulating hooks—if I were to start off my **mastHEAD** with a 6 7 joke would that give me more view time? Where is my Minecraft parkour background?

Hmm. Nah. Surely my astounding wit and adorable kaomojis are enough to keep your attention!

Anyways, the lovely writers and editors of **mathNEWS** have come together to gift you a new issue during these trying times. Read about people freaking out over midterms. Read about people freaking out. Read about people freaking. And of course, the classics: recipes, lists, and island reviews. Engage in a bit of escapism  $\backslash(\cong \nabla \cong)/!!!$

I’m not actually on a study term—I’m on co-op in QNC. No midterms for me! But—I’m being honest guys, I need to be let the fuck out. On **prodNIGHT** days I’m stuck in the building for thirteen hours straight guaranteed. No human should be stuck in the same campus building for over eight hours. That **INCLUDES** MC. The only thing that makes things bearable is seeing all your lovely faces and reminding you silly Math majors that science exists and that oxymercuration **IS** real and **WILL** hurt you. I was personally afflicted during my orgo course last term, but not as bad as when Team Canada got whooped by Team USA in **BOTH** women’s and men’s hockey. I don’t even follow the sport and yet was thoroughly enraptured by Marie Philip-Poulin instead of using the particle counter at my lab. C’mon, Canada, we’re literally Canadian...

Anyways. Someone put me down with a gun. Yours with love,

maj1ckED  
Editor, **mathNEWS**

AURELIO	WATROX ☹
FINGERSINSOCKETS	A Capella Club (I just need to find the time to join)
BSGCG	MC Comfy comes up a gay club on Google, so that one
USMAN!	the one with the execs and the room and the members
APHF	The Canadian milk and dairy cartel
AMIRDADP	club soda
CRIMSON	PMC
JOCHEMIST	UW Film Club (it's actually <b>mathNEWS</b> )
RYESAKI	Game development club (definitely not biased)
YALEVOYLIAN	Scrabble Club (you should join!)
FINEGEOMETER	What's a club? (I'm in my 4B term.)
MOLASSES	The Granite Club
SHAHABEE	The club with which I beat the firsties
PAPA SMURF	Fashion for Change
JMHEXAGON	Cheese Club
STATSANDTHECITY	Curling Club
SMALLMOUTHBASSHATER	smallmouth bass hate club (coming soon)
LARS NOOTBAAR	RCH after dark
MACINNES	ACAPPELLA MY LIFE AND LOVE
NOT A N*RD	Ri-just kidding obviously <b>mathNEWS</b>
DICK SMITHERS	Phil's
BEFUDDLED	Game dev club
REVIVED	There are no other clubs in Ba Sing Se

## ARTICLE OF THE ISSUE

This week’s article of the issue is *I Don't Drink The Coffee at CnD* by *ilovekatebush*. Please note that AOTI is not an endorsement. I love CnD coffee. I'm drinking one right now. Strange symbols have appeared on my left arm and I've been hearing voices in the night, but I'm sure that's not related. Come to MC 3030 for your prize if the voices don't get me first.

befuddled  
Editor, **mathNEWS**

I’m just a rube, call me Goldberg.

SASHA NOVIKOV, **mathNEWS** EDITOR FOR WINTER 2026  
ALONG WITH OWEN GALLAGHER, SARA NAYAR,  
NOAH NAZARETH, AWAB QURESHI, TOM SI, AND RIVER STANLEY

# mathASKS 160.4

## FEATURING KW METAL BAND LOCAL GOBLIN

### APHF: THE UPCOMING SHOWS ON YOUR WEBSITE LISTS ONE IN 2025. IS THIS BECAUSE TIME WORKS DIFFERENTLY FOR GOBLINS?

We have a really hostile work environment, our web developer left us to work at FingerAI. We have not updated the website since.

### APHF: WHEN WILL YOU INCORPORATE THE FRON2 INTO YOUR MUSIC

Still working on fron1.

### IS.ALL.ON: FAVOURITE SONG?

We interpreted this question in two ways:

Our favourite song to play is *Forklift Certified*, the crowd energy is always great.

Our favourite song to listen to is *Gangnam Style*, we blast it in the car before every gig.

### SMALLMOUTHBASSHATER: FAVOURITE FISH?

*Ben*: Walleye

*Hayden*: Loan Shark

*Elitsa*: Nemo

*Josh*: Gefilte Fish

### JOCHEMIST: WHAT IS YOUR FAVORITE COLOUR?

*Ben*: Emerald Green

*Hayden*: Slime Green

*Elitsa*: Seafoam Green

*Josh*: Money Green

### RYESAKI: HOW MANY NIGHTS OF ACTUAL GOOD SLEEP DO YOU GUYS GET

I sleep like a baby thank you very much. Next question.

### WAFFLE: HOW DO YOU MANAGE BAND REQUIREMENTS AROUND UNIVERSITY WORK?

A 60 is still a pass...

Counter question: is a waffle just a pancake with abs?

### LARS NOOTBAAR: WHERE WOULD YOU RECOMMEND GOING IN KW FOR LIVE MUSIC?

- The Union
- Maxwells
- JamNetwork club on campus
- Uptown has Midnight Run, Revive, and St Emmanuel's
- Josh's happy ending emporium
- Denny's

### DOLLAR STORE PERSON: WHAT INSPIRED YOU ALL TO CREATE A BAND + WHAT ADVICE WOULD YOU GIVE TO SOMEONE WHO WANTS TO CREATE THEIR OWN MUSIC (OR CREATIVE WORK IN GENERAL)?

*Inspiration*: Money and YouTube gnome documentaries

*Advice*: just start doing it, whatever that is. Don't be afraid to mess up, it sounds cliché but you develop over time and find your sound/voice in your art. Also don't take a gig under \$3000 per person for payment.

### BEESKNEES: WHAT ARE YOUR OTHER CERTIFICATIONS?

*Ben*: Licensed to kill and ordained.

*Hayden*: Restraining order on Josh and royal pardon from the king of Saudi Arabia.

*Elitsa*: Driver's license.

*Josh*: Certified loverboy and certified masseuse.

### PAPASMURF: IS VILLAGE 1 THE SAME AS MY SMURF VILLAGE?

Does the pope shit in the woods?

Also you got some balls showing your blue ass around here after what your kind did to us...

### USMAN!: GOBLIN DEEZ NUTS

Fuck you. I'm exploding you with my mind and cursing your bloodline.

### MOBPSYCHOFAN: HOW DID THE BAND GET CREATED? WHOSE IDEA WAS IT, OR HOW DID THE PROCESS GO?

Josh and Ben watched too many gnome sighting videos on YouTube with a friend. Then decided to advocate for goblins.

Found other people in our classes who played instruments (Elitsa and Hayden) and we started jamming. We are just friends who started by bonding over music.

**BARKED: WHAT IS YOUR FAVORITE LYRIC FROM ONE OF YOUR SONGS, AND WHAT IS YOUR FAVORITE SONG TO COVER?**

*Ben:* 'where's my beer' because it results the audience giving us beer

*Hayden:* 'kids in the neighborhood used to call me the bugggg' I relate heavily to it

*Elitsa & Josh:* 'fuck your horoscope, I am god'

Favourite song to cover: *Engine No. 9* by Deftones, it gets the crowd the most excited.

**ABS(JESTER): DO YOU HAVE ANY AFFILIATION WITH THE SHADOW WIZARD MONEY GANG?**

The necromancers alliance has advised not to speak of this topic.

**FINGERSINSOCKETS: ANY GENRES OF MUSIC/MUSICAL SOUND YOU WANT TO EXPLORE?**

Not really, we just write songs with whatever comes out of us. We don't sit down with a specific sound or plan in mind. Our only overarching goal is to find the brown note.

**MACINNES: OH HEY LOCAL GOBLIN!! THIS IS A BORING QUESTION BUT WHAT ARE YOUR MUSICAL INFLUENCES AS A BAND?**

This is a fun question,

*Ben:* Pearl Jam, Grunge, Blues Rock, Alice in Chains, Rory Gallagher, Rush

*Hayden:* Opeth, Jazz Fusion, Metal, Reggae

*Elitsa:* TOOL, Porcupine Tree, Red Hot Chili Peppers, Toto

*Josh:* Avenged Sevenfold, 2000s rock, comedy music, Ninja Sex Party, TWRP

**ABSTRACTED: SPECIFICALLY FOR ELITSA; WHAT KINDS OF BASSES DO YOU OWN ☹☹**

Two five string basses:

- Marcus Miller M7 in transparent blue
- Musicman Sterling Stingray in vintage sunburst

Other basses:

- Smallmouth Bass (screw you smallmouthbasshater)

## STUDENT-BUILT APP HELPS UW AVOID GEESE "HOT ZONES"

A new University of Waterloo web app, Geese Poop Spotter, is turning everyday campus frustration into community-powered navigation.

The tool allows users to report geese poop locations and aggressive goose encounters directly on a shared map of campus. Each report is visible to everyone using the site and remains active for seven days, helping keep the information timely and relevant.

The idea is practical: if one person spots a problem area, the whole campus can benefit. Instead of guessing which path is safest or cleanest, students can check current reports and adjust routes before heading to class.

The platform also supports optional descriptions and severity levels for reports, giving users more context beyond a single map pin. By combining quick reporting with public visibility, the app aims to make high-traffic campus movement a little easier and safer.

Geese are a familiar part of UW life, but so are unexpected detours and unpleasant surprises on the way to lectures. Geese Poop Spotter uses simple crowd reporting to reduce both.

Students can access the app here:

[geese-spotter-uwaterloo.vercel.app/](https://geese-spotter-uwaterloo.vercel.app/)

Gina

## BIRIYANI FOR 800 PEOPLE

FROM THE BOOK INDIAN DELIGHTS [1961]

4kg ginger, 2kg garlic, 200kg mutton, 50kg rice, 32kg masoor, 80g saffron, 2kg chili powder (red), 500g whole green chilies, 360g cardamom, 250g turmeric, 500g jeera, 250g shah-jeera, 250g tuj, 20kg ghee, 20 litres oil, 1.5 litres lemon juice, 40 x 500ml yoghurt, 12-16 dozen eggs, 20kg potatoes, 20kg onions, 1kg fine salt (use only as much as is required), 6kg coarse salt.

twohitwonder

## AN ODE TO TREES

Hurling down a slope  
A lone pine appears ahead  
A thud echoes, turned too late

flower\_appreciation

# mathANSWERS

FEATURING THE WRITERS OF mathNEWS

**LOCALGOBLIN: HOW MUCH ARE WE GETTING PAID FOR THIS?**

*Dollar Store Person:* I can't answer that.

*Shahabee:* Paid in exposure.

*QUAAAAACK:* Anthology.

*Whole Number Haver:* Free pizza.

**LOCALGOBLIN: HOW WILL THE FUNDS BE TRANSFERRED?**

In the air because love is in the air. Love is in the air and so is your payment.

**LOCALGOBLIN: WHEN WILL WE BE RECEIVING PAYMENT?**

Right now. Come to us right now. Do not delay. If you are not in QNC by the end of February 23<sup>rd</sup>, it is already too late.

**LOCALGOBLIN: WHO WILL THE FUNDS BE SENT TO?**

The first one to claim it.

**LOCALGOBLIN: CAN THE PAYMENT BE MADE IN ETHEREUM?**

There's no monetary equivalent for love/anthology edition (except for the printing cost) (and the payment cost) (but it's actually worth more).

**LOCALGOBLIN: WILL THIS BE COUNTED TOWARDS MY 2026 TAXABLE INCOME?**

A resounding "no" from the writership. It's considered a gift which is not income. "You could just commit tax evasion anyway—it's your choice."

**LOCALGOBLIN: WHERE'S MY BEER?**

Not a N\*rd is holding it.

**LOCALGOBLIN: IF A BAND MEMBER PASSES AWAY BEFORE WE RECEIVE PAYMENT WILL IT BE TRANSFERRED TO THEIR NEXT OF KIN?**

We don't know your next of kin, therefore we'll donate it to the nearest goblin support charity of our choosing <3

**LOCALGOBLIN: WILL USMAN! EVER FORGIVE US?**

*Usman!:* I'll forgive them if they uncurse my bloodline.

**LOCALGOBLIN: ARE WE A JOKE TO YOU?**

Yes. <3

**LOCALGOBLIN: WHAT'S THE BEST METHOD OF REMOVAL FOR HOT CHEETO DUST IN YOUR EYES?**

Cold Cheeto dust in your eye to balance it out.

**LOCALGOBLIN: HAVE YOU INTERVIEWED ANY OTHER BANDS BEFORE?**

Yes! Fron Reilly, inventor of the fron2. A one-man band for the ages.

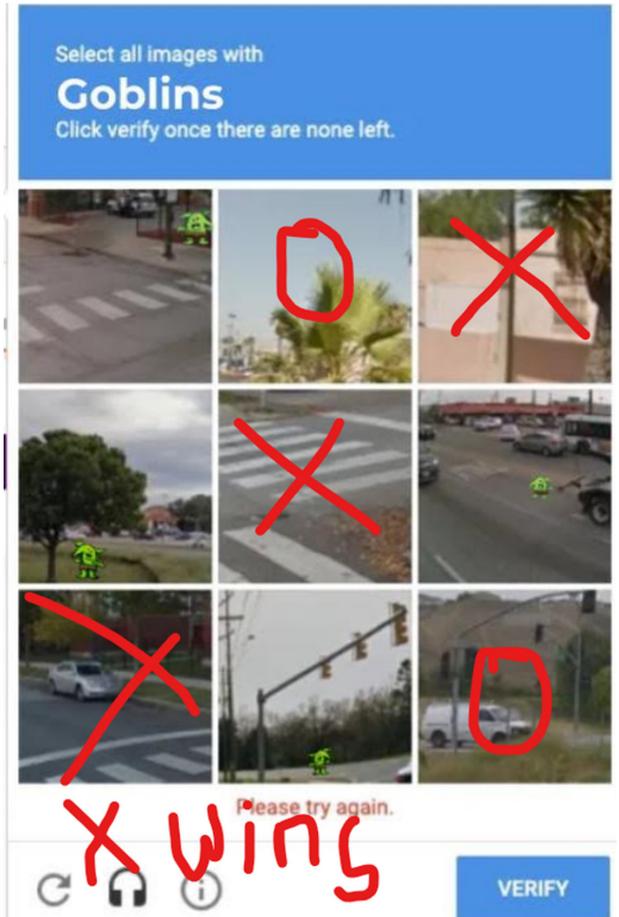
**LOCALGOBLIN: HEY SIRI, WHY DOES IT HURT WHEN I PEE?**

It's a UTI. You should go to a clinic. It's only \$60 at the walk-in Waterloo clinic without insurance.

**LOCALGOBLIN: OK MATH PEOPLE, WRITE THE NEXT 3 NUMBERS IN THIS SEQUENCE? 420 69 21**

- 7 6
- -8

**LOCALGOBLIN: PROVE YOU ARE NOT A ROBOT, SELECT ALL IMAGES WITH GOBLINS:**



# THE GYM EXPERIENCE

Exercise is well-known to be good for your health, yet people generally don't get enough. There are a lot of resources out there outlining what are the best exercises and training plans, but they're often aimed at experienced people. I argue that the majority of people out there have "<1 month of recent gym experience," and that there isn't enough attention paid to the "ramp-up period."

The principle I go by is "match the energy." Go easier on days that you don't feel "right." If you like cardio, consider rowing for upper-body. If you don't want to train legs, do what you want. You can always return to the idea when you're feeling good and looking for variety. What if it's your first time in the gym and you're not sure where to start? Find some movement that looks cool, and focus on that. You don't need to try every workout in the gym, just focus on three every session.

Further to that point, it's good to pick a goal when starting out. Do a pull-up, do ten pushups, run 5K in thirty mins—there's many to choose from.<sup>1</sup> This gives you a target to go after, instead of "keep my gym membership for a year." The objective then becomes "make reasonably good progress towards attaining this goal." After all, the feeling of making progress is one of the main motivators for continuing to go to the gym.

Exercise is interesting because you will get better at what you train. Train on consecutive days to deal with day-after soreness. Periodically try to increase weight so your body can adapt to it. Train with multiple sets with short reps to improve recovery. Try doing full Range Of Motion (ROM) and slow sets once in a while for extra stability. This is why you should switch up your exercise routine from time to time, so when you do reach your goal, it's consistent.

Does this mean I should only train pull-ups if that's my goal? Setting aside muscle imbalances that are likely to get you injured, some exercises have "sweet spots." If you struggle to get one rep in, you're not loading the muscles enough to get good development. On the other hand, if an exercise doesn't feel like much at the fifth rep, it might be too easy to see progression. With bodyweight exercises like pull-ups, it's tricky to make it easier, so you could consider lat-pulldown. As a general guideline, aiming for ten reps (first three reps are easy, last two reps are a bit sloppier) or somewhere around that range is a good target.

Doing different exercises is also good because different exercises train muscles in different ways. This can matter because if one muscle group is too weak, it might be the limiting factor for your goal. For example, machines are good at training the main muscles, but free weights require good stabilizing muscles. A pull-up is actually multiple movements done in one fluid motion,<sup>2</sup> and the limiting factor may not be your biceps. Furthermore, some exercises may work well for some people, but not for you—some people like training a muscle in the stretched position,<sup>3</sup> but they can be tricky to

do consistently or might only be effective for a few muscle groups.

When starting out, you should expect progress every time you go (assuming you're not fatigued). There are many dimensions in which you can improve: weight, reps, ROM, tempo, rest. If you're doing three sets, you might try a heavier weight on the last set. You might try doing a fourth set. If you do full ROM at a slow tempo (slowly bring the weight up and down), you might struggle to get half the reps in, but it's progress because it's harder. If you halve the rest time between sets, that's also harder. *Cardio is slightly different because improvements take longer to materialize, but you can always play with different speed profiles and try different exercises (treadmill, elliptical, stairs, cycling, rowing, skiing).* Match the energy that you're feeling in the moment, and decide which dimension you want to make progress in.

Some other tips:

- Try not to spend >1h in the gym, unless you're doing cardio. If you go for too long, you'll tend to end up pacing yourself instead of trying hard. That time could be better used for an extra session.
- Training is different from testing. If you focus too much on making progress, you can start cheating your reps, getting muscle imbalances, and getting injured. Be honest with yourself on areas you need to improve on.
- Compare with your own progress. It's easy to get discouraged when looking at others' progress, but what really matters is your own.
- For cardio, don't do more than one hard session a week. There is even a guideline that states 80% of your workouts should be in zone 2 (barely a jog), though that might be more for those who train a lot.
- Slow reps for joint health. Slow, controlled movements give the joints more time under load, which allows them to develop. However, fast reps can load the muscles better, giving better progression. Modulate the two.
- Stretching becomes more important as you progress. When starting off, your muscles are not that tight; as your initial weights start to become easy, your risk of injury goes up. An injury can set you back three months or more.

Ultimately, the main goal is to make exercise feel as good as you can. Depending on what level you're starting at, what works for you might not be the same as for others. Just remember to match the energy that you're feeling in the moment to decide how hard to go.

SaltOverflow

1. Take a look at <https://strengthlevel.com/strength-standards> for some ideas

2. Pull-up: shoulder depression + shoulder extension + elbow flexion

3. Lengthened partial reps can be just as good as full ROM <https://pubmed.ncbi.nlm.nih.gov/39959841/>

## WIN NANOFELLOWSHIP DINGS NON TOP-10 UNIVERSITY MARKS

The WIN Nanofellowships are \$10 000/year fellowships offered by the Waterloo Institute of Nanotechnology for graduate work in the nano-sciences. The application requires two references, transcripts, a research proposal, and a very annoying and buggy Microsoft Word form detailing your professional achievements.

Academic Records (AKA marks) are worth 15% of the criteria if you are in your 2<sup>nd</sup>+ year as a graduate student, or 25% if you are a prospective student or first year PhD or Master's student. On this, they state:

*We will apply scaling factors on the academic raw marks based on the national ranking of the university. For example, for any institution which is within the top ten in their country, the scaling factor is 1 (no change in raw marks). For an institution which is ranked 90<sup>th</sup> and beyond in their country, the scaling factor will be 0.1 (scaled marks = 0.1 x raw marks).<sup>1</sup>*

This is strange because the University of Waterloo itself does not reliably rank in the top 10 in Canada. Additionally, it does not account for country size and this fellowship is open to both international and domestic applicants. Going by the US News 2026 National university rankings, the following well-known schools are not in the top 10:

- CalTech
- Cornell University
- Columbia University
- UC Berkeley
- UCLA

Not to mention, some countries have less than ten higher education institutes! Any and all students from Lichtenstein would receive a scaling of 1.0. I fail to see how this ranking, for a fellowship that takes domestic and international students, takes into account the diversity of the higher education landscape both within Canada and abroad.

Additionally, and perhaps most importantly, students from less populated provinces (ex. PEI, New Brunswick, Newfoundland) who chose to stay close to home for their bachelor's, whether by necessity or preference, are at a severe disadvantage. This does not seem sensible.

An Annoyed Student

1. <https://uwaterloo.ca/institute-nanotechnology/students/nanofellowships>

## ON IMMATERIALISM AND GEORGE BERKLEY

I wonder oft, what use of notes  
When you cannot hear them.

I wonder oft, why hurry to leave?  
If the destination to reach,  
Only I can perceive.

If 'tis true what this man says  
Then only I am real, and the rest is unsaid.

The gall of this man, and how could we resist  
When entice our selfishness he did,  
By telling each the other doesn't exist.

Should I work?  
Need I beg, borrow or steal?  
If all things, the world and more  
Already belong to me.

And how cruel this man I deem  
As now we must all contest to see  
Who is real, and whose imagination who might be?

So, I wonder oft, what use of notes  
When no matter what I play,  
Out loud or soft, whether sweet or not  
You are not here to have a say.

Yet,  
I wonder since, since I have a doubt  
Since all his talks makes me really feel,  
that all he said is all invalid now  
since this man does not exist for me

philchap

## CHRISTMAS CAROLS IN FEBRUARY

It's the most dan-ger-ous time of the year.  
Oh, you'll misjudge the snow and you'll slip and fall ov-er and burst in-to tears!  
It's the most dan-ger-ous time of the year!

Music engraving by LilyPond 2.24.3—[www.lilypond.org](http://www.lilypond.org)

finegeometer

# WLW CS240 EROTICA?

## THIS COUNTS AS STUDYING, RIGHT?

*“in my queue, you’re the highest priority”*

those were the last words that barely escaped her breath before i caught them in my mouth. i wanted her to see my love, and i wanted her as efficiently as i could get her.

unlatching our lips, i looked into her dark doe eyes, pining for me with the glint of candlelight. my hands softly curved from the hinge of her jaw down to her soft chin.

“in any array, i would always search for your index. i don’t care how big it was; i would take as much time or space as i need, as long as searching for you is  $\log(n)$ . because i crave you. i need you as fast as i can get you.”

she pulled her body even closer towards me, so close that i could feel her heartbeat and smell her caramel perfume alongside the vase of roses sitting on the table.

“can we go through a primitive operation or two? i want to test my program with you,” she whispered.

this was my best case, so of course i nodded. as soon as i consented, she strapped her arm around my back, bounded my lower half and lifted me up. i stared back intensely at her face, caressing her neck supply with my fingers as she carried my heap straight to the bedroom.

she let me down on her bed before she climbed up to me like a tree, pushing her lips onto mine. we’ve gone through this algorithm many times before, but every time felt so magical. she reads me like a dictionary, knows all my keys, values, and priorities, merges into me like we are one. every lovebite i leave on her body, every kiss she fixes downwards almost destroys me, yet i feel anew.

soon enough, the layers between us were deleted, leaving her on top of our stack. my lungs skipped a list of breath as her hands travelled to the higher levels of my torso, raising and falling with every touch she inserted onto my skin. both me and my heaps of flesh perked up the more she stroked and pinched. i could feel little-o’s build deep within me; her program was working a bit too well, a bit too efficiently for my liking.

i tightly bounded my palms up and down her lower curves, ready to control this rush, this flow of euphoria. i brought my glare down to her level as i muttered my request:

“hey sexy machine, can i access you?”

she giggled, her smile radiating vibrantly against the cream ceiling.

“of course, love. access me all you want.”

i restructured our bodies, putting me on top of her delectable body. i couldn’t help but be a sentinel, admiring and analyzing this model in front of me, storing every warmth and memory of us deep in her cells.

“i asked you to access me, you know” she smirked.

“i know, i’m just loving the view, baby.”

i travelled down her close to her maximum, slowly searching through all her indices with my fingers. i traced her input, up and down before inserting my everything into her. she outputted a small cry the more i deleted and inserted my keys, which got quicker and quicker the more i accessed. suddenly, she looped her hands around my chest, supporting my heaps further with her breathy input. i accessed further, reaching my heights as she approached her limit too. i could feel the shuffling happening, the random spikes of joy cycle in me, gasping for air recursively with her, our bodies pulsing at the same rate.

*big O, little o, big O, little o, big O, big O, ohhhhhh*

as time ran, we eventually reached base case, my limbs straddling her body. the space wasn’t just us anymore, it was the whole room storing our air, our energy, our love.

“wasn’t that program rather correct?” she argued.

Dollar Store Person

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## WOULD CLICKER TRAINING MAKE ME STUDY BETTER?

Clicker training can be used for many things. It’s been used as a positive self-help technique where you click it whenever you experience happiness so that your brain rewires to focus on positive experiences. It can also be used for... that. You know. That.

So that got me thinking: If I have a clicker and train myself by clicking it every time I come across something important to remember for an exam would it help me remember things for said exam? Like if I’m stuck on a question, could I click my pen to get my mind to remember since the clicking would be associated with the things I needed to memorize?

Seems like something worth looking into.

fingersinsockets

# LAURIER VS WATERLOO: THE STARTUP CULTURE

Building a startup in the Waterloo Region is often presented as a choice between two worlds: the high-stakes, “fail-fast” engine of the University of Waterloo (UW) and the community-driven, business-first ecosystem at Wilfrid Laurier University. While Waterloo often grabs the headlines for its sheer scale, a growing number of student founders are finding that the “Waterloo Dream” is built for a very specific type of elite researcher, leaving the average student founder in the cold.

I recently spoke with a student founder who operates in both worlds, attending events at both Waterloo’s Velocity and Laurier’s LaunchPad. His experience highlights a systemic issue: Waterloo is an incredible place to be a post-grad with a PhD in Robotics, but for a student trying to launch a business between classes, it can feel like a factory that only cares about the top 1% of technical “unicorns.”

The biggest frustration for student founders at Waterloo is the Funding Gap. Velocity is a powerhouse, but it acts as a gatekeeper. Most of its major grants, like the Velocity Momentum Grants, are designed to support founders after graduation. The goal is to find the next billion-dollar AI company to add to their \$40 billion enterprise value.

For the student founder I interviewed, this creates an environment of exclusion. “At Velocity, if you aren’t building deep-tech or something that a VC can understand in 30 seconds, you’re basically invisible,” he told me. At Waterloo, you are pressured to show massive scalability before you’ve even made your first dollar.

In contrast, Laurier’s StartUp Lab operates on a human scale. It acknowledges that student startups are often in the “Discovery” phase. Instead of demanding a VC-ready pitch deck for a seed round, Laurier provides accessible, non-dilutive grants that fund the process of starting. Laurier doesn’t just fund the “winners;” it funds the students who are trying to learn how to win.

This cultural difference is most visible in the success of Enactus. At Waterloo, the “hero” is the lone coder in a hoodie who stays up for 48 hours at a hackathon. In this “brogrammer” culture, social entrepreneurship is often dismissed as “soft” or a “side project.” This is why Enactus Waterloo, while present, lacks the campus-wide gravity found across the street.

At Laurier, Enactus is a blooming global dynasty. The team recently placed 2<sup>nd</sup> in the 2025 National Exposition and has a history of finishing in the Top 4 at the World Cup.

“At Waterloo, the goal is to build an app that gets acquired.  
At Laurier, the goal—proven by projects like Kuponya Innovations—is to build a business that actually changes a life.”

Kuponya, a Laurier-born startup building rapid-assembly housing for the North, won three national awards in 2025. It isn’t just a “social project;” it’s a revenue-generating business

model. This success proves that when you remove the “tech-only” elitism found at UW, student-led businesses can actually solve real-world problems.

Entrepreneurship is 10% idea and 90% execution. This is where Laurier’s dominance in “Business Olympics” like JDCC comes into play. Laurier’s Lazaridis School teams consistently sweep these competitions, winning for strategy and international business.

While Waterloo startups often fail because they have great code but zero market strategy, Laurier produces founders who know how to build a supply chain, manage a P&L, and talk to customers. The BDO New Venture Competition at Laurier even integrates this into the first-year curriculum. While UW students are stuck in labs doing calculus, Laurier first-years are pitching real ventures for cash prizes.

The student founder I spoke with summed it up perfectly: “Waterloo feels like a factory where they’re trying to find one diamond in a mountain of coal. Laurier feels like a village where everyone is trying to help you build your house.”

Waterloo is an amazing place to become a highly-paid employee at a tech giant. But for a student who wants to be a founder and wants a culture that supports them before they are a “unicorn,” Laurier is the clear winner. By valuing social impact over Silicon Valley clout, Laurier has created an environment where student startups don’t just exist; they bloom.

Aeshaan Kumar

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## EVERY AD AT THE OLYMPICS

*Action shots of athletes.*

We know how much work it takes to make it to the top. Countless missed shots, lost games. Long days practicing. Long nights, wondering if it’ll all be worth it. Blood, sweat and tears, all to make it to this moment.

*A snowboarder stops, staring at the beautiful Italian countryside.*

So for Team Canada, the important thing is to make sure to remember... to breathe it in.

*He reaches into his pocket, pulls out a cigarette, and takes a drag.*

Marlboro Cigarettes. A proud sponsor of Team Canada.

Dick Smithers

# THE MILLENNIUM LINE EXTENSION IN VANCOUVER DOESN'T AFFECT MOST PEOPLE WHO READ THIS. I'M GONNA TALK ABOUT IT ANYWAY

The Millennium SkyTrain Line in Vancouver is currently undergoing a six-kilometer extension from its current terminal station in VCC-Clark station down Broadway to its new planned terminal station at Arbutus station. The project started in 2021 and is expected to be finished next year. The goal of this project is to provide rapid transit to the Broadway corridor, helping connect the SkyTrain south of False Creek, where development has been growing.

There's already some issues happening with this project. Currently, Vancouver commuters are facing a four-month long closure of a single block of Broadway between Main and Quebec street, creating a detour that extends a 30-second section into four minutes. Buses filled with hundreds of commuters are tremendously slowed down, stuck single-file behind convoys of commuter cars (naturally, City Hall is incompetent and doesn't want a necessary priority lane for buses). Cars have started using alternate routes, going through small residential streets, causing more congestion there. Additionally, local stores along the extension are feeling the impact of construction hurting foot traffic and business. While these are major issues now, they'll get better by the time the extension is completed. However, there will be one glaring issue that remains.

## The extension does not reach UBC.

Despite being built in the direction of the university, it doesn't come anywhere close. If you have some level of familiarity with the Vancouver area you might know why this is such a huge issue. The SkyTrain getting to the University of British Columbia would address one of the biggest transit issues in the Lower Mainland. The four busiest bus routes by boardings in Metro Vancouver all connect the university to the rest of the city (of which the busiest, the 99 B-Line, holds the dubious title of busiest in the US and Canada, and typically drives through the very block that is currently undergoing a closure). Despite some buses running as often as once every three minutes, they are crowded, and commutes off campus are long, usually being over an hour, often going into two.

As someone who grew up taking public transport in the Metro Vancouver area, this issue hits hard. When I was in high school, I had to take the 130 or 110 from outside my school up a hill to the Metrotown neighborhood where I lived. Everyone at school knew that if you weren't out the door and lined up for the bus the second the school bell rang, you were better off walking home. Even though the buses were frequent, we still had to deal with trying to get on the limited space provided in each bus as it took in students from BCIT the station before. Having already felt similar issues in my day-to-day life, the problem with the UBC extension hit hard to me as well, especially as it has been looming in the air almost since I've been born.

Plans for an extension to UBC started in 2008, when then-premier Gordon Campbell committed funding for it. Yet eighteen years later, nothing has come to fruition. But why is that?

One of the biggest issues comes from regional priorities from TransLink, where each municipality is fighting over transit funding and where it should go. Communities on the east side of Metro Vancouver such as in the city of Delta have argued for more allocation of funds towards their urban areas of Ladner, Tsawassen, and North Delta as those areas grow.

Another issue comes from locals and the government. The BC government took over for the issue in 2022, which has made changes to the planning of the extension, but some issues still persist locally. For instance, UBC has been reluctant on having funding of their own to provide for ages, only providing land for stations to be on. While \$100M was eventually committed in 2019 and the university joined in on lobbying with the Vancouver government and First Nations, COVID then slowed things further. Residents along where the line would go also created a ton of resistance over personal worries, with neighborhood associations in West Point Grey and Kitsilano fighting against the extension.

Finally, there's the issue of how much another extension would cost. The current Arbutus extension was originally projected to cost just under \$4B, but is very much over that amount now. Additionally, it's also the most expensive addition to the SkyTrain in cost per kilometer ever when adjusted for inflation, more than tripling the expenses of the previous 2016 Evergreen extension. Anything new would probably blow costs out of the water.

Now with all of these issues laid out, I have my own personal opinion: Almost every single one of these issues are beyond stupid.

Firstly, regional priorities. Saying that building a SkyTrain extension is "tone deaf," as Delta Councillor Dylan Kruger says, is pointing blame at the wrong people. If there's an issue with public transit funding, put it up with the provincial and federal government for dragging their feet on providing anywhere near enough funds for better transit. Punishing university students by keeping their commute a living hell is the wrong approach.

Secondly, local issues. I agree that it is important to ensure people aren't badly displaced by transit projects and Indigenous input is crucial, but I couldn't give less of a shit what West Point Grey and Kitsilano says. These neighbourhoods are posh as fuck and NIMBYism is a stupid ideology to try to make living inaccessible.

Finally, cost. The reason why it's so fucking expensive to build transit here is because of stupid partisan bullshit making every step of the way need to get pointlessly reworked dozens if not hundreds of times. Oh, it's too expensive? Shut the fuck up, Let us do shit and that'll bring costs down. But what about the cars? Fuck cars. If you don't have anything important to say (i.e. Conservatives and NIMBYs) you can shut up and make this easier for everyone else.

Anyway that concludes the public transit rant.

Fuck Ken Sim, fuck ABC Vancouver, fuck all Conservatives, and let's get shit built.

fingersinsockets

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## MINI CROSSWORD



<https://crossshare.org/crosswords/i51HzZy-EUQhI4ebi f9Uk/math-news-mini>

rutabaga413

## LEARNING HOW TO DRAW IS EASY AND FUN

I have always enjoyed drawing. There's something fun about making terrible art for your friends but I never considered myself particularly talented at it. Recently I found myself attending my friend's life drawing<sup>1</sup> workshop more out of desire to support my friend than from any art aspirations.

I was objectively the worst person at the workshop. At first I found it nice that this was an activity that forced me to be present in the moment and disconnect from the phone. I enjoyed the process of drawing with no way of knowing how ridiculous it would look till the end. The surprise at the result, felt like gambling. I did not look up any guide on how to draw, but with each subsequent drawing I could see my skill improve in real time. That's when I got hooked.

I started carrying a small sketchbook everywhere, drawing whatever I could see that inspired me. Making many terrible sketches of my friends and family. Sharing the results with my latest victim. I haven't figured out how to make aesthetically pleasing portraits but they are recognizable. I have drawn poorly all my life so that I am pretty comfortable making mistakes, making bad drawings. Any time it comes out sort of good it's a delightful surprise.

All my life I have always thought visual arts weren't for me. I don't have the dexterity, the time to dedicate to mastering this craft. I am still the worst drawing at the workshop but if I show my friends my drawings the reaction is always the same: Joy on their face and the statement "Wow you are so talented." I am not talented I put in  $\epsilon > 0$  of practice.

I am having so much fun. I am kind of mad that no one told me that being reasonably proficient at drawing was so easy. Mastering visual arts is pursuit of a life time but being good enough to impress everyone else is easy and fun. We all love to draw as kids but at some point we put the pencil down. Pick it up and play.

I think back to all the times I drew whatever without using a reference drawing. I thought I was terrible at drawing because all the times I did draw I was doing it on hard mode. The secret to drawing well without a reference is practicing a lot with references. If you want to get better at drawing. You already know how to use a pen. You have already done half the work, you just need to practice translating what you see unto the page. To learn anything you have to give yourself space to make mistakes. If you are having fun it will feel effortless.

UW holds free life drawing sessions on Monday from 6:30–8:30pm. Open to students and the public. All info can be found here: <https://uwaterloo.ca/fine-arts/events>.

Beyond Meta

1. Yes the model is nude, I promise it's only weird for about 10 seconds before you get used to it.

## VISIONS OF MII PLAZA

Next time you're at your parents' house, head into the closet in the basement. Behind the Christmas decorations and the VHS of *Toy Story 2*, you might just find something. Untangle the sensor bar, replace the batteries in the remote, tighten the wrist strap. Then you're ready.



Take *Wii Sports* out of the sleeve, put it back in the console, and let the music wash over you. Now, what to play? You remember enjoying baseball. Wouldn't that be fun?

The character select screen will prompt you to pick a Mii. Find yourself. It's definitely you. You'll recognize it. But would your friends? You don't have that haircut anymore. You dyed your hair years ago. Was that *really* the shape of your smile back then? Try your best to remember. You don't have many photos from then.

Watch the sun rise over *Wii Sports Stadium*. Feel the warmth of the TV on your skin. See the empty stands, colored to look to the distant eye like a crowd, and marvel at how the illusion falls apart before your cynical adult eyes.

Every position on both teams will be staffed by Mii players from your system's save data. As you step up to the plate for the first time, notice who's facing for you on each base. Siblings, cousins, teachers, friends.

You used to play real baseball with these people. Well, it was soccer baseball—the school would never let you swing a real baseball bat—but it was still your favourite part of gym class. Even when you got picked last, it was still a thrill to watch your athletic friend kick a ball over the fence and into the high school next door.

Watch as that friend steps up to the plate as if stepping directly out of that memory. Figure out what happened to that friend. Open Instagram or LinkedIn to find out they're working in Toronto now, or maybe they're engaged.

When you feel compelled to leave the game, feel free to follow that urge. Watch as your eyes move to the *Mii Channel*. Those friends on your baseball team are people you hadn't thought about in years. Who else might you find inside?

Notice how placid the Mii Plaza is. See how the horizon stretches into a white haze on the horizon. Look from the top down on all your Mii's, like a child looking over an anthill. Count each one.

Every single one of them was made of a real person, by a real person. Each of them reflect how that person looked, yes, but also how they looked to *you*. They're your brother before you moved away and you stopped knowing everything about them. They're your parents before you realized you couldn't always count on them. They're the friends who moved away when you were eight who you promised to stay in touch with.

(Well, except for the one you made ugly on purpose—but that one's a reflection of your sense of humor at age six when you sat around the TV trying to make each other laugh, so I think it's earned a place.)

These Mii's can play sports, party, and go racing together. They live together in peace and play. Nothing changes them, and nothing ever will. No one leaves the group, and no one joins.

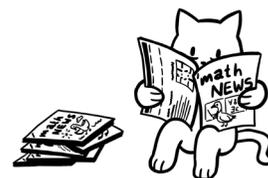
Remember how, when you were a kid, this is what you thought the future would be. Hanging out with your friends forever.

Perhaps, you could add new characters to your Mii Plaza. Maybe you want to make this a living garden of the people who have shaped you. Maybe it matters to you that those you love can meet and mingle with those you loved.

Or you could leave the Mii Plaza alone. Maybe it's important to you to preserve this relic from this stage of your life. Moments in time are rarely preserved so purely. Isn't this a gift?



Dick Smithers





# I WISH WE COULD TRADE IMMERSIVE CARDS IN POKEMON TCG POCKET

*MOSHI MOSHEEEEEESH MY NAKAMANDEM*

Man, this shit is kinda annoying yk, like I collect these immersive cards cause I think they're very cool. But I'm getting ahead of myself lets start from the beginning.

Feb 27<sup>th</sup>, 1996. Satoshi Tajiri and some bubs put out a game for the Game Boy called *Pokémon*, short for Pocket Monsters, which was meant to bring back their nostalgic feeling of collecting bugs in the wild while playing outside, a feeling they felt was missing in the then current world with rapid industrialization. After the West and Capitalism got their hands, eyes, mouth, teeth, nose, [REDACTED] and more on it, Pokémon has now nine (soon to be ten [I'm writing this before Pokémon day please put your predictions in the comment sections]) major expansions (called "generations" by the [kinda annoying tbh] fanbase) and is the most successful brand globally.

Naturally, when you have a series focusing on collecting something, with a tagline like "Gotta catch 'em all" you go on to make a card game about this. So in come October of 1996, in a very Japanese (not intended as an offensive critique, instead a "yeah that checks out given their culture 'n all") fashion, the "base" set of the Pokémon TCG drops. In 1998, Wizards of the Coast (see MTG and D&D) brought it over to the US. Wizards of the Coast does a pretty solid job, and their last sets are Aquapolis and Skyridge (seriously check out the art for these, it's so cool to me), before The Pokémon Company takes over in July 2003.

Since then they've done a pretty solid job at giving the youth dopamine overdoses, gambling addictions, and great insight into the fact that money does in fact rule everything in this world. I mean when you have elderly people who love their childhood so much they refuse to let others have experiences like it buying up sets left and right to collect or scalp multicoloured pieces of cardboard, that's gotta mess with your world view, even if subconsciously right? While I'm being a hater, fuck gen wunners in particular, y'all have too many remakes, and y'all have had too much attention put on you. Why was nothing done for the 25<sup>th</sup> anniversary of Johto. Why was the Legends Johto game canceled huh.

Okay putting all that (deserved and needed) malice aside, lets talk about phones. They eat up a lot of your attention, so lets put collecting, gambling, and dopamine overdoses on them for money!

I'm honestly surprised that they went for a PC TCG game before they went for TCG Pocket. Although people had laptops and stuff, it would have made a killing if this game came out in 2016 and was going up till now, instead we got the CIA Psyp to collect location data that was Pokémon GO (happy 10 year anniversary to cyber surveillance and an overall lack of privacy everyone! By the way buy your Kalos tour tickets for 9.99 plus local HST, you really don't wanna miss the unique encounters

it provides). Also WTF are AR Mapping tasks, how was it not obvious the second they dropped that this is just free labor to scan your surroundings for the US Government's nefarious purposes.

Anyways, Pokémon TCG Pocket is gambling and collection for your favorite childhood nostalgia money printer but on your phone! And like the masses, I'm not immune to it. I got the game a month or two after it came out (so November 2024 instead of October 2024) and I've been enjoying it a lot ever since. There's something fun about the battles and pack opening, and to make things even better, they give you two free packs a day! No other gacha system has this as a core feature to my knowledge and that makes it so much easier to be hooked and complain when your friends get god packs every set but you can't even get a base ex.

In falling into this, I discovered that I really like Immersive Cards, these are the game's 3\* rarity cards, and they cannot be traded (MORE ON THIS LATER) because the entire point is that they are a novelty. Why have a base ex when you can have a full art? Why have a full art when you can have a rainbow full art? At this point the only way to top this is if the card jumped out of the screen and like, licked you, said the Pokémon's name, did a dance and shook ass, and then went back into your phone. Given the digital nature of TCG Pocket, this can actually happen! You get an immersive card and by tapping and holding it, you get a cool little animation that gives the Pokemon or Character in focus a lore relevant animation with some cool effects and unique music which lasts roughly 20-30 seconds before going back into the card.

I collect these because I love animation! I think its an awesome form of art and it deserves so much love for all the hard work that goes into it. I think collecting thing is silly but I realize I'm very guilty of it (For the better part of my university degree, I have been collecting textbooks, games, records, and now virtual cards). "Something about having things" to modify a quote from a dear friend who suffers from the same affliction, and like, yeah he's 100% right, something about having things man.

But okay, you can't trade these 3\* Immersive cards because they are supposed to be novel, but what do I do when I have 3 of the same one? The max you can use in a deck is 2, so the 3<sup>rd</sup> one truly is useless, you can't even flex it properly, and I'm missing like 3 of these that I'd really like to have! They recently added 2\*s to trades, why not 3\*s? I'll include screenshots to show you just how unluckily lucky I've been.

If any of y'all know someone who can do something about this I'd appreciate some efforts to be put into this direction please.



# DO YOU PLAY CHESS?

FROM "A MATHEMATICAL CONFESSION"

I get the feeling  
you say nothing,  
knowing everything.

Always carefully observing,  
thinking five moves ahead,  
never picking up a piece too early.

White or black?

Even when you let  
the first move be mine,  
or when it's your move  
and mine to answer,

I've never won a game against you.  
But I had you in a draw once.

I know—  
reading the board.  
No, reading you.

You don't make it easy for me,  
you say you try not to,  
while you can see mate in two,  
and still let the game go on.

Your turn, my turn—

I get the feeling  
I was in checkmate  
the moment I met you  
and shook your hand.

You've got me addicted,  
and I'd play you again.

m1at4

# WHAT I DID DURING PROD NIGHT INSTEAD OF FINISHING ONE OF MY MANY DRAFTS

watch my friend beat off<sup>1</sup>

planet b612

1. OFF is an RPG made by Mortis Ghost, recently remastered with a new soundtrack by Toby Fox. I highly recommend playing!

# THE LAW OF CONSERVATION OF LUCK

Probability is like dancing with the devil;  
and it's almost as bad as stats.

This article was written with the help of *molasses* as my rubber duckie (by explaining to them this concept).

## THE LAW OF CONSERVATION OF LUCK:

It was first coined by my (very smart) friend Andy Gong, who goes to UofT for a very smart degree. It basically says that when you're lucky today, you'll encounter unlucky events tomorrow, or vice versa. (For context, this was a term coined when we were pulling in our gacha games.) The law states that your lost luck doesn't go anywhere when you're unlucky, it will come back to you eventually.

Of course, the law itself is a complete joke and BS, but it reflects the bias that exists in many of our brains: "Surely when I encounter something bad, karma will give me something good tomorrow!" or vice versa. For example, when you encounter six Cs in a row on a multiple choice exam, and can't help but wonder if you answered something wrong; however, there's more to it than just the law and bias.

One of my math teachers told the class that probability is the devil. I couldn't exactly understand what he meant back then, but found my own meaning in the phrase as I grew older. Let's say you flip a coin ten times. The expected average is five heads & tails, but there's a good chance you'll get something other than that exact result. You flip it 100 times, 50/50; 1000 times, 500/500; the higher your "sample size" the closer your results are to the expected outcome.

Anyways, I'm sure I don't need to mansplain to y'all math nerds lmao, but bear with me here.

## IT'S A LAW TO CONVEY A MENTAL BIAS.

The fact that it's *possible* to flip all heads or all tails in an infinitesimally large "sample size" is still there, despite the math gods telling you that possibility approaches zero as you approach infinity, but it's technically *not* zero unless you're *at* infinity, and infinity is not a realistic number for things you count on practical everyday basis—like how many pulls you need to get that shiny new gacha five star.

You can look at it as: "Oh, if I got unlucky 9999 times, surely I'll get lucky the next time?" *DESPITE MATH TELLING YOU OTHERWISE*. In actuality, the probability doesn't change, it's still a 50/50 and math knows it. This is why you're dancing with the devil. It lies to you to give you that sense of bias, you *KNOW* that bias is lying to you, and yet you can't help but feel that way. Math lies to you, but it doesn't. You can't blame it either, because the bias is your own fault. Math is just the law of the universe.

In addition, if your 10000<sup>th</sup> roll comes out "unlucky," that means the result worked "against the flow" and moved away from the expected average. But if you roll "lucky," that means it at least complied with moving towards the mathematically average in the end, but it confirmed your bias. It just feels so right but also self-contradictory at the same time.

Which is also why I find luck abilities so very funny & ironic in stories. When a character is canonically unlucky, it's like god themselves, the law of the land (the author & devil), dictates that you're unlucky. And don't get me started on probability's evil cousin *STATISTICS*.

"Prepare for trouble (probability) and make it double (statistics)"

MOLASSES, 2026

What's even worse, I HATED my stats prof and what's even *WORSE*, I wouldn't have hated stats if it wasn't for that prof. She *GLOSSES* over explaining the concept and just does practice questions for the whole lecture. She gets to the details without properly explaining the *POINT*, the *OVERALL CONCEPT*. Stats is one of those courses where *ALL OF THE CONCEPTS BUILD ON EACH OTHER* (this shit is so cursed). The fact that probability is the law that things will converge this way, but in actuality it could be anything is so fuckery wuckery.

"Like you know it will converge, it has to converge, but you don't have infinite tries to check"

MOLASSES, 2026

## HAHA, FUNNY ANIME EXAMPLES:

There's a light novel character in *Overgeared* called Grid, and he was intentionally unlucky in the beginning of the novel. For context, the novel is about Grid playing a VR game. there's a luck stat in the game that determines the probability of good things happening to you in-game. But he's so unlucky *in real life as well* that he doesn't even get opportunities to raise that stat in the game. This means that the in-story videogame *AND* the novel's world *AND* the canonical gods of the in-game fantasy world *AND* the author of the novel want Grid to be unlucky.

"Oh lmao wait so was he just independently unlucky on top of his bad luck stat?????"

MOLASSES, 2026

Yea, the irony is that the luck stat isn't even a storytelling mechanic. It doesn't have anything to do with how lucky people are, but the chance of a random positive event in-game.

Another example: Kazuma from *Konosuba*. He's so cannonically lucky that he's *never* lost a rock-paper-scissors in his head, and his arrows always strike bullseye 100% of the time.

Or in Sakamoto days, where this girl can make nigh impossible things happen, such as the tunnel effect allowing attacks to completely pass through instead of connecting cuz every atom in a person just happens to pass by each other. (apparently it's a  $(1/10)^{-37}$  chance)

### SO, WHAT ABOUT KARMIC CONSEQUENCE?

I do believe karma exists, but not in the conventional sense like a natural phenomena or because some higher being willed it. I think there are many reasons, (maybe I'll write about it in another article) with one such reason is because humans are born as social creatures and we're more inclined to treat nice people better.

Ginger Ryesaki

Comments & feedback are welcomed & appreciated, msg me on discord (ryesaki) or email me ([g2731i@uwaterloo.ca](mailto:g2731i@uwaterloo.ca)) I can also provide a full unedited version of the article.

More on the tunnel effect meme: [https://www.reddit.com/r/CharacterRant/comments/1r4prkd/i\\_dont\\_understand\\_the\\_hate\\_that\\_the\\_tunnel\\_effect/](https://www.reddit.com/r/CharacterRant/comments/1r4prkd/i_dont_understand_the_hate_that_the_tunnel_effect/)

## AN UNWRITTEN DEEP AND MEANINGFUL ARTICLE

This is where I was going to write a deep, meaningful, interesting article that was both relatable and heartfelt. It was going to make some point about how I need to make more effort for people, or maybe how difficult I find it to let go. The thoughts that have been circling in my head for weeks, months would have been freed and printed and all would be able to read them. I would've had the clarity that comes with deciding how I feel, because if I write it down or say it to someone, it becomes real.

But it didn't quite make it that far. Something came up, or I had to study, or I was just tired and couldn't be bothered. I got upset at myself for an hour, then gave up and wrote something easy. These are great excuses. Really, though, I couldn't make it sound right in my head, and every word typed out felt more and more silly until I couldn't bear it any longer. Anything I typed up didn't seem right, didn't seem to capture the point. How could I ever try to convey fleeting feelings in such a solid form?

So here we are. I'm sorry, deep and meaningful article. I really, really wanted to bring you into existence, but something wasn't right. Maybe you'll pour out of my head at some time later, but I can't let go just yet. Instead, I'm writing this, and as soon as I press the last key I will lift the weight of responsibility, forget you for a bit and hope we can meet on friendlier terms next time. So long.

Shahabee

## HONKY GEESE (NOT) IN YOUR AREA



**HONK HONK HONK HONK HONK!!!** >:(

While you've been studying, the geese have been bulking.

While you've been attending lectures, the geese have been flying.

While you've been procrastinating, the geese have been training.

These geese are honky and are preparing for goslings.

They are picking out prime real estate and plotting your demise.

They are ready.

Are you ready?

*TotallyNotAGoose*

One time I decided to check out the spot shown above for eggs.

Within the next thirty seconds, a goose decided to fly at my face, so I had to duck and run into the closest building.

There were no eggs :(

## I DON'T HAVE A mathNEWS ARTICLE THIS WEEK

I don't. I just don't. There is so much going on and I'm meant to figure out something to write about? I can't even be at **prodNIGHT** since I have a midterm! Not that I've been to **prodNIGHT** in a while because there is too much to do. When will it stop?! When will the pain end?! When can I be free?!

*Whole Number Haver*

# WHY THE GAMMA DISTRIBUTION IS MY FAVOURITE DISTRIBUTION

If you have taken even a single statistics course, you have likely learned about at least one or two probability distributions. You almost certainly have heard of the normal distribution, Poisson distribution, and Bernoulli distribution. As a masters student in biostatistics, I have encountered these distributions hundreds of times. I have even encountered some strange distributions; Weibull, Cauchy, or Fisher's non-central hypergeometric distribution. However, today I would like to tell you about my favourite probability distribution, the Gamma distribution. For those unfamiliar, the Gamma Distribution is for a continuous random variable  $x$  with support  $x \in [x, \infty)$  parameterized by shape parameter  $\alpha$  and scale parameter  $\theta$ . The Gamma function has probability density function (pdf) given by

$$f(x) = \frac{1}{\Gamma(\alpha)\theta^\alpha} x^{\alpha-1} e^{-x/\theta}$$

Don't worry too much about the  $\Gamma$  part, that's not terribly important most of the time.

Now, I believe the argument of the Gamma function's superiority comes down to three arguments, as follows

1. **Versatility:** The Gamma distribution is extremely versatile; it comes up all the time in many applications. As well, did you know that both the chi-squared distribution and the exponential distribution are actually special cases of the chi-squared distribution? So while you may not use the gamma function often, anytime you use either of these distributions (which you almost certainly

did in STAT 231) you are using the chi-squared distribution.

2. **A Little Mysterious:** Remember that  $\Gamma$  part I told you not to worry about? I really love that part. It represents the Gamma function (which is probably why they call it the Gamma distribution), which has some properties you can look up yourself. You rarely have to worry about it in practice, but it makes it look kinda scary. If someone looks at your work and it looks kinda scary to them, they usually think that you are smart—and I like being taken seriously.
3. **Easy to Manipulate:** While the Gamma Distribution looks like it would be hard to work with, it is actually really easy. Because, you never have to integrate a Gamma Function. In statistics, you need to integrate a lot—to get an expectation, a conditional probability, or just a probability for a set. However, anytime you need to integrate the Gamma distribution, you can instead use a trick. Just make whatever is under the integral look like another Gamma distribution, and then it integrates to 1. I hate integrating, which makes me love the Gamma distribution—no integration required.

I hope this convinces you to come to the side of the Gamma distribution, or at the very least, start to appreciate the complex personalities of all the probability distributions we know and love.

statsandthecity

## CHAT, JUST TRAIN YOUR CHARISMA STAT

I knowww Valentine's Day was (2) weeks ago but consider: I love romance. Love a good romcom, or a good love song, and I love being in love. The issue? While I can rizz 'em with the 'tism, there's a lot of you who cannot, this is UW after all. So this is a guide for those who want to be a little romantic without trying too hard. Do this with someone you're interested in, regardless of gender.

- Hold their hand
  - When you're not in danger, such that there can be no room for doubt.
  - This can be while walking or while studying, or while watching a film.
  - I encourage slipping your fingers between theirs.
  - If you're polite, you can ask without asking by simply saying: I would really like to hold your hand right now, if you're open to it. Or you know, just ask: May I hold your hand?
  - Don't freak out, no matter their answer.
  - Continue to hold their hand.
- Buy them things
  - Flowers: If the person you like is feminine aligned, they will probably want these (I can't speak for masculine or neutral aligned, but I'm sure there's an equivalent. Rocks (free)? Legos? Candles from Bath and Body Works for Jochemist aligned people?). Get these in their favourite colour, or red roses to say I REALLY LIKE YOU, or look up flower languages to send a bouquet that says: we're not dating right now, but I definitely don't mind spending the rest of my life with you, and i really like your company, but you don't have to stay if you don't want to, no pressure.
  - Steam Games: No matter the gender, this is always a good move, because even if they don't play the game, you can haunt their steam library if it doesn't work out [Deep Rock Galactic is a reminder of my 2023 foolishness].

- Food/Snacks: Get them their favourite drink whenever they come over. Cook them a simple meal because it's dinnertime and you don't want them to go home just yet. Tell them about all the cool food spots on campus you go to so that they can order your sandwich and agree, it does slap.
- Enjoy their company
  - Spend hours each week listening to them yap about everything in their life, and yap about philosophy in turn.
  - Provide reassurance and advice and safety for them to just be.
  - Spend quality time with them in the library, watching movies and TV, filming for their DAC projects (COMMST majors know what's up), going to cafes and restaurants, taking walks, playing (video) games, going to the farmer's market... There's more, but I'm going based on experience.
- Tell them cool things
  - Say you like their hair, that their outfit looks good, that they look adorable in that selfie you took, that they're a good writer or graphic designer, that they're the sunshine, tell them about how hardworking and reliable and handsome they are.
  - Tell them that they're not an annoyance, that they're good, that you're happy to help.
  - Tell them you're not going to leave, unless they want you to. Tell them they're free to leave if they wish (They don't).
- Love them
- Be loved

Hopefully, if you do all these, you'll have the person you like.  
Good luck. <3

Jochemist

## PEACH PIE RECIPE

MADE POSSIBLE BY NERVOUS IMPAIRMENT DUE TO CO 255 AND PMATH 351

1. Beat 50 g butter and 35 g sugar powder until slightly pale. Then add an egg yolk and continue until well-mixed. *Should not have to say this, but use unsalted butter. Also use actual eggs, not Pocket Sea Crawlers and especially not those from Sal Viento Karst.*
2. Sift in 90 g cake flour and 20 g almond flour (optional), and mix well.
3. Knead until you get a smooth dough, and refrigerate for 30 minutes. *You can skip the refrigerating step in Sami. Also, if you happen to be in Sami, say hello to my cousin, Sentinel. But you have to find the Dimensional Anchoring Pylon and get past his Dublinn Shadowblade guards first.*
4. Beat 50 g cream cheese and 15 g sugar until flaky, then add one egg by pouring half, mixing evenly, and then the other half (and mix evenly). *By the way, change the amount of sugar in any way you see fit. For example, triple it if in Laterano and half it if making the pie for Haruka or Sakiko.*
5. Add 40 g of yogurt, sift 3 g of cake flour and mix evenly. This is the cheese batter; set it aside.
6. Roll the refrigerated dough to a thickness of 0.5 cm. Then set it inside a pie tray. It should fit inside a 21 cm or 6 in circular tray.
7. Press the edges and bottom. Poke some holes using a fork. *This is to prevent the pie crust from expanding under heat. If you don't care about appearances, like most university students, skip this step.*
8. Pour in the cheese batter, then bake for 40 minutes in an oven preheated to 443.15 K. *Too lazy to find the degree symbol. Also, you might need to adjust the time based on the oven; bake until the surface is slightly brown. You should be able to observe this change; if you cannot, I would strongly recommend against using the Originium reactor for Londinium's citadel artillery as an oven.*
9. Chop up 4 peaches, and add two tbsp of lemon juice and 20 g of strawberry liquor (optional). Set aside for 15 minutes. *The lemon juice prevents peaches from oxidizing. Also prevents them from reducing, although if that is happening, you have other problems to worry about.*
10. Add the peaches on top of the pie and mint as decoration. Serve.
11. *If serving in a Mitsukue tea room, then refrigerate overnight under plastic film. If serving to Director Muelsyse or Director Franks or anyone in Trimounts, cut into pieces first as ain't no one has time for that here.*

Gardener

**It was pretty good, except that it made me violently nauseous.**

A mathNEWS WRITER'S MOVIE REVIEW

# N REASONS TO BRING A CREATURE TO YOUR NEXT CO-OP

this list in increasing order of intensity

## 1. LITTLE GUY

sometimes the simplest argument is the most effective.



### CREATURE

you may be wondering: this is not a creature? note that i never specified that the creature must be animate. a creature can be defined by the quality of having  $n$  eyes for some  $n \in \mathbb{N}^1$ . if it's cozy, personifiable, and has little eyes to stare back at you, that doth creature make.

## 2. NFT GENERATOR

an nft (non fungible token) is a form of digital asset that, theoretically, is attributable to exactly one person. there's maybe a bit more going on there but(!) consider that the blockchain isn't real and can't hurt you. all that matters is that an nft is a file. a unique file. theoretically.

in just about any public place, any photo that you take has been taken a thousand times by a thousand other people. the average person's travel photo library is a unique aggregation of mostly non-unique elements. nothing about your non-selfie photo makes it distinctly yours.

a creature changes this. anyone can take a photo of the brooklyn and/or golden gate bridge. only you can take a photo of your creature at the aforementioned bridge. it's a stamp; a marker of your travels that makes them unmistakably yours.



**IF YOU MEET A FRIEND IN THE WILD, YOU CAN COMBINE YOUR NFTS INTO A SUPER-NFT**

## 3. MOTIVATIONAL ASSISTANT

your creature is going to have some recognizable trait.

mine is a grogu.<sup>1</sup> a friend of mine has a goose as bought in south campus hall. yours might be a bear, a mouse, a macaron, or a junimo. in almost all cases, it will have some recognizability within the wider world.

what this means is that there's funny places in the world to bring your creature. bring your bear to the bear sanctuary; he deserves to see his family. bring your goose to the park for the same reason. if you have a macaron, bring him to the local bakery (but don't let him see the patrons).

ideally, these are locations you might not have independently sought to see. the creature gives you a reason to visit. it's inanimate; it can have no independent material influence on the earth. despite this, it pushes you to go outside. to spend your weekends not on teamfight tactics, but instead experiencing strange corners of the wonderful city co-op has led you to find yourself in.



### MEETING THE MAKER

i mean are you fr *not* going to bring your baby yoda to the yoda statue?

## 4. SHARER OF MEMORY

co-op often leads you far, far away. calgary? windsor, nova scotia? the bay? you could be anywhere. there's a reasonably good chance that place you land won't be waterloo.

it might be frightening. lonely. often, these faraway places feel distinctly alien. they're not like home at all. they have no farah's foods.

homesickness loves co-op. it loves the perfect mix of isolation and alienation co-op provides. there's a few remedies to this; most of them involve trying to bring home with you. listen to KW radio. call your mom. text your friends. these things help.

so does a creature. on a bad day, you might feel like you're more isolated than you've ever been. you're the lone envoy; waterloo's sole hail mary dispatched into a deeply alien land.

i won't say you're not alone. you definitely are. the creature, however, means that you're alone together.

the resilience found within beady eyes is more than you may expect.



**HE LOOKS, BUT DOES NOT SEE**

## 5. EXTERNALIZATION OF THE SELF

here is some of the best self-care advice i have ever heard:

you are not as rational as you think. primarily, you are an evolved wild creature, that just so happened to accidentally learn to think. you may think you're feeling bad for highly rational causes, but 90% of the time, your inner creature is at fault.

you are both the tiger and her zookeeper.<sup>2</sup> the tiger needs food, water, sleep, and enrichment. you must provide her with these things, otherwise she will be very upset.

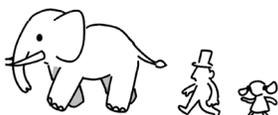
the small creature you bring on co-op externalizes the tiger.

it's one thing to try to remember to bring yourself on an enrichment walk. it's much easier to remember to bring the creature on an enrichment walk. the effect is the same; you become mentally and physically healthier, and the creature changes not at all. yet somehow, the externality makes it much more fun.

take it for walks. each day, put it in your backpack and take it outside. take photos of it in funny and unique spots. climb a mountain, then give yourself a pat on the backpack for having both made it to the summit. run away for a weekend; take it to see neighbouring cities. you're taking yourself to do all of these things too, but nevermind that—the focus is the creature.

the inanimate object serves the psychological function of a self-care proxy, encouraging and motivating positive behaviours to maintain and improve your present mental state. your creature's contentment is your contentment.

it's silly. really, *really* silly. but it works wonders.



**I AM BASICALLY LUKE SKYWALKER.**

*the legend of zelda* (1986) told the world that "it's dangerous to go alone." it remains true. homesickness *will* get you if you're not careful; it might even get you if you are careful.

bring a creature. hug him. squeeze him.

name him george.

molasses

1. if you disagree with this characterization of a member of yoda's unnamed species as a grogu, 1) okay you're right and 2) i encourage you to investigate physical contact with your nearest grass planet. i hear takodana is nice this time of year.
2. [https://www.reddit.com/r/adhdwomen/comments/14318sh/this\\_may\\_not\\_work\\_for\\_me\\_or\\_any\\_of\\_us\\_but\\_it/](https://www.reddit.com/r/adhdwomen/comments/14318sh/this_may_not_work_for_me_or_any_of_us_but_it/)

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UW'S BASTION OF ERUDITE THOUGHT SINCE 1973

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## DSC DATASET 4?

### I'M LOSING COUNT AND MY MIND ATP

welcome back from reading week everyone!!! hope you did something fun or relaxing bc these next few weeks will be rather torturous... how about you have some fun with dsc though? i'm sure we have an event that matches your style of escapism babygirl 😊

- do you ever wish you were in vegas instead of mc? or are you playing balatro or pokle after class? join us for casino night thurs march 3<sup>rd</sup> and gamble no money to your heart's content, perhaps with a mocktail in your hand
- love playing games such as minecraft, terraria, or skyrim? come learn about the math behind their infinite worlds and build your own game at our AI gaming workshop! start your quest in STC 0040 mar 9<sup>th</sup> 7–8 and collect your starbucks on the way
- are you scrolling linkedin like there's no tomorrow, or are you DS-curious but don't know where to start? if that sounds like you, come to our data science across sectors event and hear from speakers across numerous fields talking all about data science! and you know we got good food
- just looking for a chill time? yk you can come visit the office... we got fake plants and couches to make you feel comfy at home (bc you're in MC ofc) + you can lovingly serenade the neighbouring mathNEWS editors!! [Editor's note: 😊]

anyway, to keep updated with all our event details, make sure to follow us on insta @uwaterloodsc!! i heard there's some cool baddies making some funny reels there

now for the exec quotes teehee:

- is barrie in 'sauga?
- IM NOT A COUGAR
- watch some proper spy movies or get a lobotomy
- omg hbd superior and subordinate
- lick ur monitor mmm candle stick
- put him into ur next erotica novel
- brhu why are welinkedingin at 1pm in themorning guys
- I will set u up w 180+ faang man
- we gotta embrace our inner asians and take off our shoes in the office
- VUH EEE VUH EEE EEE
- ladies relax u can all be my sugar momma
- im on da plot
- does p69 apply to ta's as well or just profs/faculty
- why do you have ownership over all the 5'2 abgs
- 我是女权主义者 ☹️
- theres girls at roblox ???
- saskatoon vacay !!!
- cougar x cougared
- gay homosexual man lover
- i like to cry like a good girl

(your quote could be here btw) (consider joining dsc next term) (we don't bite ankles i swear) (please please please) (we had karaoke social and it was so fun you wish you were there) (i swear i have proof from design look)



(love you lily my icon) (anyway apply next month and we can sing 2010s trash and end up in the ACE discord) (true story)

UW Data Science Club

## N REASONS YOU SHOULD JOIN WARRIORS BAND DRUMLINE

- Playing the drums increases your aura
- You don't need to know how to play (we will teach you)
- Free tinnitus! (or just bring earplugs)
- You can larp as a student at an American university for an hour and a half
- It doubles as a workout (the drums are kind of heavy) (and sometimes we march)
- Get involved with the community by hurting people's ears in public!!!
- It's lots of fun!!!!

closeted atheist

mathNEWS

# CSC FLASH MAKES A RETURN

## CSC UPDATES:

- We hosted some amazing graduate researchers from UofT and Waterloo to speak on frontiers of computer science research as well as their experience as researchers. Recordings will be uploaded to YouTube @UWCSC if you want to re-watch. Part III is coming in late March, stay tuned! Kudos to the external affairs and events staff who helped make this happen. Checkout our Chinese New Year decorations at our office at MC 3036/3037! Kudos to all the OrgCom staff and members who helped out!

## UPCOMING EVENTS:

**MARCH 4<sup>TH</sup>: ATLISSIAN X CSC BINGO NIGHT BINGO NIGHT WITH ATLISSIAN**

A laid-back game night where you'll play bingo using "day in the life" dev moments instead of numbers.

### What to Expect:

- Bingo with real CS and student-life scenarios
- Short, relatable stories from an Atlassian engineer—Relaxed networking with an Atlassian engineer and recruiter
- Free Atlassian swag for attendees, plus prizes for bingo winners

**MARCH 5<sup>TH</sup>: AFTERHOURS**

After-hours is a space for CSC members to discuss uncomfortable topics overlooked in the daily grind of university and co-op. Topics we'll be discussing include defining happiness, finding ways to grow outside of uni/career, becoming an adult, managing relationships, and avoiding academic/job search toxicity. Attendees will be able to freely rotate between discussions in a close-knit, non-judgmental environment. As you rotate between different discussions, you'll get the chance to hear personal stories from moderators and other attendees, as well as share your own experiences in a close-knit, non-judgmental environment.

Also stay tuned for our Prof. Talk as well as signups for our student-led flash talk, Alt-Tab!

## CSC QUOTES:

- "CSC is cool because I'm in it"  
– Beef, Co-Office Manager
- "I think you might have caffeine sensitivity?"  
– Cole, Asst.Trez
- "Yea I flinch every time I SSH into Caffeine"  
– Beef, Co-Office Manager
- "Nooo you are runing my chances at Palantir"  
– Ohm, System Committee

- "How can I bet on this"—VP Solano, CSC Office Staff

This edition of flash is brought to you by: Enming, tired president, excited external affairs lead, makeshift flasher

csclub

## WHAT IS YOUR FAVOURITE WATER FOUNTAIN ON CAMPUS?

- The one in AL right when you walk in
- CIF field house
- Conrad Grebel
- DC (x2)
- E7 first floor
- EIT second floor by some rocks
- ERC second floor
- EV3 first floor
- The first floor IQC one, it's come in clutch during many an exam
- M3 second floor
- MC third floor by Comfy (x4)
- MC third floor by Comfy *but* two years in the past
- MC second floor near the elevators near the construction
- Third floor MC male washroom when they made it really cold (but I don't drink it or anything I just put my hands in it) (x2)
- PAC 2<sup>nd</sup> floor, 1<sup>st</sup> water fountain from the stairs (x2)
- PAC second floor by the weights
- The one outside PHY 145
- The ones here in QNC
- The SJU ones someone claimed to piss in in first year
- SLC
- The STC one but I hate it
- The one in V1 just next to the exit of the cafeteria
- I don't drink water
- None
- The EGG (x2)
- The Fountain of Youth
- St. Mark's elementary school (Hamilton) in between gym and atrium
- The one in the School of Architecture in Cambridge



# profQUOTES

## AMATH 373: GRAEME SMITH

“ Last week was reading week. Do you know what that means? I didn't mark your midterms.

## AMATH 445: MOHAMMED KOHANDEL

“ Also my first time doing this course's midterm.

## BU 413: GERRY RAMOS

“ So how did a pension formula impact 9/11?

“ Let's not end today with divorce. Not a good thing to end today's lecture on.

## CS 146: BRAD LUSHMAN

“ This is what, in the industry, we call “bad.”

## CS 442: BRAD LUSHMAN

“ That's a nice zeta by the way. These are hard to draw.

“ What's an influencer way of saying it... if you manifest it, it will happen.

“ WE DID IT. We did it, and all we had to do was to wish hard enough for it to exist.

## CS 341: ELENA GRIGORESCU

“ *[referring to a DAG of confusing cooking directions]* This is a slide made by a guy.

## CS 447: WEIYI SHANG

“ Before 1944... *[chuckles]*

## MATH 136: RACHAEL ALVIR

“ Your failure will help you find a counterexample.

## MATH 148: ALEXANDRU NICA

“ ... Why didn't we throw bricks at that fellow?

## MUSIC 240: BRIAN LEFRESNE

“ TD insurance is the worst. They literally trolled me.

## PMATH 351: JESSE PETERSON

“ I promise you won't get less than a zero on the exam.

“ You're gonna tell your grandkids about this. “Sixty years ago, I took this course called PMATH 351, and the proof was so beautiful...” *[about the Borel-Lebesgue theorem]*

“ To borrow a term from ‘Tenacious D’, “This is gonna be the best lecture in the history of lectures, it's gonna be beautiful, you'll love it.”

“ Please hold your applause until the end of the proof *[of Borel-Lebesgue]*.

“ I was hoping to do it all in one go, well, maybe this isn't the greatest lecture in the world. *[class applauds anyway]*

## PMATH 352: JASON BELL

“ If you could have one mathematical dream come true, what would it be?

“ *[starts erasing board]* *[student: wait — could you not erase that?]* Oh, you want to take a picture of it? Alright. *[immediately continues erasing the board]*

“ I promise we're almost done with the first part of the proof!

“ I'm not going to write this proof, but I am going to draw this proof.

“ If this is polygoly — wait no polygo... you know if this is connected by a polygon [...] POLYGONALLY, there I can say it. But I can't prove it because we have 3 minutes left.

“ You only live once.

“ I did say last class, that we were going to cover everything up to last class on the midterm, but I didn't finish the Identity Theorem, so if you were thinking “Aww, cool, I bet he's gonna put that on the midterm!”, no, I won't.

“ You think I go around crushing people? *[several minutes later]* ... so I do crush people sometimes.

## PMATH 365: SPIRO KARIGIANNIS

“ *[student: can we just do the two-by-two case and say we observe a general pattern on this assignment question?]* What do you expect I will say? *[student: Yes.]* No.

## PMATH 370: KEVIN HARE

“ With horrible loss of generality...

## PMATH 445: ALEX COWAN

“ *[student: is it obvious that the induced representation is an invertible matrix?]* *[thinks silently for about 20 seconds]* I guess it depends on your threshold for obviousness.

**PMATH 454: NICO SPRONK**

- “ I have a nearly perverse love affair with functions of summable Fourier coefficients.
- “ As I have admitted to you, this is a fetish of mine. I mean you’ve seen it on how many assignment questions?

**PMATH 464: JESSE HUANG**

- “ [on Wikipedia page for enumerative geometry] These are some examples of the things that autistic people have counted.

**PMATH 945: JASON BELL**

- “ Now I’m gonna do a lemma... wait is this a lemma? I think it might be a theorem. No wait, it’s definitely a criterion.
- “ We don’t really have that much time, for some reason. I guess, I... I don’t really know what’s going on, most of the time.

- “ We’re running out of letters. [has only used the letter M]

- “ [doing in-class proof] Now let’s get into MY head and ask, “Jason, if you were proving this what would you do?”

- “ Is it reflexive? Definitely. Is it symmetric? Definitely. Is it transitive? [pause] ... definitely?

**PMATH 950: MATT KENNEDY**

- “ [on notation] He said it was an abomination. I like it. Basically because he said it was.

**STAT 230: CHELSEA UGGENTI**

- “ [talking about strategies for the second midterm] Not write it... not a suggestion I’d recommend.

**STAT 341: ALEX STRINGER**

- “ [I’ll be] going to Nordique. A boys’ spa day. It’s completely normal.

**STAT 443: REZA RAMEZAN**

- “ I like the convexity from this one, and I like the variable selection from this one! And I want a Lamborghini. You can’t get everything you want.

**STAT903: AUKOSH JAGANNATH**

- “ I should have prefaced this lecture by saying, I’m going to take you guys on a ride.
- “ And there’s no way I can test this, but you guys NEED to see this.

# THE COMPOSTING SITUATION AT WATERLOO

*I THOUGHT WE WERE SUPPOSED TO HAVE A WHOLE ENVIRONMENTAL FACULTY OR SOMETHING*

guys how come there are no composts on campus

i will regularly go to events that bring compostable cutlery and paper plates

and i ask for the location of the compost

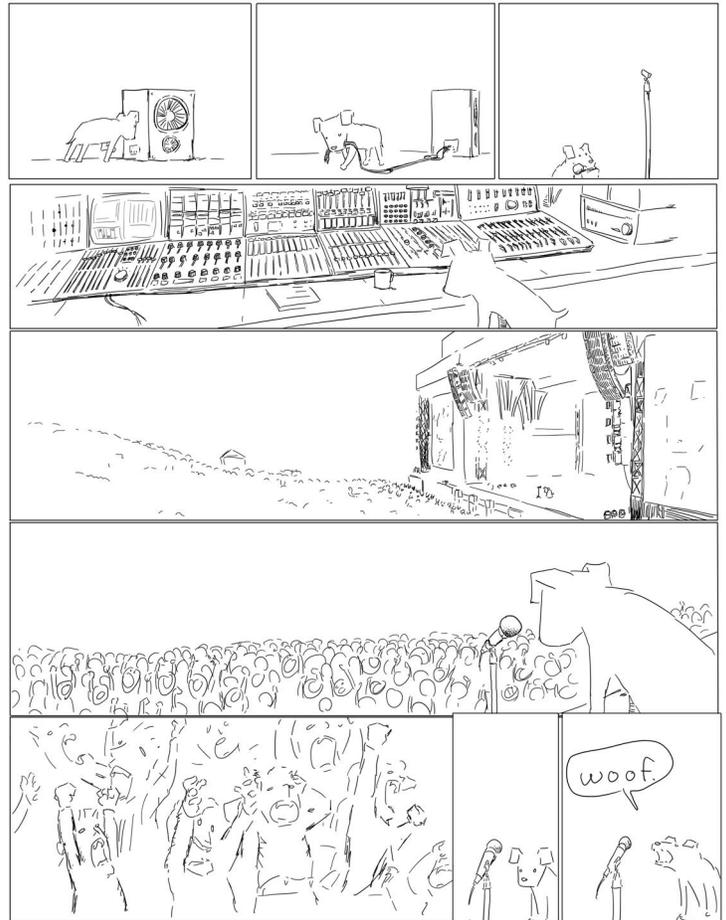
but alas

they point to garbidjge :( and say “no compost for you little wasian boy”

:(

golgothasTerror

## DOGGONE IT



# I DON'T DRINK THE COFFEE AT CnD

I don't drink the coffee at CnD.

My friends know this rule that I abide by sternly, yet they continue to get coffee from that foul place. So, I have decided to document the horrors, so that no more students fall victim to the same experience as I.



My routine involved daily confinement within the brick walls of MC, fueled by the goods at CnD. I needed coffee to keep me awake during back-to-back lectures.

On this particular day, nothing struck me as unusual as I made good of my routine. CnD was its usual busy self for 11:25am on a Tuesday. Coffee and donut fiends got their fix between classes and students agonized over assignments at the tables.

I filled up a small cup with hazelnut-flavoured light roast, when I suddenly felt a chill run down my back. Something just felt wrong, and a sense of dread rippled through me. Hesitantly, I turned around, and I found CnD completely empty.

The line, the cashiers, and everyone idling behind me were gone. Still clutching my hot cup of coffee, I lapped around the tables and booths. There was no sign of anyone. No bags, no laptops, no pencils, no crumbs, no eraser shavings. Everyone and any evidence of their existence had been wiped clean as I was filling up my drink. There were no students to be found on the 3<sup>rd</sup> floor of MC.

Now, my mind was racing. Am I dreaming? Am I going insane? The only thing I could conceive of to do was to return to the coffee station. That was the origin of this madness, so I thought if I return, everything will go back to normal.

Back at the hazelnut-flavoured light roast dispenser, I closed my eyes and took a deep breath. Surely this was some figment of my imagination, something too many late nights and caffeine had concocted inside my brain. While I continued to reassure myself, I heard a noise to my right, which made me jump. The door to the storage area slowly opened and squealed with every inch. Like a fool, I approached the door, hungry for answers to the strange disappearance of civilization.

When I pushed the door open, my ears popped and I felt a sudden pressure on my chest. I expected to see boxes of paper cups and other stored necessities, but what I saw instead was pure chaos. The world that stretched far beyond the limits of the storage room, full of motion and horrible noises. I covered my ears as thousands of voices were shouting, layering on top of each other and speaking in languages which couldn't have been born from humanity. Even so, I couldn't tear myself from continuing to stare into this view of chaos. It burned my eyes, but I needed to comprehend what hellscape I had stumbled upon.

My view was bordered by swirling, moving shapes which were nauseating to look at, and within these shapes were many forms writhing and wiggling, moving in rhythm with the horrible shouting and moaning. Merely in my comprehension I made out a larger, glistening body sitting on a pedestal in the middle of the smaller forms. This larger form seemed to absorb light making it an impossible dark colour, but at the same time, it shined and reflected light from sources that didn't seem to exist. Although it did not have visible eyes which I could conceive, I knew it was staring directly at me.

The horde of smaller forms slightly quieted their moaning and flattened, becoming a sea of viscous liquid. A deep hum began, and the dark-shiny thing grew even larger, as it seemed to absorb some of the liquid. As it grew, the rhythmic humming quickened and I realized it was coming closer to the entrance from which I was peering into this world. I had lost my sense of self at this point—my heart was pounding in my chest but I was entirely numb, frozen in place. The only thing I could comprehend was the fact that I was not supposed to be here and this thing will consume me.

The being grew in size and continued to glow and absorb light, and the pressure on my eyes increased, but I still could not close them. I continued to watch as the being filled the entrance way and oozed towards my feet. I continued to watch as it enveloped my shoes, my legs, my chest. I continued to watch as it covered the arm and hand which still was gripping the coffee I had poured earlier. I continued to watch as it sucked the coffee from the cup I was holding, the humming buzzing so loud in my ears that they began to ring.

Once my cup was empty, the humming quieted and the thing shrivelled and shrank back through the doorway, back into the terrible place which it had emerged. I still stood there, mortified at the thought that I was actually experiencing any of this. The storage door slammed shut, which made me stumble backwards and out of my daze. I stumbled into the refrigerator of drinks, my head pounding and vision blurred.

I had regained my senses a moment later to find a few students staring at me with a concerned look and others approaching to verify my wellness. I mumbled something along the lines of I'm fine, just low blood sugar. I still needed to process what awful dimension that had just been revealed to me.

I looked down at my hands, which trembled slightly. I realized I was still gripping a coffee cup, nearly crushing it. A dark liquid was inside, but not of the hazelnut-flavoured light roast. Instead, the cup had remnants of a black, slime-like substance that somehow absorbed light and reflected light at the same time.

ilovekatebush



# A STREETCAR DILEMMA

You are manning a switch that governs a fork in a trolley track, where something valuable has been tied to both the upper and lower paths; your switch is set to an indeterminate state.<sup>1</sup> Suddenly, you find a trolley barreling toward your fork. Its brakes are broken, and the fate of the valuables is in your hands.

On the upper track, one human baby is strapped to the tracks. On the lower, ten intelligent border collies are also tied down, whimpering as they shiver on the cold rails, helplessly. Which do you choose to save?

Seems like a no brainer to a lot of people. In fact, I used to think *everyone* would choose the baby, every last person. But I see now that I was a fool to speak such platitudes, since it turns out I know a real, sane person (friend, even) who vehemently states they would choose the dogs any day of the week. “A life is a life.”

I will attempt to steel-man their argument, to give you the best chance of being convinced that ten dogs are worth more than one baby.

In their capacity to experience pain, dogs and humans are quite alike: we are both pack-focused, social creatures, with an understanding of our environments deep enough to feel proper mourning when something is lost. Since the measure of pain is the most robust measure of suffering we know of, and cumulative suffering is how we compare moral failures, then killing a dog and killing a human represent a roughly equal moral failing.

Catch that? No worries if you didn't; I already caught it and threw it in the trash.

Joking aside, it is definitely surprising that a real, thoughtful person can consider ten dogs to be worth more than a human baby. What might be less surprising, though, is that there are people who consider *all dogs in the whole world* worth more than a single human baby. If forced to choose between evaporating every dog on the planet or a single random baby, I bet you would lean towards the baby.

Now, I want to steer your attention towards a more abstract view of this streetcar dilemma. It's only a dilemma insofar as the things at stake have intrinsic or extrinsic value. Because a baby or a dog has potential to become something more than it is now, we call it “good,” and because a baby or a dog has feelings, we say it would be “bad” if it died.

So what if we built something, artificially, that had feelings?

Let's call this imaginary, artificial entity with feelings “AF,” for Artificial Feelings. And let's imagine that AF also has the potential to become something more than it is now, to grow into a tool of some kind that has extrinsic value.

Suppose you are manning a switch that governs a fork in a trolley track, where on the upper path is tied a human baby, and on the lower track is tied ten AFs. A trolley is barreling down toward the fork, and its brakes are broken, so the fate of the baby and AFs is in your hand. Which do you choose to kill?

I suspect you are killing the AFs. Although, from our earlier discussion, it would be possible to design an AF to be morally equivalent to a dog, and thus, a person who would save ten dogs over the baby would also save the ten AFs over the baby. But of course, you would save the baby.

So what if it was all AFs in the world?

Or, equivalently, what if it was a single AF that had the potential to birth an infinite number of new artificially feeling tools, ones that could each live an equally emotionally fulfilling and extrinsically valuable life as the original AF? An autonomous, man-made creation that could learn and grow and become more and more extrinsically valuable—useful—after each generation?

I know you would save all the dogs in the world over a single baby. So would you kill a human baby rather than kill this AF?

Maybe you wouldn't. But capitalism certainly will.

**no pun indented**

*Some readers have pointed out this article seems like a discussion of the moral implications of Artificial General Intelligence. Perhaps this is true. Perhaps not.*

1. For the sake of the argument, if the switch is still left in an indeterminate state when the trolley reaches it, it will explode and destroy both sides of the track in a fiery mess, taking you along with it. For the sake of the argument.

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## A HAIKU

the midterm snuck in  
syllabus changed, halfway through  
pmath333

**golgothasTerror**

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## HI

**POST CALC II MIDTERM**

rotate my brain on an axis and split it into disks



dx

# EVERYONE SAY YAYYY FOR THE OPABINIA!!!!

I've been reading about the Burgess Shale lately (specifically Stephen Jay Gould's *Wonderful Life: The Burgess Shale and the Nature of History*) and I was very intrigued by the Opabinia, so now I want to yap about these little critters. Please note that I do not claim to be an expert in any of this!!

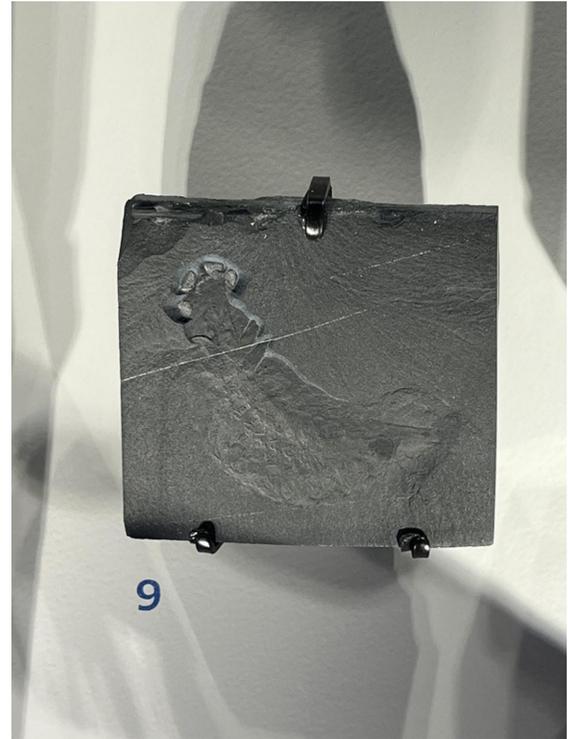
Anyways, for context, the Burgess Shale is where thousands and thousands of Middle Cambrian-era fossils have been excellently preserved, possibly due to a mudslide that suddenly killed them<sup>1</sup> (the fossils are about 500 million years old! that's older than my dad for context). This site was discovered in 1909 by Charles Doolittle Walcott, who excavated and carted off many fossils to study.<sup>1</sup> However, he assumed that *all* the critters found at the Burgess Shale were the ancestors of modern creatures, meaning many were miscategorized, and remained so until major revision efforts happened decades later.<sup>1</sup>

Also, unrelated fun fact, the etymology for multiple Burgess Shale critter names come from the Stony First Nation Nakoda language. For example, the name *Wiwaxia* comes from the word *wiwaxy*, meaning windy.<sup>2</sup> There are also silly names like the *Santacaris*, which basically translates from Latin to "Santa Claws," an informal nickname inspired by its front appendages.<sup>1</sup>

Now for the Opabinia itself!!!

Most Burgess critters appear to be squashed flat, and obviously not all the gooey bits preserve well, meaning it's difficult to reconstruct a 3D version of them. The general reconstruction of the Opabinia comes from Harry Whittington's 1975 monograph on them. It included a depiction so strange that when it was first revealed at a conference, everyone laughed!! The Opabinia's most notable feature is its five eyes and trunk-like appendage that ends in a claw shape. The trunk is just long enough to bring food to its backwards facing mouth, and the whole animal was about 5 cm in length.<sup>1</sup> The general reconstruction hasn't changed significantly since the 70s, but in the 90s, Graham Budd proposed that the Opabinia had some soft limbs.<sup>2</sup> This proposition has not been accepted by everyone, and it doesn't seem to be fully resolved.<sup>2</sup> Additionally, the Royal Ontario Museum has been heavily involved with studying the Burgess Shale for the past few decades. They also have Opabinia fossils on display!

Like this guy:



The Opabinia has an intriguing history regarding its classification. Walcott claimed it was a crustacean in the phylum Arthropoda (other arthropods include spiders, insects, creepy crawlies, etc.), but he couldn't find many traits that modern arthropods have, so he concluded that the missing features weren't preserved well but *probably* existed.<sup>1</sup> Skipping ahead to Whittington's 1975 monograph, he used a dental drill to carefully examine the fossils and claimed that Walcott couldn't find the missing features because they never existed, therefore the Opabinia cannot be an arthropod at all!<sup>1</sup> He thought it might not even be a part of any modern phylum. This is also the stance that Gould takes in his book and is central to the book's general argument of maximal disparity followed by decimation.

Meanwhile, cladistics introduced the idea of stem groups and crown groups. From my understanding, a stem group is a subset of a crown group (specifically, it consists of extinct species), and everyone in the crown group has a shared common ancestor. With this in mind, in 1994, Budd placed the Opabinia in a stem group of arthropods, essentially giving it a home again.<sup>2</sup> It may lack key characteristics that modern arthropods have, but this method of classification avoids having to create a new phylum every time something in the Burgess Shale doesn't match perfectly with modern phyla. Yes, Gould's book is outdated, but I think there's still value in reading it! I also just started reading Conway-Morris' *The Crucible of Creation*, which is partially a rebuttal to *Wonderful Life*.

**About 10% of my papers  
are published purely out  
of spite.**

GRAEME SMITH

To summarise all that, the consensus now is that the Opabinia is an arthropod, although not the direct ancestor of modern arthropods. Assumptions about the Opabinia have changed a lot in the past century, meanwhile, the fossils themselves haven't changed in the 500 million years since they formed!

Anyways, this went more into taxonomy than I thought it would. I just like looking at pictures of the Opabinia and going

gnrgkjbnfdjivnvenjdfnvejfvnkejfvn. I hope you will do the same :D

meenal

Sources:

1. *Wonderful Life: The Burgess Shale and the Nature of History* by Stephen Jay Gould (1989)
2. <https://burgess-shale.rom.on.ca/fossils/opabinia-regalis/>

## MANDATE BIDETS NATIONALLY

Bidets have the greatest ratio of quality-of-life improvement to cost out of any consumer item. First I will convince you of the power of the bidet; then, I'll campaign for why Canada should mandate bidets be used in all bathrooms.

The bidet uses water to clean your ass-ets—that's it. Water thoroughly cleanses your bootay because it can weave through every crevice, navigate the hairy forests and get rid of shit cos shit is mostly soluble. With bidets, your hands are completely risk-free of any mess, and you don't need toilet paper (I use a single sheet to dry off). But the most important thing is the UX. Public toilets aren't even single-ply, closer to fractional and it's only gotten worse. Every business tries to cut costs, so what was double-ply twenty years ago becomes single-ply after ten, and now half, and in ten years more it'll be quarter. The plyness is negatively exponential over time. That's not even accounting the texture; closer to sandpaper than cashmere. And what about when it runs out before you're done? You're literally SHIT OUT OF LUCK. A bidet avoids this whole charade—it's just water, attached to the same plumbing we already use. And? It's cheaper! WATER IS SO MUCH CHEAPER THAN TOILET PAPER YOU COULD CLEAN YOUR POOPHOLE FOR MINUTES AT A TIME AND IT'D STILL BE CHEAPER.

But the worst part about a bidet is that you can't appreciate how great it is until you try it, it's like Mary's Room—Mary's a scientist who's lived in a black & white room her whole life and studied all the theory related to colour science, without ever seeing one; all that theory doesn't prepare her for the "qualia" of the real. A bidet is similar, it's a transcendental experience, which is also a course—once you use a bidet, anything else seems archaic and primitive. I've started carrying a portable bidet around with me to avoid ever going back, but a national mandate would be more effective.

There are three main types of bidets:

- Freestanding bidets: Separate toilet-looking fixture very common in Italy.
- Toilet-seat bidets: Attachments that stream water directly from a regular toilet. Most common one, popular in Japan.
- Handheld bidets. Tiny hose-like attachment you manually maneuver to rinse yourself. I'm most

familiar with this one, since it's common in the Middle East and South Asia.

While I'm personally partial to the handheld bidet, I recognize it's pretty difficult to use sometimes. With every new bidet you need to negotiate what the water pressure is to avoid squirting a firehose up your rectum. Since freestanding bidets would just take up too much space, so my proposal is to mandate toilet-seat bidets.

The reasons for a mandate are similar to the personal reasons for choosing a bidet, but there's also societal benefits. People with hemorrhoids love bidets because it's gentler and less abrasive. A bidet can guarantee cleanliness, whereas, with toilet paper it's up to the discretion of the user when they want to "give up." Have you ever tried to use toilet paper with diarrhea? If we made diarrhea easier to clean up imagine how much more Lazeez you could eat. But finally, there's a national identity argument that really takes the cake. Canada is a nation of civility, nobility, and virtue. Canadians have the most pride in our free healthcare system,<sup>1</sup> more than our democracy and constitution. But another source of pride is our not-being-the-US; almost 56% of people consider it a major source of pride.<sup>2</sup> We could get so many moral victories if we became the clean, sophisticated, bum-washing society. In our current national crisis, losing men and women's Olympic hockey to the yanks, we need something to rally around to show our superiority. I believe a national bidet mandate is that grand unifier.

iceBurj

1. <https://www.statcan.gc.ca/o1/en/plus/4009-almost-three-four-canadians-have-strong-or-somewhat-strong-sense-belonging-canada>
2. <https://abacusdata.ca/68-percent-of-canadians-take-pride-in-their-national-identity/>



# WINTER OLYMPIC SPORTS I GOT ADDICTED TO

So ends the season where Canadian hockey fans root for Brad Marchand and not Auston Matthews; that right, the 2026 Winter Olympics concluded this past Sunday. I feel like this year I was addicted to the Olympics more than ever. I was aware of all the drama in the Olympic Village, and yes, all the Olympic ring shaped pasta looked amazing. I also got loved seeing all the reactions to receiving the Tina (Olympic mascot) plush; I'm thinking of you Nathan MacKinnon. Hopefully during reading week everyone had some time to watch a couple of the events. Here are the sports I got addicted to watching during reading week:

## FIGURE SKATING

Okay, all the figure skating gala performance is currently living rent free in my head (if you don't know what I'm talking about, please google it). Figure skating has always been one of my favourite Olympic sports to watch. I grew up watching all of Tessa Virtue and Scott Moir's dances, and even to this day, I still occasionally watch their Moulin Rouge performance at the 2018 Olympics. I've always loved watching all the choreography; some of the lifts with the pairs or jumps with the singles are incredible. Plus, the costumes are always so pretty. My personal favourite were Piper Gilles and Paul Poirer's Starry Night themed costumes. Maybe that costume is there good luck charm because they won the bronze medal; fun fact this was their third Olympics, but first time winning a medal.

## SPEED SKATING

I had never watched speed skating before, but it was lowkey super interesting. It's so cool. They have to be going so fast, and it takes so much skill; like if they didn't place their arm in the right position, they fell and their race was over. Also the skates are super cool. Before last week, I didn't even know they wore different skates than figure skating or hockey. Shout out to Courtney Sarault who won four medals, making her the first Canadian speed skater to win four medals at a single Olympics.

## CURLING

I feel like curling really became a popular sport this year, but maybe that was because of all the cheating allegations. Okay, maybe they cheated, maybe they didn't, either way they won that match so what can you do. However, whenever I turned the TV on, I felt like curling was always being played. Curling seems like a fun sport though; I feel like I should try it some time. It definitely seems like there is some strategy involved, and definitely some math to get the rock to go where they want it. I guess everything worked out though because the Canadian women's team won bronze and the men won gold.

## HOCKEY

Okay, this one is a sore spot right now; my heart was broken when both the Canadian women and men's teams lost the gold medal game in overtime. I promise I am happy about the silver medal. Lowkenuninley, I am proud of them. I didn't know how overtime worked until this week, but now I am not a fan of 3-on-3. All things aside, I had lots of fun watching most of the games. It was definitely stressful at times, but I couldn't stop watching. Once both teams made the quarter finals, I didn't miss a game. Even if I was out at the time, I would be constantly refreshing my phone for score updates. I didn't really know much about some of the players beforehand, but now I feel really educated on Canadian Hockey players. Shout out to Macklin Celebrini who is my age and also an Olympian! But don't worry everyone, 2030 is going to be our year. Sidney Crosby is still going to be playing, and the "Mac" Trio is going to be better than ever. I'm telling you, both teams will be winning the gold medals!

Hope everyone enjoyed watching the Olympics. Be sure to stay tuned for the Paralympics which are running March 6 – 15. Lowkey, the Paralympics deserves more recognition, but that's a rant for another day.

is.all.on

# A KNIGHT OF THE SEVEN KINGDOMS HONEST REVIEW

## DUNK REVIEW

As an avid *Game of Thrones* fan, I was so excited when the announced their new series, *A Knight of the Seven Kingdoms*. Now that the finale is out, I have to give my most honest, incredible, insightful review.

The show is based off the *Tales of Dunk and Egg* novels written by George R.R. Martin. We follow the story of Dunk, an incredibly tall and dense hedge (aka not important) knight in Westeros, as he tries to make a name for himself, and some cash, in a jousting tournament after the death of his master. On the way to the tournament, he unintentionally recruits a enthusiastic squire, a little bald kid named Egg (Caillou lookalike), who accompanies him as he tries to enrol

himself in the tournament, which proves difficult having no one witness his apparent knighting, or remember his master. Luckily, he makes some important friends, and they agree to let him participate. But before he can even enlist, he gets himself, and his squire, in to some big big trouble with like just like a prince of the realm or something.

Starting this show, I expected very little after struggling to make it through the horrible plots of season seven and eight of *Game of Thrones*, and giving up entirely watching *House of the Dragon*. But I was pleasantly surprised. It was refreshing following the story of a common, simple hedge knight in the Seven Kingdoms, as opposed to the previous shows focusing

on prissy high borns and rich nobles. The Targaryens still play a crucial part in the plot, but the story focuses almost entirely on Dunk and his trials and tribulations. We get to see what it actually takes to be a knight, given you weren't born rich or with status. The story overall is incredibly well written, including some top tier bromances, the right amount of action for a medieval story, and lacks the usual components of incest and paedophilia, which is basically a Christmas miracle for R.R. Martin. It's incredibly easy empathise with Dunk as he struggles with the ups and downs of knighthood, unfairness of the world and finding himself in a world full of nobles and princes.

And don't get me started on what an amazing character Dunk is. It's such a breath of fresh air to see genuinely honourable character and kind character on the screen for once, especially in a show in this such universe. George writes an incredible character who sticks to his morals and values and embodies true knighthood, despite the encouragement and corruption of those around him. His squire, Egg, is an incredibly intelligent child, displaying empathy for the "smallfolk" despite his SPOILER incredibly high status.

The other characters are quite interesting as well; Lyonel Baratheon, the Laughing Storm, a man who lives for parties and fun; Raymon Fossaway, denies his family and lordship to stand by Dunk; Daeron the Drunk, who drinks away his terrible dreams; Arieon, uncontrolled power and malice, who believed himself to be a dragon; Baelor, the perfect heir to the Iron Throne, and his brother Maekar, unfortunate father of

six. The only criticism I have is the lack of female characters. Although it would have not been historically accurate to include women in the tournament, there was still opportunity past the one-dimensional supporting women in the show for some incredible female characters. But alas. The casting for all these characters was perfect, and the actors did an incredible job.

The visuals for this show were lowkenuinely beautiful. The music was perfect. The costume were mostly good, but some of the armour looked far too polished for a medieval universe. Going in, I also didn't realize this show was considered a comedy. Although horribly placed (in a craptacular way) there are some funny, mostly cringeworthy moments. But don't get me wrong, the show was just as dramatic and over the top as *GOT* and *HOD*.

Overall, my expectations were met and exceeded. The show brings something new to the *Game of Thrones* universe it extremely needed: a story of a smallfolk making a name for himself and sticking to his morals and values in a world full of corruption and on the brink of war. And it's also completely smallmouth bass free!! I'm excited to see where Dunk and Egg go next as the continue on their adventures through the seven (erm actually it's nine SHUT UP LITTLE BRO) kingdoms. I could not recommend this show more, and I hope you all give it a watch!!

smallmouthbasshater

## SHE JALA ON MY PEÑO TILL I POPPER

### RECIPÉ NO3: JALAPEÑO POPPERS

I'm sorry. I'll just get into it.

#### INGREDIENTS:

- 10 jalapeños (makes about 20)
- 4oz cream cheese (half a block)
- ½ cup shredded cheddar
- ½ tsp seasoning salt (the salt of the gods)
- 10 big slides of bacon, cut in half to make 20 (optional)

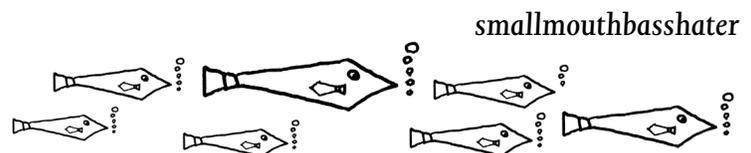
#### INSTRUCTIONS:

1. Before I say this just know they're so tasty it's worth it but PUT ON GLOVES or other hand protection your hands will burn for DAYS if you don't, trust me, I've been there, it feels like they are on fire.
2. In a microwavable bowl, put your cream cheese in and set it to the lowest setting for one minute to soften it up. Add your shredded cheddar and seasoning salt, and mix with a fork until it's all together.
3. Cut the stem off your jalapeños, then cut them in half. Then take a spoon position on top of your

garbage, and starting from the skinny end of the pepper, scrape the pepper core into the garbage.

4. Get a baking sheet and line with aluminium foil. Set the oven to 425°F.
5. Take your empty jalapeño. Fill it up with the cream cheese mixture and place on sheet.
6. If you are doing bacon, get out your bacon. Take a filled jalapeños. Starting from the top of the thin part of the jalapeño, wrap it up in a slice of bacon best you can. It's ok if it only goes around once, any bacon is good bacon. Put them back on the tray one by one, making sure they don't touch.
7. Put the in the oven for 25 minutes.
8. Eat.
9. Do dishes.

you can eat all twenty by yourself, or share with friends. whatever suits your fancy. enjoy!!



# LEGEND CHANGER

Humans have been personifying things for a long time. From ancient deities representing the sun to WWII warships depicted as anime girls, people have always been going “what if that thing had thoughts and feelings and also was maybe hot?”

The art of personification can be thought of as a form of adapting something from one medium to another with a lot more embellishing. One can interpret a country’s turbulent winds as an aspect of the national mascot’s personality, or perhaps one would draw the anthropomorphication of an animal in tall boots in reference to its fur patterns. This intersection between character design and creative interpretation is really quite cool, in a similar way a translator maintains the intent of a scene by substituting an untranslatable idiom with an approximate but not quite equivalent saying.

One franchise built upon “turning things into anime girls” is *Umamusume: Pretty Derby* by the studio CyGames, which features famous Japanese racehorses as anime girls, known as Umamusume (or horse girls), who also run in races, but also perform in concerts for some reason (it honestly might be related to how the real horses were idolized. People were selling racehorse merch and shipping “rival” racehorses long before the franchise even began). They share the names and often reflect the histories of the real racehorse counterparts, whether through the races or events of their in-game career, through the characterization and dialogue in stories, through the several side animes, movies and manga, or even just through bits of flavor text here and there.

With the success of the franchise, naturally, this has an effect on the ongoing horse racing world, like some real horses being named after some of the fictional horses in the franchise that aren’t inspired by a real horse, the popularity of certain horses, or even just the general culture surrounding racehorses. But recently, on the anniversary of the JP version of the mobile game, CyGames revealed the Umamusume design for the horse named Forever Young.



What makes Forever Young (or affectionately, Ebayan) so interesting is that the racehorse:

- is owned by the CEO of CyAgent, CyGames’ parent company
- was born on the release day of the JP version of the mobile game
- hasn’t retired yet, as opposed to nearly every other depicted horse
- is the first Japanese horse to win the prestigious Breeder’s Cup Classic
- CyGames teased her silhouette immediately right after, with the Breeder’s Cup win integrated into the design as one of the tags hanging on the right
- then won the Saudi Cup back to back, in 2025 and 2026, probably cementing itself as Japan’s best dirt horse
- is also probably a whole bunch of other things I forgot



All of this has fans give the Uma counterpart nicknames like “John Umamusume” and “nepo baby.” This combination of its accomplishments, its still ongoing career, and what feels like its destiny to become an Umamusume makes for an unprecedented situation. Thus, the question of “just how will CyGames adapt their own horse into the game” and “how the racehorse’s future career factors into it” is something many fans are probably thinking about.

There aren’t many other cases where the personification and the real thing exist in parallel to each other.



## THE DESTINY OF MARGE

### *I THINK I’M GONNA DIE IN THIS HOUSE*

Why? How do you think she felt being given cheap McDonald’s? Does she eat like this every day? She says she spends 23 hours a day in that house. Such a confined routine, how many other destinies does she have? I seem to I know the Simpsons.

# A FEW VIDEOGAME PROTAGONISTS I LIKE

## NOT COMPREHENSIVE, I RAN OUT OF ROOM

“If you truly want to understand someone, walk a mile in their shoes.” Somebody said that I think, or they said something similar. I think what they meant was that if you play as a character in a videogame you can grow really attached to them, because you get to act and live through their experiences, and you form a connection with them that can’t be found in any other medium. So uh, here’s some shoes I walked a few miles in and what I came to understand about their wearers. Or something.

### LINK FROM BOTW/TOTK

What I’ve learned about this particular Link’s character can apply to Links in other Zelda games, but I think it’s the most true for the Hero of the Wild. I find this guy so interesting because I feel like the cutscenes so often fail to capture who he truly is. It’s true that Link is courageous, and heroic, and loyal, but that’s only scratching the surface. The vast majority of typical playthroughs don’t only feature Link defeating great evils and fighting to rescue Zelda, they also feature a whole lot of other miscellaneous nonsense in between, because Link just loves to do miscellaneous nonsense. Link in these games isn’t just an adventurer, he’s an explorer, he loves to run around to new places, scaling mountains, delving into caves, discovering hidden secrets. He’s curious and clever, he experiments with the powers he’s been granted, rolling bombs downhill, freezing or reversing time, and sticking odd bits and bobs together to find unique solutions to problems. Sometimes (often) they fail hilariously, but that won’t stop him from getting up and trying something new. I also see him as a hero of the people, he’ll do any odd job no matter who asks it of him, he’ll round up chickens, slay dangerous beasts, collect ingredients for foods, and help rebuild entire towns. Of course not every person plays a videogame the exact same way, especially not ones as open-ended as BoTW and ToTK, but I feel like this is the intended experience, and therefore Link’s intended character. I feel like I’d love to know Link in real life, and I really enjoy following him through the biggest and smallest moments of his journey. That just makes it all the more satisfying to see him through to the end, and finally bring peace to the land and people that he loves.

### THE JOURNALIST FROM BUGSNAX

Like BoTW/ToTK, Bugsnax is a game where the protagonist runs around the world, doing odd jobs, solving environmental puzzles, and fighting monsters, but the Journalist’s character and motivation are entirely different. They’re stepping into the role of Elizabert, who you hear all these stories about how kind and brave she is and everybody loves her, but the Journalist himself is kind of a jerk. Like, the game gives you dialogue options, but sometimes the only things you can say are all mean which I think is really funny. The way I see it, the Journalist helps his fellow Grumpuses almost entirely because they are being asked for favours that have to do with bugsnax, and bugsnax are cryptids, and the Journalist absolutely loves cryptids. I feel like when I get swept up in playing the game,

when I find beauty or whimsy in the life on the island, when I celebrate from finally finding or capturing an especially elusive or dangerous Bugsnak, I am sharing in the Journalist’s joy and fascination in their special interest, and I grow a little closer to them. And then it’s through that interest that all the other residents of Snaxburg grow closer to the Journalist too, and vice versa. You get to watch how each other character’s specialty uniquely interweaves with yours, and that leads to the Journalist really warming up to everybody in a way that I think is really sweet. I think the Journalists’ story in Bugsnax is a great example of how different interests and talents can bring people together when working towards a common goal, and I love how the game makes me feel like I’m a part of that. I also like how the Journalist is invulnerable for some reason, like other Grumpuses are shown to be able to break bones or be knocked unconscious or whatever, but the Journalist is inexplicably immune to all of that which allows them to endlessly toss themselves into any dangerous scenario in search of their favourite little edible creatures. I admire their passion and dedication, and I sincerely hope it doesn’t get them killed.

### ZAGREUS FROM HADES

Ok this one I have to mention because Supergiant Games pulled off some wizardry here. I think Zagreus for the most part is a pretty traditional hero, he’s strong, handsome, kind, quippy, never gives up, everybody loves him, etc etc. He’s fun and cool and I would like him well enough on his own, but there’s one additional detail that really makes me feel connected to this guy. Multiple times while playing Hades, frequently enough to leave an impact, I will enter a new room in a run and say or think something just seconds before Zagreus says basically the exact same thing. I don’t know how they do it, but it’s like the devs reach straight into my brain and put my words into Zagreus’ mouth, and it just makes me feel this special connection to him that I haven’t felt with anything else. This’ll most likely happen at the start of a boss fight, and it’s just such a cool way to sync up with the character before we fight through a tough challenge together and look awesome as hell doing it. Feeling like I’m in sync with Zagreus feels great because Zagreus is cool and heroic and all that other stuff, and the excellent controls and music only strengthen the immersion.

Feeling truly connected with a good character feels amazing, and I love all the ways that this medium can make that happen. Thanks for reading!

Doublewhip



# RATING EUROVISION 2026 NATIONAL FINAL NON QUALIFIERS

I've been a Eurovision fan for years. The Eurovision Song Contest (ESC) is a yearly international song contest composed of thirty-five artists and songs, each representing a (mostly European) country. Twenty of these countries host national finals, a smaller competition whose winner goes on to represent the country at ESC. This is one of the first years where I've taken an active interest in the national finals, and I was shocked at the quality of some songs that never see the light of ESC and mass viewership. In this article I'll go over some of my favorites that unfortunately will not be participating in ESC, but still deserve appreciation.

## JOLLY ROGER BY CLICHERIK & MÄX — ESTONIA

This is a silly entry, and a fun one. For the past two years, Estonia has prioritized a good time over objective artistic quality, resulting in some fan favorites such as *Espresso Machiato* by Tommy Cash and *(Nendest) narkootikumidest ei tea me (küll) midagi* by 5MIINUST and Puuluup. *Jolly Roger* feels like their spiritual successor. It's a electronic song with a pirate theme, filled to the brim with energy and "arr's." A strong suggestion to anyone looking to party, stomp, and to have a jolly good time. If you like this one, also check out *Ravin' At The Taj Mahal* by Robert Ox, which came fourth in Latvia's national final.

## SLAVE BY OLLIE — ESTONIA

Another Estonian entry, but unlike *Jolly Roger*, *Slave* was strongly predicted to win the Estonian national final, losing to *Too Epic to be True* by Vanilla Ninja. This one is also a good time, but a much more serious entry, liked for its hard rock and metal elements. Being a metal fan myself, I had high hopes. Unfortunately, rock isn't the best represented at ESC, and tends to do poorly. There are some strong examples, such as 2021 winner *Zitti e buoni* by Måneskin, and 2006 winner *Hard Rock Hallelujah* by Lordi, but those are outliers. Even for rock, this was a very strong entry, featuring raw vocals and thrilling electric guitar. OLLIE was also a previous Estonian national finalist, and fans were hoping this would finally be his chance to shine, with him even winning the first round, but heartrendingly finished in close third in the superfinal.

## EYE TO EYE BY SHIROKURO — LUXEMBOURG

In the first two notes you can tell this song is going to be unique. It's sung in a halting rhythm, backed with a melodic distorted yelling and discomfoting and cloudy lyrics. I found this experience to be greatly compelling, and, like most ESC songs, it builds and sucks you into the aesthetic it creates. This entry reminds me of last years Lithuanian entry, *Tavo Akys* by Katariss, which was also a rocky dreamlike ride that stood out from the 30+ songs. *Eye to Eye* is a perfect example of the breadth of music that ESC welcomes, and certainly worth a listen.

## SWEET TOOTH BY STEVE CASTILE — LUXEMBOURG

*Sweet Tooth* also starts in a unique way with organ. It starts softly with an ode, rising in soft passion like a prayer, only to break into a rock chorus. It's not as energetic as *Jolly Roger*, or the rawest like *Slave*, but no other entry this year cuts straight through me like it can. After tens of listens, I still can't help but bounce my head along to the chorus with each emphasized word like a bang making you dance. This one isn't as unique as the others, but is my personal favorite so far, and for that, it makes the list.

Honorable Mentions: *TYT* by Monokate—Ukraine, *Infinity* by Sissal—Denmark, *Bad Decisions (Hush Hush)* by Irem—Luxembourg, *Unsterblich* by NIKOTIN—Austria.

Aspiro

P.S. Not all the national finals have happened, but there are some songs that are not quite rejected contenders, but likely won't win their final. So also check out: *Takatukka* by Antti Paalanen and *Rakkaudenkippee* by Kiki for Finland, *Wonderland* by Laura Nahr for Germany, and *Frankenstein* by Mileo for Norway!

# POETRY FORMS REVIEWED AS THEMSELVES

## HAIKU

Overrated mush.  
They're better in Japanese,  
but too easy here.

## BLANK VERSE

From Milton's Paradise to many more  
Including Shakespeare and most verse henceforth.  
This form, the signature of English tongue,  
Shall always hold a place inside my heart.  
Oft overlooked, for many care no more  
To follow patterns marking out the stress,  
And yet with still a following to boast.  
I maybe count myself among this crowd.  
My use of it is undeniable.  
Monotonous at times, no rhyme to break  
The passage into chunks. Yet in this flaw  
We also find a fortune for it works  
Specially well in lengthy wordy works.  
No rhyme to draw attention far away  
Nor super-satiate the mind, so we  
The audience will focus on the goal  
The meaning of the words, as lilted they  
Rock too and fro, without an end in sight.

**LIMERICK**

There once was a poem so funny  
That everyone tried to write many.  
They slaved day and night  
For the rhymes that were right,  
And I am quite pleased with our bounty.

**SHAKESPEAREAN SONNET**

A classic that surpasses all in fame  
You probably had learned about in school.  
I do not need to ask who knows the name  
Of Shakespeare, if I asked I'd be a fool.

I feel there's something strong about the way  
The lines end in stressed syllables, the strength  
Compounded by the rhythmic lines that stay  
Uncompromisingly the same in length.

And with this form I have fond memories.  
Authoritative stiffness in its sound.  
Both tickling against the ears to please,  
Commanding power that's not elsewhere found.

Though fame does not to quality equate,  
I think this poem form is truly great.

**PETRARCH SONNET**

An older form that might have lost its way,  
With rhymes that grate unchecked against the ear.  
Its many four-fold ends abound so near.  
That scant'ly it is written in this day.  
To those who brave to conquer forms so clear,  
That asks you to push through the muddied fray  
Still steadfast in the words they want to say  
How poetry must ever be so dear.

To you I celebrate with open arms.  
For though I would not read them for myself,  
You do great service to our cannon broad.  
A humble form, with its forgotten charms,  
I think should still be on our poems' shelf.  
So quietly this sonnet form I laud.

**ACROSTIC**

I recently learned that this is supposed to be a modifier on top  
of a more full poetic form.  
They never get kids to do that, which is a shame.  
Should we not try to explain poetry to children?  
Alas, complaining about an unrelated topic is not productive.  
Lazy and uninteresting.  
Ripped up and hollowed out.  
I had always viewed the acrostic as such growing up.  
Given the unfavourable circumstances under which it was  
taught to me,  
However, I think I will be a bit more lenient here.  
This isn't that bad, if a bit boring.

**COUPLET**

It's short and sweet, a little curt.  
But couplets, they can never hurt.

**ONEGIN SONNET**

When I was in Toronto, co-op,  
I found relief in opera there.  
I buy my ticket, walk to show up,  
Arrive to breathe in newer air.

But I had not anticipated  
The beauty of the show created.  
Enchanted I did want, of course  
To find out more about the source.

And loving poetry, as I do,  
I chanced upon the stanza used.  
Uneven, lilting, but infused  
With character that stays beside you.

This sonnet form is little known,  
But here I hope its charm is shown.

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## TO FIND THE HAPPY ENDING

Recently watched *Cosmic Princess Kaguya* (through totally legal means), a reimagining of sorts of the classic Japanese myth *The Tale of the Bamboo Cutter*. Pretty great movie featuring:

- Gorgeous fight choreography
- Just great animation all around
- Most lesbian handshake ever
- Great usage of the VRMMO setting
- Bi-directional age gaps
- Undooming the narrative
- Foreshadowing as a literary device
- Covers and original songs by famous Vocaloid producers
- Plot relevant VTuber idol concerts
- Time travelling leitmotifs
- gay

If you're a fan of yuri, this is a must-watch. If you aren't, try again.

☾

# PHYSICS 101

## WHY DO WE SLIP ON ICE?

Slipping on ice seems like a simple mishap, but it is actually a subtle interplay between surface physics, thermodynamics, and balance. What feels like a momentary loss of footing is the visible outcome of molecular behavior unfolding at the surface of a frozen solid.

When you walk on ordinary ground, your movement depends on friction. As you step forward, your foot pushes backward against the ground, and the ground pushes forward on you. That forward push prevents your foot from sliding and allows your body to move ahead in a controlled way. This type of friction—called static friction—acts like a temporary glue between your shoe and the surface. It holds just enough to keep you stable.

Ice disrupts this arrangement. The “glue” is dramatically weaker. As soon as you try to push backward with your foot, the surface cannot push forward strongly enough in return. Instead of anchoring you, it gives way. Your foot slides, and once sliding begins, friction becomes even weaker. Stability collapses quickly.

But why is ice so slippery in the first place?

A common explanation is that your weight melts the ice beneath your shoe. Ice is unusual because squeezing it slightly lowers its melting temperature. According to this idea, the pressure from your body turns the top layer into water, which acts like a lubricant.

This explanation sounds satisfying, but it is incomplete and often overstated. The amount of pressure produced by simply standing is not enough to melt ice unless the temperature is already extremely close to freezing. If the ice is well below zero degrees Celsius, ordinary body weight cannot create enough melting to explain how slippery it feels. Pressure melting plays some role in very specific cases, such as the thin blade of an ice skate concentrating force into a tiny area, but it does not account for everyday slipping on cold ice.

Another explanation is frictional heating. Once your foot begins to slide, the rubbing motion generates heat, and that heat can melt a thin layer of ice. This does happen, especially during fast motion like skating. However, frictional heating cannot explain why ice already feels slippery before you have slid much at all. The first slip often occurs before enough heat could be generated.

The more accurate explanation lies in the structure of ice at the molecular level. Even below its melting temperature, ice does not behave like a perfectly rigid solid at its surface. The molecules at the surface are less tightly bound than those deeper inside. Because they are missing neighboring molecules above them, they are freer to vibrate and move. As a result, the very outermost layer of ice behaves almost like a thin liquid film. This phenomenon is called surface pre-melting.

In other words, ice is naturally coated with an extremely thin, almost liquid layer—even when the temperature is below freezing. This layer is only a few nanometers thick, but it is enough to dramatically reduce friction. The surface is effectively self-lubricating. That is why ice near the freezing point feels especially slick: the liquid-like layer becomes thicker as temperature approaches zero. When the temperature drops much lower, that layer thins out, and ice becomes noticeably less slippery.

Understanding slipperiness explains part of the story, but not why falls are so sudden and dramatic. That part has to do with balance and rotation.

When you stand or walk, your body’s center of mass must remain above your base of support—typically your feet. If your planted foot suddenly slides forward or backward, your center of mass may no longer be aligned over it. Once that alignment is lost, gravity creates a turning effect on your body. Because friction is so weak on ice, there is little resistance to slow that turning motion. The rotation accelerates quickly, and you fall.

Nishant3.14

## RANKING OF THE PLAYERS ON THE MACAU NATIONAL KORFBALL TEAM

### LADIES, HE'S SINGLE

1. Seng Lam Ao
2. Chi On Ho
3. Io Kei Chek
4. Meng Heng Wong
5. Iok Kun Cheang
6. Io Un Lo
7. Weng Si Sio
8. Chon Kit Mak
9. Choi I Tang
10. Ka U Chao
11. Hou Kong Leng
12. Hio Leng Lam
13. Chi Cheng Au

Honorary Mention: Coach Atte van Haastrecht

CRUZ



# POLYESTER CONSIDERED HARMFUL

Lately I've been feeling really uncomfortable about the synthetic fibers in my clothing. It's surprisingly hard to avoid: even if you think you're buying something made of cotton or wool, it may still have elastane for stretch or an acrylic fleece. For the purpose of this article I want to talk specifically about polyester, but many of the arguments can be extended to other petroleum derivatives.

The biggest issue with polyester is the sheer amount of microplastic it releases as it's washed and worn. Sure, when it comes to environmental polluters, does anything really matter as long as everyone still drives their cars to work? I don't like the defeatist attitude though, and it makes for a worse article. When you wash your polyester clothing, some breaks off and enters the wastewater system. It's incredibly difficult to remove that microplastic from water at scale; it flows its way to the ocean, and from there bio-accumulates up the food chain. Who's at the top of the food chain? We are.

To make things worse, polyester fabrics make a great environment for bacterial growth. This means you need to wash it more often than a naturally antibacterial linen or wool alternative, worsening the microplastic shedding from another axis, but also consuming more freshwater and energy over its post-purchase lifetime.

However, from a pure sustainability perspective, polyester being a petroleum product is also problematic. I suppose one day we might be able to make it out of renewable algae, but that day isn't today. Just like with gasoline, there is a finite amount of crude oil that can be drilled from the earth, and every time we make new plastic we're increasing the total quantity on our planet. To face both pollution and unsustainability, some environmentally marketed companies like *Patagonia* collect plastic from the environment and make it into recycled clothing. Sure, this results in slightly fewer plastic bottles floating in the sea, but it does nothing about the microplastics they can't just go collect. Even worse, recycled polyester clothing could shed significantly more microplastic than its virgin plastic counterpart.

We can continually push for more sustainability in our clothing by recycling or inventing new production technologies, but there's no such thing as regenerative plastic. Where sustainability is about "sustaining"—not hurting the environment—regenerative agriculture seeks to actively improve the ecosystem. When we're faced with a world that just keeps getting worse, is aiming for neutral in any way sensible? After just a little bit of research I found several regenerative clothing brands that specialize in cotton and wool, but I see no reason it wouldn't also work for linen, hemp, and other naturally grown fibers.

If you find none of that convincing, then perhaps this might change your mind: I was recently informed by a classmate that polyester has bad vibrations—most similar to those of a corpse.

Say you're convinced, what now? Well, it's unrealistic for most people to just go and replace their whole wardrobe, especially when the more durable and sustainable alternatives will always cost more. For people especially strapped for cash, the thought of paying twice as much or more for a sweater could seem impossible regardless of the cause. However, as more people move away from buying polyester entirely, there will be less polyester clothing in circulation, and thrifting can make those better quality clothes accessible second-hand.

Altogether, any environmentally minded solution has to work with capitalism while responding to consumerism. Capitalism means that every purchase is economic pressure; our dollars form the foundation of greater market trends. Consumerism is the cultural idea that answers can be found in a yet another new product. Altogether, the answer seems clear to me: buy better, buy less.

blather

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## N NOTABLE MOMENTS FROM THE VANCOUVER AIRPORT

To finish off my lovely reading week, I had the privilege of spending hours upon hours in the Vancouver airport. Who doesn't love airports? Most people, I think. Here is my list of somewhat-notable things that happened while I was there:

1. Several people in the security line acting like it was their first day on earth or first interaction with their own bags
2. Being charged \$20 for a burger and fries
3. Demolishing said burger and fries in less than seven minutes
4. My flight being delayed
5. Multiple people at gates reading *Heated Rivalry* (hell yeah.)
6. Spent way too long searching for a garbage can and finding only recycling options
7. My flight being delayed again
8. An exhibit on display featuring hundreds of Mickey Mouse collectibles lining a hallway
9. Two young girls playing make believe, one acting as if they are in a restaurant and one clearly thinking their scene is set at a school
10. Takeoff also being delayed

Honourary mention: absolute diva next to me on the flight making a list of requirements for a new man in her notes app, followed by a series of affirmations. My queen.

BeesKnees

# I NEED TO FINISH THIS ARTICLE

If I can't even finish this article, then I've lost.

Listen, I can forgive throwing academics out the window during reading week. That happens all the time to many of us despite planning to do otherwise, it's kind of a cliché at this point. I don't even think people should worry about productivity all the time—proper rest is very important.

But my rest was not proper. I've converted most of my reading break time into hours on Instagram, Reddit, YouTube, and wherever the fuck else. I've never been great at staying on track for anything, but I've noticed myself giving up faster than ever before at the slightest bit of resistance and getting nothing fulfilling done in the end. I've also found myself reaching for my phone to kill time much more often as of late, which is a little harrowing to notice. I miss when I'd get something creative done from time to time. I miss when I could think by myself for a while. I don't even enjoy the alternative. None of the social media I use shows me something that actually satisfies me anymore. I just spend my time wading through a sea of rot, hoping to find something nice eventually. I only endure because it's easier than the alternative.

Possibly the worst consequence of this state of being is the feeling of irritation and the subsequent guilt I feel when I get pulled away from my exercises in distraction. When friends message me throughout the day I, the slave to quick dopamine hits that I am, immediately follow the notification hoping for something more satisfying than the mindless slop I've been looking at. However, getting out of mindless slop land makes me remember that I was there because I was taking a "break" from working on *something*, which makes me get irritated by being distracted by my friend. But I don't want to be mean to whoever's trying to talk to me once I've started responding to them, so I stick around and listen and talk back in a zombie-like half present state. It would be better for everyone involved (barring some kind of emergency) if I just waited and responded once I was actually in a state where I could give my full undivided attention to them.

The absolute saddest case of my problems spilling over to suck the joy out of other people's days, though, is when my cat wants my attention. My friends can empathize with me and understand that I might be feeling down, or I can apologize and explain stuff to them after. My cat cannot understand why I'm taking so long to let her into my room or why I'm giving up so quickly when playing with her when she clearly wants more. Fortunately for her, I can't bear doing my cat such a disservice for long, so I usually end up giving in in the end and play with her until she falls asleep or leaves to do something else. But when I give in I don't even feel the healing effect that pets usually bring. I just feel hollow.

Thus, I started this article just to prove to myself that I can still make something. I've finished articles before, I'm kind of used to the workflow. I should be able to do this!

If I can't, then there's really no hope left for me anymore.

So I'll write

And write

And pause

And think

And then revise

But not too much

The clock is ticking after all

And if I give in to doubt

Nothing will get done in time

And if I don't persevere enough

Nothing will get done at all

Maybe ever again

So I just need to reach an end

And then I can go on from there

And I think one is in sight

I don't like this one bit

It's whinier than I would like

It can be better, more impactful

I have more interesting things that I can do or make

But it is there

And I am done

And I have won.

*the government's only spy*

## Epilogue:

I conceived the above article during a particularly frustrating and unproductive time during the reading week, and it's frankly a bit too dramatic for my taste. I was depressed about my rotting when I first had the idea but by the time that I was actually writing this article I was completely fine. The dramatic tone is there because I wanted to do my original concept justice instead of softening it by writing from a clearer point of view. I hope the end result is cathartic to those of us who want to create and struggle with staying on track in these distraction-filled times and only a little bit corny.



# RANKING CHINESE DYNASTIES

INSPIRED BY LAST ISSUE



IMAGE RELATED

## XIA SHANG, ZHOU, S/A

7/10. The Xia was the first Chinese kingdom, and it has fascinating origin and downfall stories. From the Shang, the earliest foundations of Chinese writing were established, and bronze working was established. Under the Zhou, the concept of the “Mandate of Heaven”—that rulers govern by divine right, and lose legitimacy if corrupt, shaped Chinese politics for the rest of its history. Despite this, its political leadership weakened into the Spring/Autumn era, which shaped China’s philosophical background for generations to come. From this time did Confucius, Laozi, and Mozi and their philosophies emerge.

## QIN

8/10. Founded China as an empire as we know it. The story of Ying Zheng, who was the King of the Qin state, is a fascinating story of military might and political manoeuvre. As Emperor of a united China he expanded China’s frontiers, standardised economic, political and cultural practice across China, and constructed many of China’s famed historical sites (the Great Wall and Terracotta Army come to mind).

Was he a tyrant? Sure. Will that stop me from romanticising his rule? Probably not.

## HAN

9/10. Probably one of the most influential dynasties of China that shaped its identity even in the modern era—its name is from where the Chinese ethnicity, the Chinese writing system, and Chinese language all derive their namesakes from. The Han opened the Silk Road, invented paper, expanded China’s territory into Korea, Vietnam and Central Asia, and were known for historykeeping. Not to forget, its successful

campaigns against the Xiongnu (let’s get down to business, to defeat the Huns...).

## SUI

5/10. Lasted a grand total of 37 years and waged a disastrous war against the Kingdom of Goguryeo (a kingdom in Manchuria and Northern Korea) and forced mass labour to construct the Grand Canal and also saw widespread famine.

But, it did pave the way and build the institutions for the next dynasty...

## TANG

10/10. Well, something has to get 10 on this list! The Tang is easily renowned as the Golden Age of Chinese history, and for good reason. Under its rule, China as a civilisation became totally dominant across East Asia (like the Romans in Europe) with political influence from Central Asia to Japan, a brilliant culture of poetry and art, and refined the civil service system tremendously. Hard to beat, and a tragic end (the An Lushan Rebellion, regional warlordism, and the massive population loss).

## SONG

8/10. Tremendously influenced Chinese economics, with complex all-nation commercial markets and banking networks, with one of the highest GDP per capita in the pre-modern world. The Song also pioneered fiat currency and bank notes, and made indispensable technological innovation (movable type printing, gunpowder, early weaponised rockets, shipbuilding, and metalworking).

Its fall may be one of the most tragic moments of Chinese history, ending with a last stand against the advancing Mongol armies. The last emperor, Zhao Bing, a child of 7 years, died by his own hand rather than surrender, and thousands of his followers joined in mass suicide. Like the Romans at Constantinople before the Ottoman conquest, no less.

## YUAN

4/10. Though the Silk Road flourished under Mongol rule and fostered cultural exchange between China with the rest of Eurasia, the Chinese were made a slave class (lowest on the Mongol caste). The prestige of a great imperial empire, was of course a Mongol one. It didn’t last long, anyway, before...

## MING

7/10. The first emperor, Zhu Yuanzhang, had a noble backstory from peasant origins and even after seizing the throne, continued to live a humble, frugal life. Notable for being the dynasty to restore native Chinese rule, it was known for its massive naval fleet and voyages to distant lands, expanding

the Ming maritime trade routes. Its war with Japan to defend Korea weakened it greatly by militarily overstretching and bankrupting the Ming economy, opening the path for the Qing's conquest...

## QING

6/10. I can't rank it very high for the ways it irreversibly altered Chinese culture. The Manchus were a foreign ethnicity from Siberia who had conquered China proper, and forced Manchu customs on the Chinese, and killed everyone who resisted. Yet it expanded China's frontiers into Tibet, Central Asia and Mongolia under Emperor Qianlong, and for the creation of the Kangxi Dictionary under Emperor Kangxi, which shaped Chinese dictionary design. Nonetheless its conservative court refused to modernise China until it was too late and had suffered defeat after defeat by the Europeans and Japanese.

## REPUBLIC OF CHINA

4/10 for the Beiyang era, 7/10 for the Nationalist era. The early ROC under the Warlord Era was not a great place to be nor am I really fond of many of them. Perhaps they all had unique stories of their own, but they were still a dime a dozen and not worth discussing beyond a footnote.

As for the Nationalists? They've always fascinated me. The Nationalists and the Communists sort of represented two different destinies for China, and I think very few give the Nationalists a fair understanding given their precarious situation, with an existential total war with Japan and growing corruption in the regime causing popularity to shift to the Communists. Whatever your views on him are, Chiang Kai-shek, leader of the Nationalists, as an individual always fascinated me. He lived a frugal, marshal lifestyle influenced by his training in the Japanese military, and had a great affinity for Chinese traditions and culture.

The ROC shrunk in size from the Qing, losing Outer Manchuria and parts of Central Asia.

Some might compare the Nationalists to the Ming and the Communists to the Qing. Their histories have more parallels than what meets the eye...

## PEOPLE'S REPUBLIC OF CHINA

While I won't rate this one because its rule hasn't ended, I will say a few words about it.

The PRC shrunk from size from the ROC, losing Mongolia, more parts of Central Asia, and minor fragments of land across China's frontiers.

The PRC, for all its historical flaws and turbulent moments in history, still saw the rise of China as a new economic and political force in the world. And while it, like the other

dynasties, has its own sins, it too has merits deserving of consideration.

b28chen

# THE ARVA FLOUR MILL

If you're waiting for a train in London, Ontario, the best place to kill time is while doing so is the Covent Garden Market. On the mezzanine are picnic benches, each one painted to represent the city. One represents Joe Fontana's gondolas, another represents Sunfest, another represents concerts by The White Stripes. On that last one is written "Arva Flour Mill."

The Arva Flour Mill is a flour mill in Arva, Ontario — a small one-intersection hamlet north of London. Arva is home to Medway High School, the Arva Picard's Peanuts store, and that's about it. Lunch at Medway is only 35 minutes long, instead of the standard 75 minutes, just because there's nothing good for the students to do with their free time.

The flour mill itself isn't really a high-visibility landmark. On occasion, you'll see it if you happen to be traveling north along Richmond Rd, peeking out between the brush and natural overgrowth at the roadside.

The Arva Flour Mill isn't any old mill. It's the oldest water-powered flour mill in Canada. Per a 2021 CBC article, the mill still uses its original equipment. There's one motor, which powers leather drive belts, wood and stone machinery, and custom equipment they have to build themselves — you can't buy 1800s flour mill equipment off of Alibaba. The mill itself has been modernized; instead of the 1800s millstones, they now have a mechanized roller mill that they purchased in the modern day year of our lord 1901.

The mill doesn't meet labour laws at all — it can't. In 2016, many feared it would be shut down, as federal inspectors found its pre-Charles-Dickens belt system to be unsafe.

All of this is to paint a picture that there's no way The White Stripes has a song named Arva Flour Mill. so what the fuck is it doing on the setlist picnic bench?

In 2007, The White Stripes toured Canada, and as they did so, they played tiny pre-show concerts throughout the country. Venues included a Saskatoon bowling alley, a local transit bus in Winnipeg, a Toronto YMCA, and, the Arva Flour Mill.

Arva??? Bring-your-tractor-to-school-day Arva???? Gun-range-in-the-high-school-basement Arva????? Theres-a-barn-behind-the-school Arva????? Nothing-but-a-peanut-store Arva??? Dilapidated-unsafe-flour-mill Arva??? You're telling me they were at the dilapidated unsafe flour mill??? The White Stripes???? The White Stripes????? the fuck????????????

molasses

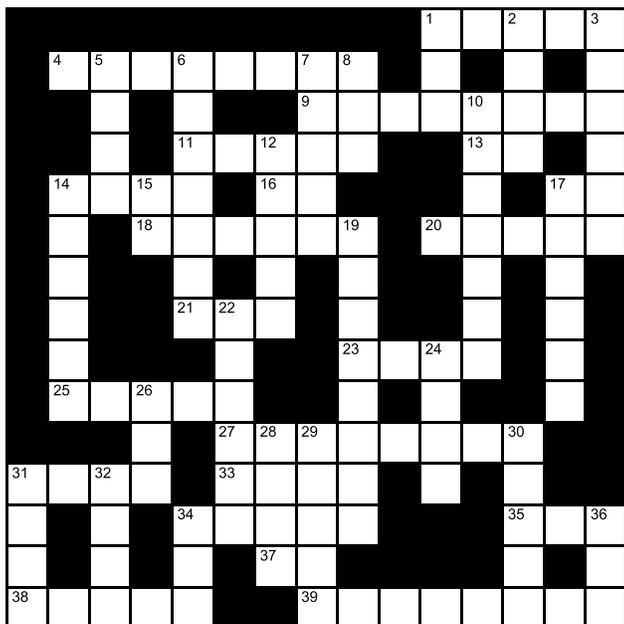
# wordGRID 2

THE FIRST ONE WAS LIKE TWO YEARS AGO BUT DON'T WORRY ABOUT IT

Not to be confused with **gridWORD**, which can be found at this back of this issue. **wordGRID** is entirely unrelated, and any similarities in shape, size, and clue content are purely coincidental. This is the second one, and it's better than the first, I swear!

## ACROSS

- 1 . Symbol on the flags of England and Scotland (among others)
- 4 . Fear \_\_ loathing in \_\_\_\_\_ (second blank)
- 9 . Quite the opposite of fear or loathing?
- 11 . Lukewarm
- 13 . 2019 Horror film starring Lupita Nyong'o
- 14 . Bowser's castle or Ridley's hideout, e.g.
- 16 . UW building of which there are 3
- 17 . Not you
- 18 . Like ints in most programming languages
- 20 . Heron kin
- 21 . Rest
- 23 . Panel of deliberators
- 25 . Culinary fungus
- 27 . To imply
- 31 . The opposite of 7-down
- 33 . Average
- 34 . Feral creature
- 35 . Firm up
- 37 . Neighbour of do and mi
- 38 . \_\_\_\_\_ Jamun: Indian confectionery
- 39 . Made known



## DOWN

- 1 . Part of a machine
- 2 . Horse feed
- 3 . [Cryptic!] Cold dessert truncating achy gamble (6)
- 5 . \_\_\_\_\_ Karenina
- 6 . Hatred
- 7 . Still \_\_\_\_\_: credits theme from the video game Portal
- 8 . Common twitter sign-off during Trump's first presidency
- 10 . Homeland of Liszt and Erdős
- 12 . Tubelike pasta shape
- 14 . \_\_\_\_\_ Snicket: A Series of Unfortunate Events pen name
- 15 . \_\_ you \_\_ or \_\_ you ain't
- 17 . Pokémon trainer whose name is an anagram of 14-down
- 19 . Totally separate
- 22 . Not rushing or dragging
- 24 . One part of a complex number
- 26 . Fear \_\_ loathing in \_\_\_\_\_ (first blank)
- 28 . L's Successor in Death Note
- 29 . Conducted energy device introduced in 1993
- 30 . Artist's workstation
- 31 . Animal refuse
- 32 . Edible piece of lychee or pomegranate
- 34 . \_\_\_\_\_'s your uncle: Commonwealth saying
- 36 . Harvard Mathematician "better known for other work"

I can't offer any official prizes for solving it, but if you want to share your solution and/or provide feedback, feel free to contact me at [hhkenned@uwaterloo.ca](mailto:hhkenned@uwaterloo.ca).

yalevoilian

## I'M WASHED

it's been a whole month now since i quit my studies. i'm back to the grind, i'm in my prime, and i'm thriving. except i'm not. though life is a lot better now, i'm totally washed. the creative juices are not flowing, which is not good in the game development industry

if you have any hobby suggestions lmk. only normal people hobbies like setting up a home server or playing niche visual novels

if you have suggestions for local waterloo region locations to check out those are also welcome. i like walking and bussing

the american

He said it was an abomination. I like it.

MATT KENNEDY

# PROVE IF I LIKE YOU, THEN YOU LIKE ME

FROM "A MATHEMATICAL CONFESSION"

Let's consider the statement:  $I \text{ like you} \implies \text{you like me}$ .

Let:

$p$ : *I like you*  
 $q$ : *you like me*

Now, I don't know whether you like me or not.  
 Let's test both cases.

Case 1: *You like me*.

Then  $q = T$ .

$T \implies T$  is true

Case 2: *You don't like me*.

Then  $q = F$ .

$T \implies F$  is false

So, even if I like you, it does not logically guarantee that you like me.

Therefore, I cannot conclude that you feel the same.

Now consider the biconditional statement:  $I \text{ like you} \iff \text{you like me}$ .

Let:

$p$ : *I like you*  
 $q$ : *You like me*

The possible cases are:

$p$	$q$	$(p \implies q)$	$(q \implies p)$	$(p \implies q) \wedge (q \implies p)$
$T$	$T$	$T$	$T$	$T$
$T$	$F$	$F$	$T$	$F$
$F$	$T$	$T$	$F$	$F$
$F$	$F$	$T$	$T$	$T$

Now,  $(p \implies q) \wedge (q \implies p)$  is true only when:

- we both like each other
- neither of us likes the other

Logical equivalence includes mutual indifference, too.  
 It is false when only one of us likes the other.

So:

Implication allows for one-sided feelings.

Biconditional requires reciprocation.

But it cannot be assumed. It must be proven.

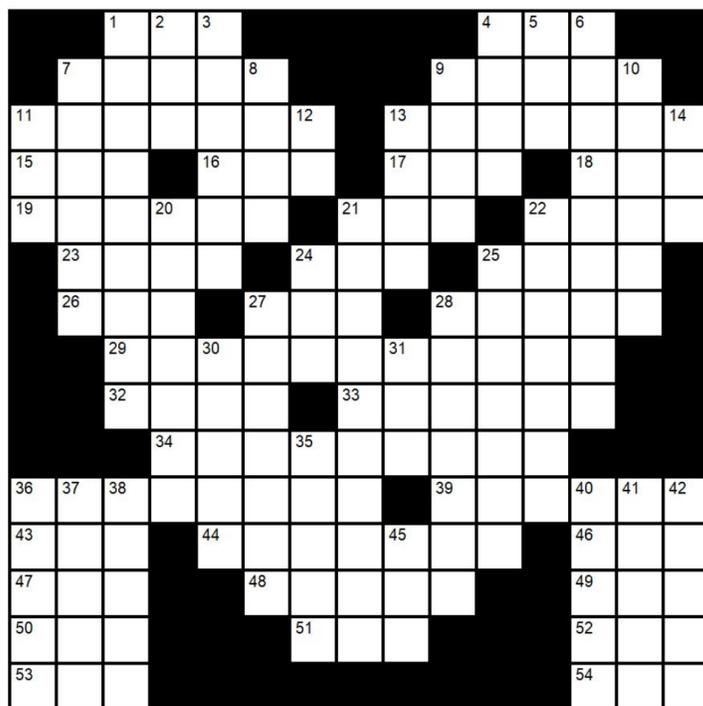
$p = T$   
 $q = ?$

I could find out the truth values to finally conclude this proof.  
 But if that means risking losing a good friend, I'd rather fall for you alone.

m1at4

## 160.3 gridWORD

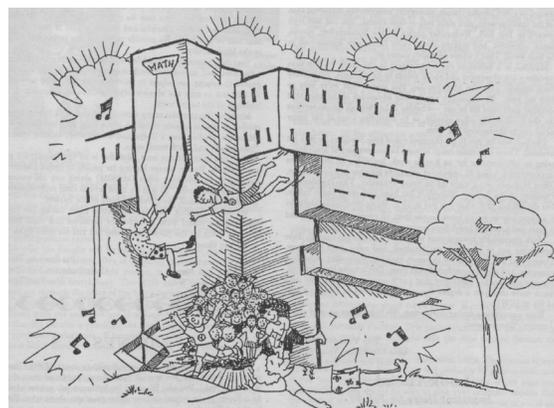
CORRECTED EDITION



gridWORDers rejoice! The mathNEWS 160.3 gridWORD has been reprinted, this time with all clue numbers in their correct spots (we think). Sorry about the past gridWORD being maybe a little bit unsolvable.

Clues can be found in mathNEWS 160.3, available online at [mathnews.uwaterloo.ca](http://mathnews.uwaterloo.ca).

mathNEWS Editor



# BRING BACK VANCOUVER 2010

## gridCOMMENT 160.4

hey canadians and others,

hope we're all doing well after the olympics. let's cut to the chase. obviously, i had to make the **gridWORD** olympics-themed—it's hard to come up with themes otherwise, and this stuff is time-sensitive. well, it's not SUPER olympics-themed, not in a general sense at least. i did try to brainstorm some other 2026 olympics-themed stuff, such as GOLDham and KINGsbury for our gold medallists, but that's about as far as i got. i also thought of doing the scandals, but "HYALURONICACID" is not easy to fit into a **gridWORD** with "EIGHTPLAYERS". i hope you guys like skating. for this **gridWORD**, all \*s will be treated both as markers for themed clues and as an actual asterisk.

last time, i asked you all "what is love to you", and you said:

- *thirdoffive*: Love is solving a crossword puzzle even though one of the black squares is in the wrong place <3

our bad, guys. if that (and the terrible schrödinger clue) prevented any of you from solving the **gridWORD**, my humblest apologies. i really just wanted anyone who celebrates valentine's, palentine's, or galentine's to be included. prize automatically goes to *thirdoffive*, congratulations! you know the drill. i believe this is your third time winning? perhaps... your third of five times?

anyway, keeping in theme with the olympics, the **gridQUESTION** this time is: what olympic sport are you and why? please submit completed **gridWORD** with **gridQUESTION** answer and a pseudonym to [mathnews@gmail.com](mailto:mathnews@gmail.com) or the **mathNEWS** office @ mc 3030 by 6 pm monday march 9. see you guys

best,

spaghetthinhalers

\*at Milano Cortina 2026

### ACROSS

1. Moves commonly seen in pair skating
6. French flower
9. Rainbow paths
13. Estuary
14. Scheme
15. Summon
16. Eerie
17. Daylight savings saving
18. Concept
19. Knight's servant
20. Calendar square
21. Kind of wrestling known as Pehlwani
23. Canada's most medalled sport\*
26. Canadian quadruple medallist\*
29. Existed
30. Barley brew
31. Inert gas
33. What a SYDE student might design
37. Wet bar?
39. Federal med. research agency
41. Ballet wear
42. Hit
45. Tie up
48. School transportation
49. Neuter
51. Canadian triple medallist\*
53. Greeting from a red echidna named Knuckles
57. Canadian short track champion\*
58. Little toymaker
59. Sad
63. "Buenos \_\_\_"
64. Arias, usually
66. The March King
67. "If all \_\_\_ fails..."
68. Deep black
69. Colander features
70. Marsh plant
71. Something to pick
72. Chopin composition

### DOWN

1. Speech problem
2. Ancient Andean
3. Item bore by 51-Across and 57-Across\*
4. Mother \_\_\_
5. Pig's home
6. Bridges in movies
7. Debtor's note
8. Bowler's goals
9. Conclusive trial
10. Some circle measurements
11. Innocent
12. Colloquial speech
14. Vintage touring car
20. Take out
22. Not
24. Jeu de mots
25. Counselling, e.g.
26. Talk back
27. Gazillions
28. Caboose
32. Nothing
34. Big brass
35. Pincushion alternative
36. Rump
38. Having a short, upturned olfaction sensory organ
40. Male Canadian six-time Olympic medallist in 23-Across
43. Ghanaian money
44. Female Canadian six-time Olympic medallist in 23-Across
46. Gastrocnemius locale
47. Annex
50. Deez Nuts, abbr.
52. As well
53. Milk dispenser
54. Cunning
55. Humiliate
56. Serf
60. Yordle mage
61. Employed
62. Leisure

65. Kimono tie
66. Boat pronoun

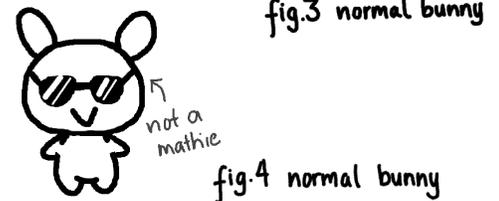
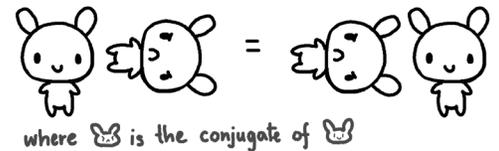


fig.5 normal bunny



1	2	3	4	5			6	7	8		9	10	11	12
13						14					15			
16						17					18			
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42				43	44		45		46	47		48		
			49			50		51			52			
53	54	55					56							
57							58				59	60	61	62
63					64	65				66				
67					68					69				
70					71					72				

Drop your gridWORD solutions off at MC 3030, or over email to [mathnews@gmail.com](mailto:mathnews@gmail.com). Correctness optional.

