

FACULTY MATTERS

Views and News of Douglas College Faculty Association Members
Number 18, Spring 2022

We Will Feed the Seeds of Tomorrow Kim Trainor at Fairy Creek: 2



Clearcut at Fairy Creek

This is a personal account of a visit I made to Ada'itsx/Fairy Creek blockades, in mid-November 2021. An injunction against Fairy Creek protestors was again in effect to protect the economic interests of Teal-Jones, which holds Tree Farm Licence 46 (TFL 46), located north of Port Renfrew on Vancouver Island. The onset of heavy rains, colder temperatures, and the reinstatement of the injunction, had led to smaller numbers gathering to protest, while logging was beginning to shut down for the winter. I arrived on the last weekend of resistance before the protestors also retreated for the winter, some shifting their protests towards the cities through the *Save Old Growth* movement. Fairy Creek is one of the last, mostly intact, old growth watershed valleys in the province. Endangered species found here include the marbled murrelet, the western screech owl, and rare old growth specklebelly lichen, *Pseudocypbellaria rainierensis*.

Day One at Landback Bridge. About 7KM up Granite Main, at the base of the bridge we occupied last night - after waiting in the car until almost 5:30PM before leaving for this hike - osten-

sibly "to see the old growth forest" but in fact to reoccupy the bridge. A slow hike - stopping and starting, all in the dark and the rain. (For future planning: wrap your sleeping bag in plastic, wrap your pillow in plastic, wrap your sleeping pad in plastic - put everything in Ziploc bags. Gore-Tex is useless; wear an impermeable work jacket). At a certain point we reached a juncture where two patrol cars were stationed, lights on. We clumped together and slipped between them silently - they didn't stop us. Tremendous rushing of water as we climbed up and up Granite Main, until at last we arrived at this bridge. Immediately out came 'utensils' - crowbar, pickaxe, shovel. Immediately, people digging at either side of the bridge. Arctic Fox making a fire, splitting wood. (Arctic Fox: *If it would just stop raining for one hot minute.*) Pitch black. Pouring. No hope of staying dry or keeping our gear dry. Others looking for wood and stringing up rope to set up tarps. We helped find firewood, damp mostly. But at last, being too cold and wet and tired, set up our tents side by side, doors facing, draped my blue and green tarps over the opening between our tents, covered the head of my tent with my rain poncho. Scrunched in, boiled wa-

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The views expressed are those of the individual writers and do not necessarily reflect the position of the Association. Contributions are welcomed and can take almost any form: letters, articles, reports, reviews, announcements. All copy received will be edited for length, clarity, and/or stylistic conventions. Submissions should be accompanied by a digital (text only) file, preferably in a recent version of MS Word or Pages.

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ter for a bag of vegetarian pad Thai, and it became like a sauna under the small tarp awning that spanned our tents. Hardly knew where to begin, between taking off our boots, undoing sleeping bags, trying to avoid the most wet parts of our packs. Ate pad Thai. Bliss. I kept everything on, long-sleeved merino wool shirt, T-shirt, long johns, rain pants, two neck warmers, tuque and crawled into the sleeping bag – a little damp and I had to fold my sleeping pad down to form a pillow as mine was soaked – but I slept on it anyways, only able to sleep on my left side because of a curve in the earth. It was 1:37am.

And woke to a clanging on metal tin and the cry, *Time to wake up Fairy Creek defenders*. We got up, pulled on our boots, still pouring rain. Boiled water for tea. It was 7:30AM. Overnight two hard blocks had been built, one at either end of the bridge: a hole in the ground with a piece of PVC tubing cemented in place with a lock at the bottom, so that those in the hard block extend one arm into the tube in the earth, lying flat on the ground, supported by pillow, sleeping pad, sleeping bag. We offer constant support to those in the hard blocks: heat, tea, food. A tarp overhead to keep the rain off them. A meeting was called – how to form as a blob to defend the bridge. We practiced linking arms – the tallest and strongest of us in front, the smaller in the second row and in the middle. A cop car came and went, came and went. Each time we ran to the bridge and stood and sang.

A shout went up: *Two blues!*[§] They came on foot, observing, taking photos across the bridge and up the hill. Back down. Took off. Then back again – one green two blues. The green was brisk – brusque – insisted we would have to move back to the middle of the bridge as they began the first extraction. There was a paddy wagon, two or three cars, an excavator, three blues who stood and watched us at the yellow caution tape they'd set up. Five or six blues and a green carried out the excavation with pickaxe, drills, chainsaw – chewing out pieces of wood from the support structure of the bridge. It was difficult to watch – imagining the young woman in the hard block, fragile flesh *contra* sharp metal and electrified tools. It took them 2 hours and 45 minutes to excavate. Intermittently, we stood on the bridge at the caution tape, singing, and called encouragement to the girl. The same green came through again, brusque and irritated – insisting we had 25 minutes to clear everything from the road – all of our tarps, tents, packs, everything – or he would take them. *If I see a tarp I'll take it. If I see a rope I'll cut it.* So we packed up everything. Raven warned, *Everything important to you, carry on your back.* We took our emptied tents and placed them in the ditch. Stacked the wet tarps along the road's edge.

[§] "Blues" are regular RCMP officers; "grays" are liaison officers; "greens" are the officers with paramilitary training

Raced back to the bridge. The green was back – abrupt, angry. He ripped the tarp off the second hard block, said he was taking it as we hadn’t moved it; pulled the cover and sleeping bag off the girl inside. Raven and Métis challenged him. As soon as the first extraction had finished and the girl in the hard block had been taken down off the mountain, two blues walked up to a place just in front of all our stashed gear and tents, and put up another caution tape line – a new warning, to move up past the tape. We had five minutes. A pause – some talk of a blob – but not co-ordinated. At the last minute we rushed up the hill, grabbing tarps and pots. I helped drag a tarp filled with firewood. Arctic Fox carried the embers of the fire on a metal tray. Immediately he began to build a new fire.

They began the second extraction at dusk, bringing out heavy-duty lights, the excavator, tools. Three officers – blues – watched us at the caution tape. It grew dark. Raven began to play some music off her phone – shouted, *Dance Party! Whoever wins the dance party wins the mountain!* A group of seven or eight women danced with her – along with Butterfly, who came up the mountain with an umbrella, tall, skinny, punning, eccentric, like a character out of Dr. Seuss. People warming up by the fire. We packed up as best we could. Cooked another pad Thai and ate. The second extraction took less time, in the blinding police lights, the mist rising off the trees.

The dance party – gyrating, twisting defenders. Sparks from the fire. Crashing of the river below. When they extracted her, the excavator filled in the trench; the cops left. We hadn’t been sure what might happen – if they might ask us to leave – make us leave – in which case, the plan was to move slowly off the mountain, for individuals to then duck off into the forest, and rendezvous later at grandfather tree. But the cops simply left. Probably exhausted and pissed off, after spending eight hours on the mountain, in the rain and the cold, digging two girls out of the trenches. For a year now.

Everyone grab a tent and take it to the other side of the bridge. We grabbed tents and set them up on the far side of the bridge, so that we could defend the entire span in the morning, pushing our front back down the mountain. Began to build another soft block – logs, rocks, anything to slow them down to make them get out of their cars to remove the obstacle. This time we filled two barrels with rocks, brought in large logs, pieces of wood – Lightning Bolt insists on making it beautiful – before, there was a smiley face made of cedar branches, with yellow caution tape eyes. This new soft block is meant to be a dragon, decorated with cedar. In the dark, off the side of the FSR, I discovered a path – carefully built, with handrails formed out of branches, stepped roots, past the most magnificent yellow cedars up to a space called a medicine wheel. Rocks, in a spiral pattern, a lantern. A sign, asking for respect of this place. Truly ancient in feeling – like finding a door into a secret room.

Day Two at Landback Bridge.

A clanging noise and a voice, Wake up everyone. Wake up Fairy Creek! Got up – dressed: rain pants, merino wool, work jacket. Blissfully waterproof, if cold. Boiled water, made tea. Shoved an apple, trail mix, headlamp, phone, Kleenex, handwarmers into my pockets. Boots on. I’d packed up everything – sleeping bag, all my gear, sleeping pad, everything shoved into the backpack, even all the wet tarps lashed to the outside, everything but the tent. Suddenly the cry

went out – *Two cars – blues.* Strawberry, one of the Indigenous land defenders, appeared – *Quick – get everything out – quick – or they’ll get the tents – everyone grab the tents.* Butterfly grabbed mine, even the rock I’d secured the fly to, and lifted it over the hard block to the line of defenders already there. We climbed over the tarp strung across the bridge on a thigh-high rope. Several larger tents still to come down. Someone making a pot of porridge. As the blues got out of their car, Raven called – *Who has a camera?* I did, so she asked me to go with her to film her talk with the Commander, Raj.

She told him, someone had stolen her hammock and her pack – her dry socks – she needed it back. He insisted, no one took her stuff. She protested that it had been in the forest, *They’ve done this before. The green guy yesterday took it – he said he’d take my stuff.* Raj – *No one took it.* Raven – *Look, please ask for it.* Raj tried to change the subject – *We need you to move back on the bridge.* She argued – *How can we build a relationship if you keep changing the topic on me?* He said, *We need you to move back to the middle of the bridge.* He said, *Why did you do this – are those more hard blocks you put in? Both sides?* She said Yes, but in fact there were two girls locked in only by the near side of the bridge, where we had slept. The side higher up on the mountain, the defenders had felt, had been compromised the day before when officers had cut into large sections of the wood to dig out the girl in the hard block in order to cut her free.





Defenders' Base Camp

Raj insisted, *Why did you do this? Why not wait for the 15TH, for your day in court?* She countered, *You know why Raj, the minute we leave the loggers come in and the trees go down.* We moved back behind the hard block. Everyone there now. One of the blues tore away the tarp at some point and cut the rope, so that the two girls – Bombadil and Sol – were exposed to the rain. Consultation. Raven, Strawberry. The discussion was to form a blob behind the hard block – tallest, strongest people in the front row, especially at the sides of the bridge. Everyone else behind ready to grab onto a front row person from behind. In the front, arms locked to either side with the person next to you, then your hands locked together behind your back – an excruciating position, especially impossible if wearing a backpack. We were quickly in formation. More trucks arrived. A paddy wagon. More blues. They set up two white pop-up tarps, brought out stacks of wood, made an impromptu table and stacked

about four dozen bottles of Gatorade on it, which no one ever touched. Some wag put a cedar branch in a bottle, in parody of our soft block. One of the tarps stood over the fire table, another up front by the hard block. At any given time there were three to six blues – men, and one woman with a red cross on her uniform, who seemed always especially contemptuous when someone chirped from the blob, rolling her eyes. The older men were either placid or, in Raj's case, angry. Another fucking day in the rain. (*Would it just let up for one hot minute?*)

They were clearly trying to figure out what to do – they couldn't extract with all of us within a foot of the hard block. They couldn't charge us because of the girls in the trench below us – it was really a brilliant tactical move. But people would get tired – it was so cold and wet, constantly wet, and standing still with your arms locked behind you is a kind of torture. Now and then someone in front would ask to be spelled out, then another. This is how I ended up in the very front – surely the smallest one there – all the others mostly young Amazons, who sang song after song after song. Arctic Fox stood next to me, at the very end as an anchor, and I felt completely secure, ready to be arrested if necessary to save the trees. Strawberry, also small, who walks with a cane, came out past the front line to help Sol under the tarp, and as she did, a blue snuck up towards her – then suddenly sprang to grab her. But those in the front row grabbed her arms and pulled her back to safety behind our line. I think the blue had said to her first, before lunging for her, *You're the instigator of this?* and she'd said, *I'm helping this girl in the ground.* Arctic Fox shouted about our civil liberties and Judge Thompson's report.

It's all a blur in terms of timeline – before then at some point I'd run to grab a tarp to place on the ground over each girl; they were secured in place with rocks, but as they were virtually flat, pooled with rainwater – Bombadil's more so, as every time she wriggled and squirmed like a puppy, the water threatened to pour into her trench, or into Sol's next to her. The blues under the campfire tarp tried to start a fire – one chopping wood, another trying to start some kindling, but they had no luck at all. Arctic Fox kept calling out – *Let me help you! I'll do it for you – I've got all my tools right here! I'll do a workshop for you.* One of the cops joked with him – *Well, you know, that guy, he needs some practice with his survival skills.* A blue brought a cup of gas or paraffin, and they poured it on the fire, which flared up, then died. Another cup of fuel, now with little sticks of tinder dipped into it. A little fire, which also fizzled out. It took them at least an hour, to everyone's amusement on the frontline. Raven came out to help Sol – she needed to pee – especially hard to do with one arm locked into a pipe in the ground, and a girl's anatomy. Raven passed Sol a bottle with a wide rim and began to tell her how to do it, and a cop lunged, grabbed her, dragged her away. She is only 5 feet tall, maybe less, long dark dreadlocks. She sat with her legs splayed in a 'V' like a little kid looking nonplussed, like, "WTF." They dragged her to the truck, searched her for her radio, weapons – none, put the radio in an evidence bag. Put her in the truck. Drove away. Everyone called out to her, wolf howls.

I was still standing next to Arctic Fox in the front line. Five or six blues, circling. I don't know what triggered them, but suddenly they lunged towards our side, several blues – I think I was the target, because I was the smallest by far. A blue hit my chin with his thumb, then slipped down to my neck, his real target and pressed so hard I couldn't breathe, his other thumb screwed into my right shoulder at a painful pressure point. I felt myself being pushed back, but almost instantly a counter pressure from Arctic Fox and all the defenders behind me and to my other side. Foxtrot, in the second row, was pushed back by the force so hard she almost fell over the side of the bridge. She screamed – someone grabbed her. She said, she heard a cop say, *Oh fuck.* Their attempt made it clear they had no way to breach our line, without potential serious injury to the girls in the trenches and the defenders to either side of the blob, by

the bridge edge.

The day progressed. We stood in formation. There was a rhythm to it. Someone would come up from the fire – our side – with a hot drink and everyone would take a sip. Or with sticks of pepperoni, or pieces of a Cliff bar to share. Those in the front had to be fed by hand, as our arms were twisted behind our backs. Strawberry called out to us, from the front line, how much she was grateful we were there to help her defend Indigenous land – that it was easy to do in the summer when it was beautiful and warm. But this was hard – cold and pouring rain. And we were taking back the bridge with only 24 people. We could wait them out. Raj the Commander told us we'd be pushed back no matter what, but we didn't budge. Late afternoon, we sang the same song over and over, as a hypnotic calm came over us.

*Here we stand by the river
through the wind, the rain, and snow.
In the wind our branches may quiver
we will sway but we will stay.
And one day, when we fall
we will rot and crumble.
But we will know we have given our all
and we will feed the seeds of tomorrow.*

Late afternoon, the RCMP folded up one of the tarps, left the one over the fire. They drew a yellow caution tape with orange cones in front of the hard block, and left two younger officers in charge, with a pickup truck. Long-time protestors said they wouldn't come back in force until the morning – but now there was a watch. Those of us who needed to leave – at least six – and everyone else, stood in a row in front of the police tape to create a distraction. Arctic Fox talked with the officers – asking how many could hike down, that the girls in the hard blocks were okay. The cops insisted, only four at a time, every half hour. But how to enforce this? There's no rule to say only four people can leave at a time on crown land.

We had to leave, hoping to catch the last ferry. While the squabbling ensued, Strawberry helped two new people slip into the hard blocks. Sol and Bombadil were freed. We got the word it had been completed; my friend and I slipped out

along with Copper. Red Cedar and her dogs caught up with us. We began the hike down the mountain as light faded. We switched on our headlamps. Now and then an RCMP truck drove slowly behind us, or drove up in the opposite direction. Retrospectively, I realized they were looking for Strawberry, who had planned also to hike down, as we heard when we got to the bottom of the mountain that she'd been arrested. There was a scramble to find out which truck she was in – possibly the one we passed as we hiked out along the Teal Jones turn off. An officer barked at us to move on. The RCMP truck sped off. Almost immediately some defenders followed in a car. But we saw all this later.

On the hike down I could barely keep going at times – in the blue dusk, images of desolate clear cut. We met two defenders hiking up; we stopped a moment to let them know the bridge was still ours. Further down, we ran into about a dozen or so more defenders heading up, including Métis and Raven, who had been it seems arrested for the first time – illegally; correct process had not been followed. They were already heading back up – I hiked quickly, as I couldn't bear a minute longer carrying the pack – my right shoulder and arm were incredibly painful – partly from carrying it almost all day on my back, partly from being wrenched by the officer. At last, I spotted the old clear cut that defenders had planted as a healing garden last summer, then the blur of spotlights and smoke at roadside.

A woman ran up to us to ask how the two girls in hard blocks had done – Bombadil, Sol. It turned out Sol was her daughter. I said Bombadil had been squirming, maybe struggling, popping up a lot to look around, while Sol hadn't moved – was fine, but stoic. She said, yes, she would be. Then the cries went up about Strawberry. We hiked over to the car – had left the lights on – but miraculously the car turned over. Used the porta toilet, stripped off all our wet gear, turned on the heat full blast, and left, hoping to catch the ferry, driving along the torrential, dark, drenched roads, thinking all the time of the kids still up on the mountain at Landback bridge, especially the ones in the hard blocks. There's more but I'm done for now.

Postscript: On 26TH January 2022, the BC Court of Appeal extended Surrey-based logging company Teal-Jones' injunction against the blockades at Fairy Creek until 26 September 2022. "The conduct of police does not tarnish the reputation of the court; the court and police are constitutionally independent. The public interest in upholding the rule of law continues to be the dominant public interest in cases involving civil disobedience against a private entity," the judges wrote (*Times Colonist*, 26 January 2022).



Police removing a hardblock

Climate Changing

Nathalie Vigouroux & Wendy Hales on the November Floods

Did the last year's natural disaster events in BC raise your anxiety level about the state of our environment and climate change? As ge-

ographers, geologists and environmental scientists, we study and teach the science behind extreme weather events, floods, landslides, and other environmental hazards every day, but to experience them firsthand gives us a heightened sense of reality. Suddenly the predicted (and measured!) effects of climate change and land use change are not just theoretical, they are affecting us in our own back yard. Our first thought when the deadly heat dome brought searing and enduring temperatures to most parts of BC, or when the atmospheric river caused a multitude of catastrophic landslides that blocked major transportation routes and flooded people's homes and farms: how do we stay safe and support each other through these events? Our second thought: this will make for excellent teaching material come next semester! Indeed, the last year has given BC its fair share of natural disasters - the wakeup call has sounded.

The summer of 2021 was one of the warmest the province has seen in a long time. Since 1981, the average daily maximum temperature for the month of June at the Vancouver International Airport had never been so high (22.4C was the monthly average recorded in June 2021 compared to a long-term average of 19.6C from 1981-2013). Temperatures were much higher away from the water and in the interior of the province. The deadliest day was June 29, 2021 according to the province's coroner's office; 231 people died across the province as a result of the heat. Although most deaths occurred in the populated areas of Metro Vancouver, the highest temperatures and greatest amount of devastation to the environment was experienced in Lytton, in the Fraser Canyon area.

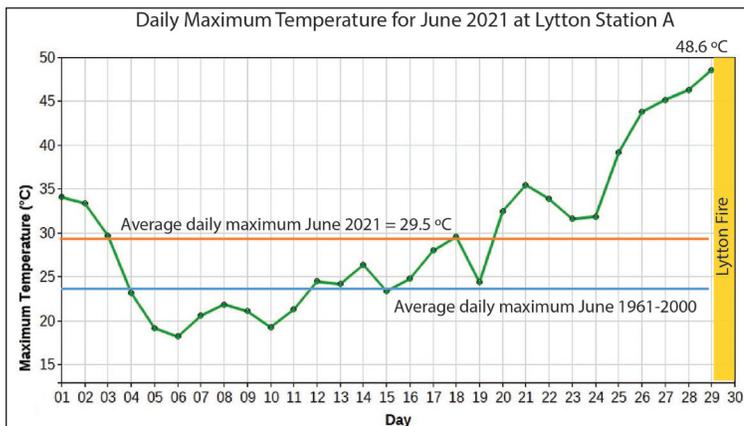


Figure 1. Graph of maximum daily temperatures recorded at the Lytton weather station A in June of 2021. The average daily maximum temperature for June recorded between 1961-90 was 24.3C, with an extreme maximum of 39.1C recorded in 1987. Between 2014-2020 the average maximum daily temperature in June in Lytton was 25.9C with a previous extreme maximum temperature of 39.9C in 2015.

The all-time Canadian temperature record was shattered on June 29, 2021 in Lytton, which recorded a daily maximum of

48.6C, the day before a devastating forest fire tore through the area (Figure 1). No weather data was recorded again until the July 6, 2021, when the maximum

daily temperature was still above 36C. In the seven days leading up to June 29, the average daily minimum temperature was 19.1C, 4.5 degrees warmer than the average daily minimum temperature for June between 1971-2000 (14.6C; see Figure 2). The lack of cool nights exacerbated the daytime heat.

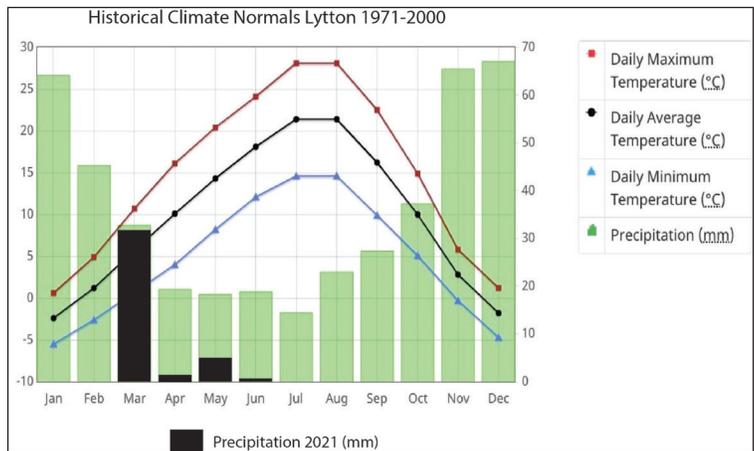


Figure 2. Graph of average monthly temperature and precipitation recorded at the Lytton weather station between 1971-2000, with precipitation data for March to June 2021 superimposed.

These extreme daytime highs and nighttime lows were the result of a "heat dome", a ridge of very high pressure that stalled over the Pacific Northwest for a few days before moving further east-northeast. Climate scientists who have studied the weather phenomenon believe drought conditions made the problem worse, given that there was very little surface water (e.g., soil moisture) available to absorb the sun's incoming energy, which instead went solely to heating the air above the Earth's surface.

Indeed, Lytton BC saw only 39MM of precipitation from March 1st to the end of June, only 6.7MM from April to June and only 0.5MM of rain in June (see Figure 2). Historically, Lytton sees an average of 18.8MM of rain in June alone and 89MM of precipitation over the spring period. Interestingly, snow pack was probably about average in 2021 for the area around Lytton: there hasn't been an active snow survey site in Lytton since 1991 but the closest station, Shovelnose Mountain to the east recorded a maximum snow depth of 88CM at the end of February that year, which is slightly above the average for Shovelnose Mountain (average max. snow depth of 76CM between 1990-2021).

Extreme heat and dry conditions are catalysts for forest fires. The 2021 forest fire season, although only the third most severe in recorded history, in terms of total acres burned, started early and caused significant loss of property and unfortunately two lives lost in Lytton. The Lytton Creek fire, which started on June 30, 2021, burned a total of 83,671 hectares, the second largest fire-affected region of the season after the Sparks Lake fire area north of Kamloops. Oth-

er significant fires burned throughout areas in the Okanagan (e.g., the White Rock Lake fire near Vernon) and the Fraser Canyon area (e.g., the Tremont Fire near Ashcroft).

Three months after the forest fire season ended, a very powerful “atmospheric river”, a narrow band of concentrated water vapour that moves through the atmosphere, arrived to the SW coast of BC on November 14, 2021. When strong atmospheric rivers stall over an area (e.g., days), they can cause flooding to small, vulnerable watersheds as well as landslides. Over the two-day event many rainfall records were broken across SW BC; Lytton received 91.7MM of rain, more than the monthly average for all precipitation (65.4MM average for November, 1971-2000) and beating out the previous record for daily rainfall of 43.2MM in 1990 by almost 20MM.

Intense rainfall over a short period, especially over steep terrain and areas where the vegetation and soil cover is thin, can lead to mass wasting events. It is not surprising that many of the landslides that blocked important transportation corridors occurred in areas of steep relief, and where recent forest fires had affected the ground cover. Figure 3 shows the locations of highway washouts in and around the Lytton Creek Fire perimeter.

The rainfall event of November 14-15 also caused severe flooding in the Sumas drainage basin, the low-lying area surrounding the Sumas River in Abbotsford. This came as a result of the flooding of the Nooksack river to the south. The Nooksack River drains the mountains south of the border, including Mount Baker, and such heavy rainfall could not be accommodated by the stream bed; it flooded its bank and spilled into the Sumas Drainage basin (see Figures 4 and 5). Although water

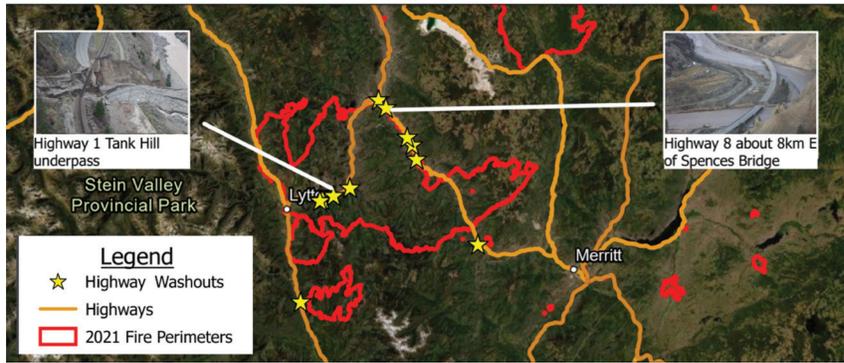


Figure 3. Map showing overlaps of 2021 forest fire perimeters and highway washout zones due to flooding/landslides following the November 14, 2021 atmospheric river event.

levels in the Fraser River rose, its drainage basin is so large, that the storm events did not affect the whole basin and, consequently, it did not flood.

Both the heat dome and the atmospheric river events were made more likely by

the effects of human-induced climate change. For example, the amount of precipitation that fell over SW BC in the two-day period of November 2021 was historically a one-in-fifty or -one

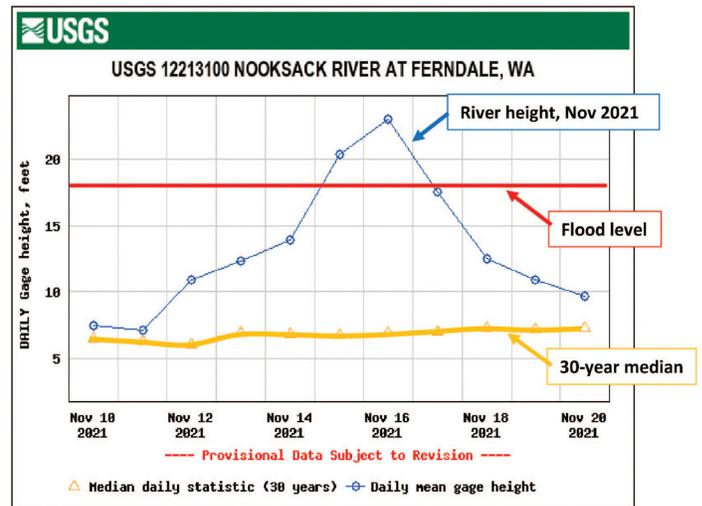


Figure 5. Graph showing the thirty-year average daily gage height for the Nooksack river (yellow) and the daily measured gage height in 2021 (blue) as measured at the Ferndale, Washington station November 10-20. The flood level is indicated by the red line.

hundred-year event that is now modelled to be a one-in-ten year event.

These numbers can be terrifying, and we ask ourselves: *what can we do to counter this trend?* Aside from a global push to cut fossil fuel use dramatically and immediately, the one thing we have some immediate and direct control over is our adaptability. Transforming our communities so that we are more resilient means rebuilding away from flood plains, building more flood-resilient homes, and managing forests in ways that minimizes soil erosion and large wildfires (e.g., avoiding clear-cuts, using prescribed burns). Over the past century, the global death toll associated with extreme-weather events has decreased dramatically, a testament of our ability to mitigate against these events.

The good news is that there is lots we can do, and if we’ve learned anything about human nature over the centuries and millennia of our history, it’s that we react best when faced with imminent and visible danger; and we can all agree that the risks to BC posed by climate change are very imminent and visible.

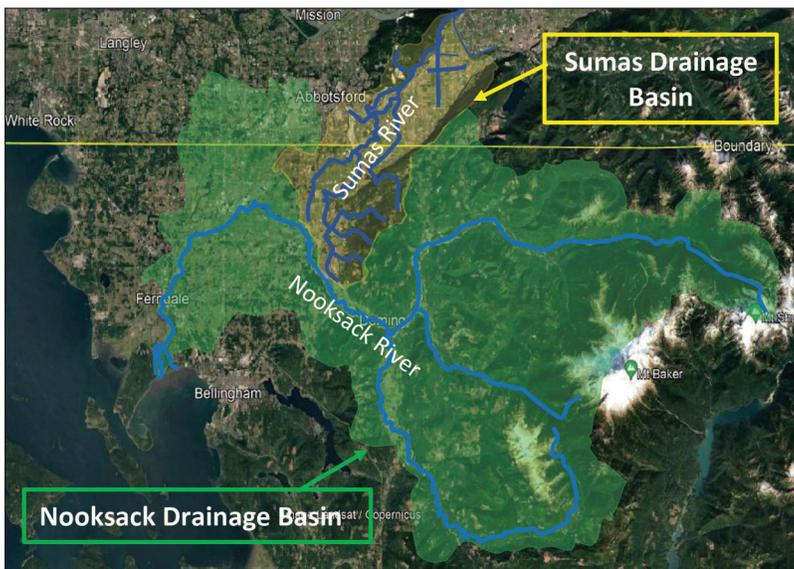


Figure 4. Map showing the boundary of the Nooksack River and the Sumas River drainage basins.

How To Retire

Morna Fraser, Finance

How much income will your Douglas College Pension provide you in your retirement? The chart below gives an example with specific numbers, but it's important to remember that the Douglas plan is a Defined Benefit Pension Plan, which means that what you will receive is based on a formula.

After 2016 the formula changed, and is now based on providing you an income of 2 percent (0.02) *per* year of service based on your Highest Average five years of Salary (HAS). (The formula before 2016 is more complex and would provide approximately 1.8 percent *per* year of service for a full time faculty member.) As an illustration, if a faculty member worked full time for 25 years and half-time for 10 years, they would have earned 25 + 5 years of 'Pensionable' service, or 30 years. If we plug in \$100,000 as the member's HAS, and multiplied by 0.02, this would result in a pension of approximately \$60,000 *per* year, except a bit less because of the years before 2016.

If you retire early but still have 35 years of service, you can avoid the early retirement penalty, and you would get a bridging amount to bring your income up to that 2 percent to age 65, then slightly less after, due to the pre-2016 formula. But there are also other factors to be considered.

Retiring before age 65: For service after 2015, the pension reduces by 3-5 percent for every year you retire younger than age 65. Thus, if you retired at age 61 you would lose at least 3 percent x 4 years = 12 percent, so your \$60,000 would be 0.88 x \$60,000 = \$52,800. For pre-2016 service the reduction only begins before age 60, and faculty who have 35 years of service have no reduction at all.

If you have a spouse: Your pension considers your spouse's age unless they have signed away their right to their part of your pension while you were married (or had

a common law or marriage-like relationship), and you were a member of the pension plan. If your spouse is younger than you (or female and you're male), this will reduce your annual pension income significantly. Your spouse would also have to sign off if you want to choose less than 60 percent of the pension income continuing to them should they survive you. Which brings us to -

Survivor benefit: This enables your spouse to continue to receive a portion of your pension should you die before them. Thus, you need to consider what percentage of the pension will continue in that case. If you select 100 percent, this will significantly reduce your annual pension income. And of course, if you survive your spouse, your pension is unaffected.

Guarantee period: This determines what would be paid to children (for example), if both spouses died before the end of the guarantee period. If you selected the 15 year guarantee period (vs. 5 or 10 years), this will slightly reduce your annual payout, but would mean that if both parents die before the fifteen years is up, the remaining payments would go to the beneficiaries.

Adding Up A Pension

After 1 Jan. 2016 the college's Pension Plan formula became 2 percent of service x HAS (Highest Average [5-year] Salary).

6 year x .02 [2 percent] x 100K

The pre-2016 college Pension Plan formula is based on 1.7 percent per year on income up to Yearly Max. Pensionable Income (YMPE), and 2 percent for income above YMPE for the previous year. The salary and YMPE numbers are based on the year prior to retirement.

YEAR	YMPE	HAS	PROPORTION @ 1.7%	PROPORTION @ 2%	PENSION FACTOR
2021	61,000	100,000	0.616	0.384	0.018152

Canada Pension Plan (CPP) is also a defined benefit pension plan based on YMPE and gives the maximum based on: (proportion of number of years contributed out of 39 years) x (proportion of YMPE earned *per* year). It is indexed for inflation.

A full-time faculty salary is above YMPE, thus, someone who taught full-time for 39 years would get the maximum CPP (15,043 in 2022). However, if a faculty earned above YMPE for 30 years (but with little or no pensionable income in 9 years getting a PhD), their CPP would be 30/39 x 15,043 = 11,572 (in 2022).

Old Age Security (OAS) is based on the number of years as a Canadian/Permanent Resident between ages 18-65. You need a minimum of 10 years to qualify for any OAS; which would give you 10/40 (25%) of maximum. Note that OAS is clawed back 15¢ on the dollar on income over 79,054 (in 2022).

In this example, when we add up all income sources, the total is just under the OAS clawback threshold. Note that while all the above sources are indexed for inflation, the college component is not guaranteed, and would not be able to sustain indexing in the event of long term inflation above 2 percent.

Example of someone retiring in 2022 with HAS \$100,000 and 30 years pensionable service.

Years in post.-2016 formula	6	12,000
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Years in pre-2016 formula	24	43,565
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CPP 39 years at maximum YMPE (assumes 15,043, but most people get less than maximum).	15,043
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Maximum OAS 2022 (assumption).	7,707
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Total retirement income	78,315
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Some points emerging from the above discussion need to be kept in mind, particularly that *retiring early can reduce your pension significantly*. As to your overall retirement income, on the one hand, working part-time significantly reduces your years of pensionable service, but on the other hand, all the years worked after 2016 will give you more pension income. You should also *consider delaying applying for CPP and OAS*. Why? Because delaying those applications until age 70 can significantly increase your retirement income. CPP payments increase by 0.7 percent for each month delayed after age 65 (or 8.4 percent *per* year). OAS payments increase by 0.6 percent *per* month after age 65 (or 7.2 percent *per* year delayed). This means that waiting until age 70 will increase your CPP by 42 percent and your OAS by 36 percent. It's true that CPP can also be claimed early, but it's reduced by 0.6 percent *per* month, while OAS cannot be claimed before age 65.

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Bicameralism and the Role of Faculty

Ralph Ferens, DCFA Member at Large

Over the past five years, Douglas College has experienced unprecedented growth in program offerings, student enrollment, and faculty. Many new members of the Douglas College faculty community are relatively new to the college and may not be aware about the specifics of bicameralism, how bicameralism works at the college, and the role of faculty.

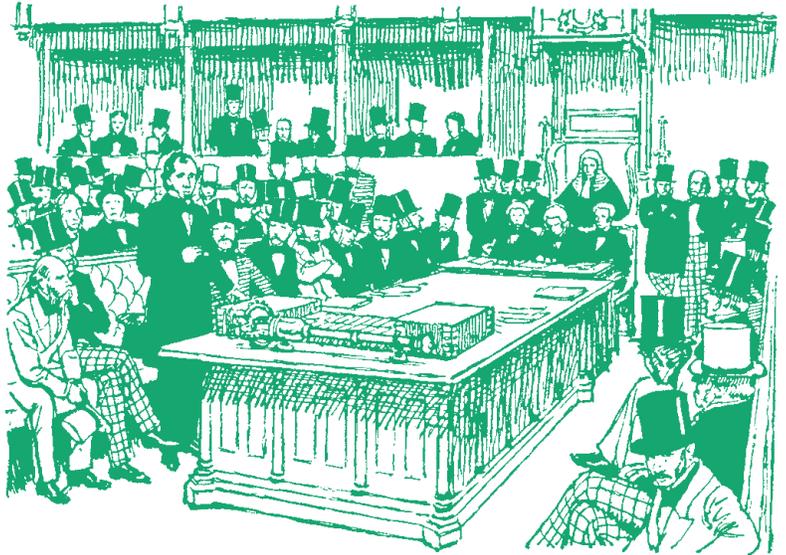
Bicameralism is unique system that is not adopted across the majority of workplace sectors. In this short article, I want to first, provide a basic overview of bicameralism, then go over the role of bicameralism in the post-secondary education sector, and finally, explain the role which faculty play in Douglas College's bicameral model.

In its simplest form, bicameralism is a system that divides authority between multiple governing bodies in order to provide checks and balances in decision making processes. Examples of successful bicameral model implementations across governments include the Canadian system that divides authority between the House of Commons and the Senate, the US bicameral system that divides authority between the House of Representatives and the Senate, and the French systems that divides authority between the National Assembly and the Senate.

Just as many governments are structured using a bicameral administrative model, most post-secondary colleges and universities also utilize this model. This model is utilized in the post-secondary sector because the challenges faced by academic leadership are too complex and multifaceted for top down leadership styles to work, hence, academic institutions divide authority between two powers. One power – constituted as either a Board of Regents or a Board of Governors – has authority over college/university property, revenues, and general operational business. The other power – embodied in a Senate or Education Board – has authority over academic program development, and academic regulations.

At Douglas College, the bicameral system divides authority between the Board of Governors, and Education Council (EdCo). The Board of Governors “acts on behalf of the public and oversees the property, revenue, expenditures, business and affairs of the College.” Administrators report to the Board of Governors. The British Columbia *College and Institutes Act*, tasks EdCo with the following roles and responsibilities:

- ❑ the sole responsibility to set curriculum content as well as certain policies and criteria as identified under the *Act*;
- ❑ the joint responsibility with the Board on matters of



curriculum evaluation related to course transfer as identified under the *Act* and other responsibilities of the Board that, on the initiative of the Board, the Board and the Council are subject to joint approval;

- ❑ an advisory role, responsible for advising the Board on the development of educational policies as identified under the *Act*.

EdCo has 23 members, or seats; 20 of the seats have decision-making voting authority, allocated as follows: 10 faculty member representatives; 4 administrators; 4 students; 2 staff. The remaining 3 seats (President, Registrar, Board Liaison) do not have decision-making voting authority. As such, faculty have a majority group position at EdCo.

In addition to the British Columbia *College and Institutes Act*, vast areas of the bicameralism system at Douglas College as we know are guaranteed by the Collective Agreement. Faculty serve the college by actively participating on critical committees such as faculty selection committees, administrator selection committees, program development committees, and professional development fund committees. Additionally, faculty self-evaluate and self-schedule. In a bicameral model, faculty are equal to administrators, and respect each other's jurisdictions. Because bicameralism implies a structural division of power, administrators and faculty are inherently positioned in somewhat adversarial roles. In order to engage faculty and support faculty in their pursuit of these roles, the Faculty Association has created and published an ongoing and multi-part communication series called “Opportunity for DC Faculty.” This series spotlights and provides information about the many opportunities that are available to Douglas College faculty members and may be found on the DCFA website. For more information, please contact the Faculty Association.

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Virus Hunters

Jon Paul Henry reviews a new book on the origins of COVID

For the past two years, we have all been living behind masks and being careful, when we do venture out in public, not to get too close to others who might unknowingly infect us. Recently, we've seen a relaxation of restrictions, but still, for a social species such as ourselves, this sort of enforced solitariness and lack of casual contact is deeply upsetting and productive of stress and anxiety: it feels unnatural. Much frustration and anger – especially among the anti-vax crowd – has been the result.

The vaccines, of course, are the amazing success story that has emerged out of this global trial by fire, a validation of the power and efficacy of science to rescue us, “though pale and faint,” from death itself. The problem is that there is at least a chance that the pandemic, even if not directly caused by science and scientists, might have been a result of the science of virus research. This, at least, is the working hypothesis of Alina Chan and Matt Ridley, in their new book, *Viral: The Search for the Origin of COVID-19*.

Are they right? The story is a tangled one, and we should perhaps start by taking a quick look at the authors themselves. Ridley is a celebrated popularizer of scientific topics (he has a doctorate in evolutionary biology), but he has also been attacked as both right-wing and as a climate change denier. Needless to say, he denies the charges, calling himself a libertarian, and claiming simply to follow the science. He's also an hereditary peer, the fifth Viscount Ridley, and perhaps for reasons of lineage, perhaps for reasons of politics, the book has attracted some negative reviews, particularly by Mark Honigsbaum in the *Guardian*, who did his best to misunderstand what Ridley and Chan actually said. Chan herself is Canadian, *via* Singapore, and, like Ridley, she has a doctorate in biology; currently, she's a post-doctoral scholar at Harvard.

The science in the book seems, to this non-scientist at least, no different than standard accounts of the virus and the fight against it, but the science really isn't what's at issue in Ridley and Chan's telling of the tale. Put any two humans together and instantly you will have politics; clump a lot of humans together, and you end up with specialists called politicians, whose jobs will differ depending on the nature of the regime which employs them. Authoritarian states and their politicians typically build and maintain large and complex systems to handle the management of perceptions, and the first response of those systems will usually be to conceal things which cannot quickly and easily be managed with a handy lie or half-truth. For Ridley and Chan, then, the real story is about how the Chinese government, along with its international and even scientific enablers, has for the last two years been simultaneously trying to satisfy the demands of the international community for transparency about the origins of the virus and the demands of their own political leadership for control and secrecy. And you can guess who wins, most of the time.

Absent this clique of managers, it would probably have been a relatively easy task for scientists to figure out where the virus originated and how it made the leap from an animal species (probably a bat, is the consensus) to humans. Clearly, this would never have been a simple task, but it would have been easier if the Chinese government had not muffled its own scientists and put obstacles in the way of international scientists trying to do their jobs. And if you find it hard to credit that Chinese government lacks either the staff or the will to micro-manage such affairs, in a recent Associated Press story on the ongoing attempts of Chinese state media to rebrand their reporters as Instagram “influencers” and YouTube content creators, we find the fol-

lowing anecdote.

YouTubers Matthew Tye and Winston Sterzel who “spent years living in China” and came away from the experience as regime critics, got an email in 2021 from a company calling itself Hong Kong Pear Technology, asking them to host a tourist video about beach resorts in Hainan on their channel. AP News reports that Tye and Sterzel believe the email to have been sent them by mistake, but

intrigued, they engaged in a back-and-forth with the company while feigning interest in the offer. The company representative soon followed up with a new request — that they post a propaganda video that claimed COVID-19 did not originate in China, where the first case was detected, but rather from North American white-tailed deer.

“We could offer \$2,000 (totally negotiable considering the nature of this type of content) lemme know if u are interested,” an employee named Joey wrote, according to emails shared with the AP.

AP News contacted HK Pear, asking about the client who was going to supply the video, to which an employee replied “he did not know much about the client, adding ‘it might be from the government??’” – which looks to me like a sort of deniable confirmation.

It's clear, then, that much dust has been thrown in the eyes of investigators by the Chinese government.

But why?

Two answers (at least) are possible here, the first being that the Chinese government has something to hide, and the second being that because secrecy and obfuscation are reflex responses in regimes run by dictators, in the case of COVID, they just followed their nature. In Ridley and Chan's book, readers may consult for themselves the depressing chronicle of Chinese government's attempts to prevent any independent assessment of the true story of the origin of the virus. But did they do so in order to hide evidence that the virus either escaped from labs in the Wuhan Institute of Virology (WIV) or was created there?

Following the logic of the regime laid out above, the answer has to be 'No'; the habit of dictatorial regimes to restrict information flows, and even engage in disinformation tactics does not mean that in every case they are attempting to conceal a truth. In most cases, I would guess, they do not much care what the truth is, only what narrative they can push in any given case.

And we can dispose right away of the notion that the virus is some sort of bioweapon engineered at the WIV and then released on the unsuspecting world in order to — in order to — to what? China suffered as much as any other country in the world from the first waves of the virus, and is currently suffering more than other countries because of the relative weakness of its home-grown vaccine, which is not especially effective against the omicron variants. Who in their right mind would design and then use a weapon to not only harm themselves first, but which would then be highly likely to circle back and harm them again? Ridley and Chan rather lamely say that the bioweapon possibility “cannot be dismissed,” but they point out that there is no hard evidence to support it and give it as their opinion that

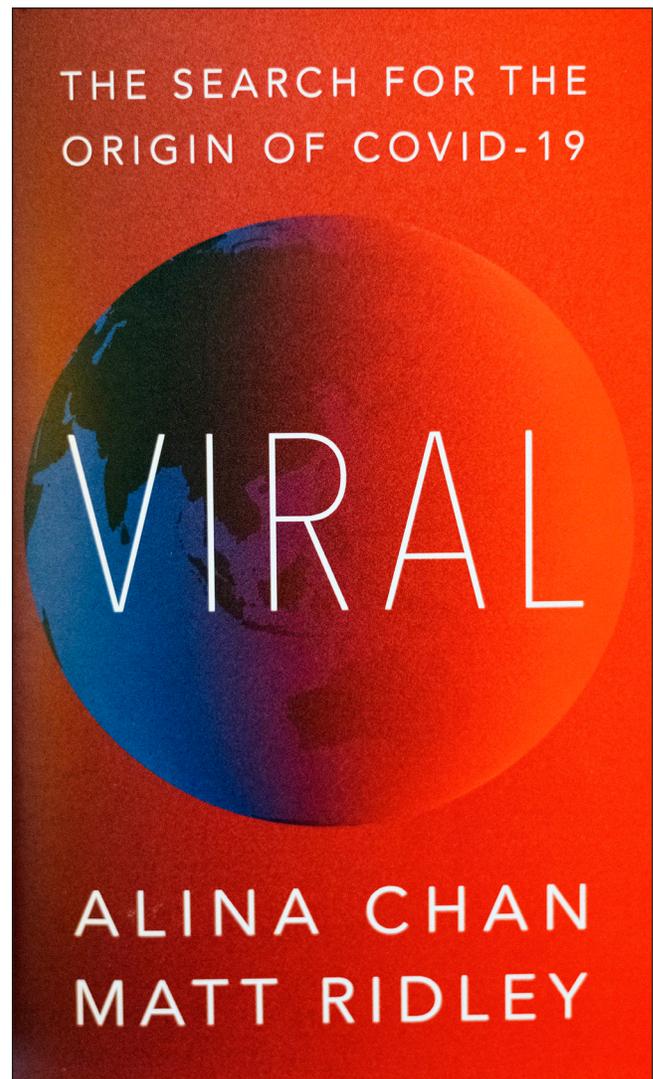
allegations that SARS-COV-19 is a bioweapon ... are a distraction. If the virus came from a laboratory, it is much more likely that it was a leak from experiments designed to understand viruses that pose potential pandemic threats.

Those sorts of experiment were, in fact, one of the main thrusts of research pursued at the WIV, as they are also the focus of research at many other research institutes around the world.

It is on the latter scenario – the lab leak, or virus escape – that Ridley and Chan pin their narrative, that somehow or other, security protocols at the WIV temporarily failed, and the virus escaped; most likely from a lab worker unwittingly exposed to a virus sample, who became sick and then passed it on to family and neighbours, or to someone working at the Huanan seafood market in Wuhan, which is just across the river from the WIV. Good security in any lab does not consist in protocols alone, but in making sure that protocols are *always* followed *every* time. Humans have shown many times over that they are not so good at the latter part of that equation.

The Huanan market was where early cases of infection showed up, and the Chinese authorities moved quickly to take literally thousands of samples from humans, from animals, and from the market environment. Thus, the early narrative about the virus was that it had jumped from an animal at the market, perhaps a pangolin, to humans. The problem was that, once the Chinese government finally got around to revealing the results of their investigation, a year after the pandemic started, it turned out there was not a shred of evidence to support the market narrative; and in the interim, there was at least one paper by a Chinese scientist that deliberately obfuscated data in order to support the pangolin origin story.

Ridley and Chan clearly do not want us to take them as peddling a dark conspiracy theory, and in support of their “lab leak” notion they point out that from the first moment of its appearance, the virus seems to have been uniquely well adapted to human hosting, that it was ferociously transmissible, and that



Matt Ridley, Alina Chan. *Viral: The Search for the Origins of COVID-19*. Harper, 2021. ISBN: 978-0-06-313912-1. \$36.99.

is was passing strange that a virus whose closest relatives were found nearly 1,000 miles south-west of Wuhan, should choose Wuhan for its debut on the world stage. As for the adaptation and the transmissibility, both of these, they suggest, might be traceable to something called “gain of function” research, that is, creating worse versions of natural viruses supposedly to assist in developing multi-capable vaccines. This sort of research has been pursued by virologists world-wide over the last decade, though a good number of them now think we should not be doing it, precisely because of the likelihood of accidental releases. Ridley and Chan do not allege that any such thing actually occurred; but in the absence of transparency from the Chinese government, they believe it is indeed possible that gain of function work at the WIV led to the creation of an enhanced strain of a SARS virus, which then escaped into the wild.

Or not. As Ridley and Chan also note, many coronaviruses found in bats can apparently cross over to human hosts with ease, and are anyway highly transmissible.

We are left, finally, with a puzzle we cannot solve, not at least until the Chinese government opens its records for examina-



Shekou "Wet Market" In Shenzhen, China, in 2019. Similar markets are common all across Asia. (Photo by Laurel Chor for NPR.)

tion – and that assumes that the relevant records were created in the first place and that they still exist. As Daniel Engber wrote in the *Atlantic* last fall, both theories about the origin of the virus (lab leak; market transfer) can explain it handily.

Those inclined to think ... that the pandemic must have started from a traded wild animal share a fundamental intuition with those who point their fingers at the [WIV] lab: They've both looked at all the facts and then identified a grand

coincidence, and they both believe that their theory – and only their theory – can explain it.

That is, both theories about the starting point for the pandemic depend upon our accepting one coincidence or another as more probative, but both depend, finally, on coincidence. Why? Because all of us, says Engber, are working in the dark, because none of us have the crucial data needed to answer the question. As for the lab-leak theory, he points out (as do Chan and Ridley) that the WIV's "public

database of thousands of sampled bat-coronavirus sequences has been offline since September 2019, and no one can explain why"; and as for the market theory – "if wildlife vendors at Huanan were ever tested for antibodies, those results have been kept secret."

His conclusion is one that perhaps Chan and Ridley might have emphasized more, given that they present pretty much the same evidence as he does. The Chinese government, he says, "may well have an interest in withholding evidence for both pandemic origin theories [because] each implies official negligence in its own way."

Exactly so.

And if only one of the coincidences "is pointing towards the truth," he says, "what are the odds we'll ever find out?" As fine an exploration as Ridley and Chan's book presents, it seems to me to suffer badly from the desire to present a relatively simple narrative, with clearly marked heroes and villains. This leads them to downplay the equally balanced probabilities of the two competing origin theories; and while they say they are do not want to peddle conspiracy theories, the structure of the narrative tends to push readers in precisely that direction. Heroes and villains are the stuff of adventure yarns. Real life is seldom so clear, and the book would have been stronger if it had embraced that possibility. jm