Rethinking universities in the era of climate change

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What are universities doing?

This talk came from my frustration with how universities are responding to climate emergency.

- Corporate-style "sustainability": VPs, associate deans, senior administrative positions, fancy webpages, sustainability rankings.
- Money (millions of $): raising money, spending money, massive construction projects.
- Feel-good (cheap) projects: plastic straws, bike to work competitions, etc.
- Climate strike, Sept. 20 and 27. UBC did not cancel classes. Nor does it plan (as of now) to divest from fossil fuels.

Where I'm coming from

I grew up in Poland, then a communist country devastated by WW2 just a few decades earlier. Living standards were very low. We did not have corporate sustainability. What we had was very limited resources.

- On individual/family level: frugal living. Reusing, repurposing, and repair were a necessity. So was contingency planning (for power/water outages etc.). We could not outsource our problems or buy our way out of them.
- But the state economy was extremely wasteful: central planning, inflexibility, disregard for expertise, inattention to local specifics.
- Huge disconnect between how individual households were run (efficiently, with a lot of creative adaptation – usually by housewives) and how state economy was managed.

View from Rebecca Spit, Quadra Island, BC

What I want to argue

- We need to rethink sustainability, especially at universities. Maybe we need less activity, not more. Less construction noise, less fundraising, more room for quiet study and reflection.
- Stop measuring sustainability by the amount of money being spent on it. That makes no sense.
- It's not enough for us, individually, to try to reduce our own activities that damage the environment. **We have to stop requiring others to engage in such activities.** That includes indirect pressure through professional and institutional norms.

What I want to argue, cont.

- Change will be forced on us. We will have to adapt, one way or another. It's up to us whether we make the transition humane and how much of human knowledge we manage to preserve.
- The more humane and (relatively) more optimistic scenarios require social justice. We need to listen to local activists. We need to listen to those who have experience living with scarcity and uncertainty. We need redistribution, badly. We need more equality, less competition, more cooperation.

Corporate "sustainability"

- Major financial operation. Fundraising comes with strings attached, pulling us in non-academic directions. Stadiums, alumni centers, etc. instead of classrooms, libraries, and research space.
- Megaprojects: the campus version of central planning. Same "improvements" everywhere across campus, needed or not. No local coordination.
- Thin line between reducing environmental impact and just shifting it elsewhere. Replacing appliances can reduce emissions on campus, but these appliances have to be manufactured somewhere else and contribute to pollution there. We can't keep doing that.

Corporate "sustainability", cont.

- Decisions are often made by people who don't actually teach or do research. Private consultations with donors, no transparency, faculty and students informed after the fact.
- No regard for actual academic activity. I've often felt like construction, landscaping, etc. were treated as top priorities, and my teaching/research were just getting in the way of that.
- Do we still want to have a university? So many sustainability projects involve reducing space and resources available to us on campus. Should we just close campus altogether, except to developers, and have students watch some YouTube videos instead? Would that be "sustainable"?

Feel-good projects

Example: bike to work competitions.

- Need to live close enough to campus.
- Works well if someone else (usually, wife) can pick up the kids from school, buy the groceries, run errands, do everything else that requires a car. (Does not reduce environmentally unfriendly activity, just moves it elsewhere.)
- Need good enough health and enough energy left at the end of the day.
- These competitions are usually won by white men. Coincidence? I think not.

Actual sustainability: workload issues

Our workloads keep increasing. Faculty often report 50-60 hour work weeks:

- Course loads and/or class sizes.
- Additional administrative duties. (Digitization was supposed to reduce the bureaucracy. Instead, it has increased it.) Not only imposed by senior admins. We do it to each other.
- New: long lists of things we are expected to do to support student well-being. It's additional work, but surely we care about our students, don't we?
- Oh, and also, could we please ride our bikes to work? Because environment.

Actual sustainability: workload issues

It does not work that way.

Tired and overworked people do not have the capacity to accept additional challenges. They will drive to work, order takeout food for lunch/dinner even if it comes in Styrofoam containers, forget their reusable bags, throw garbage in compost bins by mistake, generally waste resources that otherwise could be saved.

Employers/cities can't just tell us to get on our bikes. They need to understand the reasons why we need cars, and then address that.

Vancouver, Summer 2017 (The Fifth Season)

Actual sustainability: health

Climate change will be hard on us, both physically and mentally.

- Heat waves, wildfires, air quality.
- Disaster preparedness and responses.
- Power outages, boiled water advisories, etc.: we will not be able to rely consistently on modern age conveniences.

We will not be able to demand that everyone must operate at 100% capacity, 100% of the time. Employers will have to acknowledge that people are human, and plan accordingly. If lack of resources does not stop us, public health issues will do it.

Rethinking universities

We will have to slow down and think hard about what is important to us. What do we want to create? What do we want to save and preserve for future generations?

We will probably continue to teach and do math research. Both education and creativity are basic human needs. Look to WW2 in Poland: underground classes were held even when penalties included death and concentration camps. Mathematicians did math in horrifying conditions, if only to distract themselves. We won't give up on it easily.

But we do need to think about which parts of our jobs are less important and could be discarded.

Less gatekeeping, more redistribution

- We spend so much time on gatekeeping. Refereeing, proposal evaluations, ranking decisions, writing and reading recommendation letters, deciding whether this paper is just good enough for Journal X but not for Y. What if we didn't have to do that? We only have limited time available; how much of that time do we want to spend on refereeing?
- Gatekeeping would be less intense if the stakes were not as high. We can't continue with the Hunger Games model where only a handful of decent jobs is available and everyone else is an adjunct with no job security.
- Hi NSF! Smaller grants distributed to more researchers would be a great model to adopt.

A Green New Deal in mathematics?

- A Green New Deal in math would have to mean redistribution of work. Lower the workloads by splitting them up between more people. Creates new jobs, not in construction but in education. I'd accept that, even if it meant lower pay for me.
- Allow for specialization and division of work. Tenured faculty already do their research, supervise grad students, teach large classes, teach small classes, write grant proposals, hustle for funding. Also asked to learn innovative teaching methods, serve as health counsellors/therapists when needed, engage in public outreach, etc. These are all good things to do, but can one person really do it all? In the limited time we have? And still ride a bike to work?
- But make that division equitable.

Less output, but make it count

- Stop measuring quality of researcher by quantity of output. Stop using "productivity measures" such as citation index or counting the number of published papers. Contributions to knowledge $\neq$ level of activity.
- Be more realistic about what can legitimately be expected from junior job candidates.
- Conferences, institute programs, etc.: how many do we really need? How do we best use them? The answers may be different for different people. But we should drop using conference invitations as markers of importance. Air travel has high carbon footprint and is not great for our health.

Preservation of knowledge

- Do we still have time to read other people's papers? 30-40 years ago, people would rediscover previously known results because research dissemination was less effective. (No internet, limited access to professional journals, publishing delays.) Now, this happens because young mathematicians are under so much pressure to produce new results that they have no time left for reading. Also because some papers are very difficult to decipher, even for experts.
- Knowledge can and does get lost, especially during major upheavals. We need to spend less time "producing" new papers making incremental progress, and pay more attention to consolidation, exposition and preservation of the knowledge we already have.

Equity and social justice

- Less stratified fields, with less gatekeeping, are usually good for diversity and equity.
- Feminist, anti-racist, and social justice groups have developed professional norms and codes of conduct that reduce gatekeeping, improve the working climate, and promote cooperation. In recent years, I have been drawing on that experience in my own mathematical practice, with good effects.
- We need to stop thinking about science and math as a top priority that overrides everything else. It is an important priority, but only one of many, and we need to find a balance.

How are we going to get there?

- Collective action. Unions.
- No need to reinvent the wheel. Listen to social justice advocates, and learn from them. Listen particularly to indigenous activists. They are already doing the hard work for us. They know the local environment better than we do. Learn to work under their direction.

Rethinking universities: a coda

We cannot buy our way out of the climate emergency. Capitalism will not save us. Universities, as non-profit organizations dedicated to the pursuit and dissemination of knowledge, should be leading the way. We should experiment and model the change for others.

We need more quiet study, reflection and contemplation. We need to learn to make do with less.

We like to say that mathematics only requires a pen and pencil. We may be tested on that.

Thank you!