

Home

By Laureen Stokes

July 22, 2018

What is Home?

Home. My home. The place that comes to mind when I speak that word exists only in my memory and in the memory of my friends and family. It is a place. A house and a yard and two acres of nut trees and years of jokes about growing up on a nut farm. I saw my home - my family's home - being built. In fact I got to help with the design. During construction, I helped to paint the walls with my Mom and install plugs and light fixtures with my Dad. Later, with the help of my future da-in-law, we built a huge pond, and a stream and fountain that would be the backdrop of my wedding. I built a trellis with my brother and picked nuts with my sister. We had community bonfires and wiener roasts. Loud and boisterous family dinners. And it is where we gathered at sad times like the morning my mom died. It was a place I eagerly left as a teenager, but when I moved away from home, it was a refuge, a place I could come home to, to feel safe.

Home wasn't a building. It was our creation. The house was a scaffold that we hung our memories on. The strength and stability of that scaffold gave us the framework we needed to build relationships with each other and recover from the intensity of the world around us.

It was a refuge. It was safe. It was home.

A Story

10 years and 6 weeks ago I started a new adventure. I had graduated from BCIT, and started my first "professional" job as a building science technologist at an engineering firm.

I worked at an engineering firm that specializes in the building envelope – the parts of the building that separate inside from outside, walls windows, roofs, etc. My first few years were spent investigating buildings. I'd climb ladders and cut holes in stucco or siding, poke at the wood or gypsum behind, measuring the moisture content and checking for rot or disintegration. I'd wander around building staring open mouthed at walls and windows, imagining the path water would take, and then guessing at how I could check. I used precision tools like moisture metres, hobo data loggers, thermographic cameras, Kestrel weather sensors and boroscopes. It was like "CSI – Building Science". I'd put my head up in balcony soffits, occasionally discovering rats, squirrels or birds. I was tough. I was proud.

While we investigated many different types of problems, most of my work was concerned with water. When we made openings into the wall, I'd poke and prod, testing the strength of the wood. Is there evidence of water ingress? What about light fungal growth, staining the surface of the plywood? Is the outer layer of plywood

damaged? Or is the entire piece of wood rotted away. I was excited when I found rot – wood so badly deteriorated I could pull out handfuls.

I was excited when I found rot.

I was excited when I found rot in the walls or balconies of someone's home.

As a young professional, the discovery of rot and deterioration was a vindication. Proof that I was good at my job. Proof that I knew how to read a building. It meant a clear story to tell with obvious recommendations. There is rot. It is caused by water. It will get worse. You must fix it.

As my career advanced, rot meant opportunities for career advancement – new clients, new construction jobs, new opportunities to learn.

It also meant fixing buildings, making them better. More energy efficient, reducing greenhouse gas production. Did you know that as much as 45% of greenhouse production comes from burning fuel for heat and energy, and about 12% is from heating buildings? Fixing buildings, making them less drafty, more air tight, and with better insulation is helping to save the world, and governments around the world, including Vancouver and London are experimenting with initiatives to encourage building owners to make what are called deep energy retrofits. Non-profit housing providers and buildings owned by government agencies are targeted for early adoption of many of these retrofits to increase our knowledge of how to do this work and bring construction costs down. There are many incentives for market housing owners to improve their buildings over and above the minimum.

But for my clients, typically strata corporations, it meant that individual homeowners might have to spend \$50k to \$100k each to fix the building properly. In some cases, that meant foreclosures and people losing their home. In others, it meant the breakdown of relationships. For all residents, it meant 6 months to 2 years of early morning banging, scaffolding, tradespeople walking in and out of their home, and a view of blue scaffnet. Such building envelop rehabilitation projects are unbelievably stressful and few individuals would willingly embark on such a project.

While doing a building enclosure investigation might be thrilling, the impact of my diagnosis was never more obvious than the evenings I would meet with owners to walk them through my investigation; to show them what I saw in a way that hopefully they would also come to the same conclusions. It was all very rational. While rationality might have been my hope, the reality was different. I was talking about people's homes, and home isn't just a building.

Owners were angry. Mad. Sometimes they would shout. Sometimes they would stand up and raise their fist. Sometimes they would point at each other – literally. Some would be defensive, pointing out all the work they had done, the repairs they'd completed, the maintenance undertaken. The effort they had put into making the building a home. But it hadn't been enough – or sometimes made things worse.

I can remember one strata corporation, the meeting happened to be at a church, where the seating was divided into three, with two aisles. On the right of me, everyone seemed to think I was spouting hogwash. I was making it up – things were not as bad as I was presenting them to be. This group was angry – seething. The group in the middle, they generally agreed with my observations – that things were broken and needed to be fixed. But I was presenting inappropriate recommendations. The owners didn't need an "engineered" solution. I was overly conservative. Too expensive.

The group on the left – the quietest of them all, expressed agreement and confidence with my recommendations.

And me? What did I think? I was exhausted, defensive, nervous. I started to doubt myself and my recommendations. I did not doubt my investigation, but I wondered if the best way of fixing things was the right way – we don't always need the best – sometimes we just need good enough. But then who decides what is good enough?

Tragedy

Two years ago, in June 2016, I first read about the fire at Grenfell Towers. I am sad and ashamed to say my initial reaction- before I knew about the loss of life – was a type of professional smug satisfaction and certainty that I knew what had happened. But I was concerned, so I did some online research, peering into internet archives to read about the project on architect, engineer, and contractor websites, to discover with dismay that my initial assumptions were completely wrong. The material that featured so prominently in the fire was a material I thought was non-combustible. It is a material commonly used in North America, and is considered a luxury product – not at the very highest end, but certainly more expensive than others. I learned more about the building – the lack of sprinklers, the single emergency exit stairway, the design of the wall assembly with growing dismay. I was reassured that the work I was involved in locally is unlikely to have a similar catastrophe, but I wondered how design decisions were made that had such a disastrous consequence. What were the contributing factors?

A few months after the fire, I found myself in a meeting of the senior principals and associates of my company, discussing Grenfell Towers and what we should learn from it. After all, recladding buildings was our bread and butter. Engineers, architects, construction managers and technologists from different cities discussed different strategies and designs used in different offices; the nuances between ¾" rainscreen and 2" rainscreen; the effectiveness of cross cavity flashings as a fire stop above windows; the use of non-combustible mineral wool insulation versus the flame resistant polyisocyanurate insulation. We discussed what we knew, and what we assumed. We talked about testing protocols and ASTM standards – what we should be referring to in our own work. We shared resources we had available to us and made sure we all had access to an up-to-date technical library. We learned from each other, and sought out new solutions, checks and balances. We talked about our processes, the steps, checks and balances during design and construction that might catch potential errors. We learned and we got better.

Engineering is not a perfect profession. We learn from trial and errors – sometimes we intentional create situations to measure when failure will occur. Standardized test procedures are a type of testing something until it breaks in a controlled manner that allows for measurement. And sometimes we are doomed to learn from catastrophes – fires, building collapses, leaky condos. And reputable engineers will use the mistakes of others as an opportunity to improve their own practice to avoid those mistakes in the future.

For example, some of you may remember the collapse of Save On Foods at Metrotown in 1988. Fortunately there was no loss of life, but the catastrophe did result in an inquiry and that inquiry made recommendations to prevent similar errors that could result in a greater tragedy.

The collapse at Save on Foods was the result of engineering mistakes – a critical beam was under-designed and steel joists were not properly restrained. But those mistakes happened in a larger context. There was inadequate communication between architects and engineers, and changes were made on the fly during construction. The professional fees were low, and fees translate into time – less money means less time. In this case, it meant less time to check calculations and follow through on deficiencies. It takes time to do a good job.

Our BC building permit process was changed after Save on Foods to encourage proper communication and accountability between architects and engineers, and also to ensure designs are adequately thought out before construction begins. Recommendations were made to set minimum standards for engineering fees. Engineers also have to go through more rigorous evaluations of their management and communication processes inside their offices. Doubtless recommendations to change the system and process will be made after Grenfell Towers. And those recommendations will increase costs.

It's a messy problem, really. Engineers, architects, property managers, and other professionals are pressured into working faster and more "efficiently". The greater the pressure to keep costs low, the more likely we will have errors. And the greater potential for disasters. If we let costs go up, then projects don't happen. Houses aren't built or, houses aren't repaired and begin to deteriorate over time, resulting in other risks to society. Like falling chunks of brick and mortar such as what happened in Quebec. Not to mention the lost opportunity to reduce greenhouse gas emissions.

I think back to that strata corporation in the church: the group that says engineers are not to be trusted; the group that says engineers make things too complicated; and the others that think engineers have a point. That group could not come to an agreement on how to move forward, and the building has slowly declined. Other strata corporations I worked with fell apart, they resorted to the justice system to be able to move forward on repairs. As a result, all owners were forced to give all decision-making authority to a third party because they could not make decisions together.

Arguments at strata corporation meetings might be couched in rational terms, but in reality, there is a conflict of values, beliefs, backgrounds and imagined futures. Conflicts of that nature are wicked, and require different

strategies to build solutions. It is not enough to have a meeting and a vote. Decisions about Home need something more

Democracy & Decisions

I encountered one extraordinary strata corporation. We did an investigation and determined that they had options for their building, ranging in cost. We were invited to present our results at an SGM – a special general meeting – where the Owners would decide on how to move forward. We walked into the room 30 minutes before the meeting was called to order. Owners were already there, milling about talking to each other, eating cookies and drinking coffee. The meeting was called to order, and only one owner was not present in the room – this is unheard of in my experience, rarely do meetings have more than 50% of the owners present. We presented our investigation, showed lots of pictures, explained advantages and disadvantages of different approaches. Questions were asked – hard questions – but asked politely. I did not see anyone rolling eyeballs at any questions – the audience listened carefully and intently both to the questioner and to our responses. And at the end of the evening they had a unanimous approval for the most expensive option. I have never seen or heard of this before

It is true that this group was more affluent, but affluence is not a guarantee of universal approval of a particular decision. The community was different in other ways. The council knew all of the owners in the building on a first name basis. They actively communicated with everyone throughout the process starting with the questionnaire we issued at the start of the investigation. They explained what was happening in words and language that everyone understood. They took the time to talk to people and listen to their concerns. They made sure those concerns were adequately addressed. They were engaged with the community and the community engaged with them – participating in discussions and showing up for meetings. In retrospect, I see this group as a model for what democracy can be. The strata corporation did not just rely on a vote. They invested more time and energy building consensus, providing information, hearing different views and incorporating feedback before the vote even happened.

I hold this group in very high esteem, as role models for how communities can operate. Their construction process was certainly not free of conflict, but their community had built so much resilience during the process before construction, that during and after they had social capital to draw on, to help each other, to be patient, to be constructive in resolving issues. It changed how I think about strata corporations and building resilient communities. It also changed my perception as a consultant and how we can meet high standards of engineering care, and at the same time be constructive participants in a democratic process.

As a building professional, sometimes I want to think strictly in rational terms. But when it comes to decision making about one's home, we aren't objective. Our home is more than just a building. A sense of democracy that goes beyond votes and includes conversation, and consensus helps us make better decisions and become more resilient as a community.

Hope, Housing & Home

I did some research for this homily – looking up definitions of home. In the process, I came across a series of essays by young people on what home means to them.

“It’s special not because it’s perfect, but because in it I can freely live an imperfect life. I can mess up and still be loved. I can be myself and not be judged. I’m thankful that even through all the changes of life, my house remains the same. The same location, the same room, for eighteen years this house has been my home.”

Home is a refuge, a place of safety, stability. Imagine growing up housed, but homeless.

I have moved on from engineering. I now work in the non-profit housing sector, for the YWCA. Among many services we offer, we house single mothers and children. I started this morning talking about how home is more than housing. And housing does not necessarily mean home – some of our tenants may have had housing, but it was not home. It was not safe

And without safe housing, it is difficult to create safety, stability, a place of refuge that children feel safe to be themselves, to be loved, even if they live an imperfect life. I suspect that it is extraordinarily difficult to create a home.

Without financial resources – a good income and a supportive community with resources to help– creating home seems like an impossibility. One woman had to make a tough decision about staying in an unsafe place with an abusive husband, or trying to make it in the market housing sector without stable income and without the support of her community. She tried, but after failing to pay rent, buy clothes and feed her children, a woman might return to her abuser. She has a choice: to be abused and let her children witness abuse, or to experience hunger and the anxiety of instable housing.

Perhaps a mother is able to access affordable, safe, subsidized housing, starting with a transition house. The transition house leads to long term housing where she would not arbitrarily be evicted. There is justice and due process, care and concern.

She is connected with resources in the larger community. She is able to study and return to work part-time when her children are young. As her children grow older, she can work full-time and perhaps get promoted. Eventually, she is able to move to low-end of market housing, where her children have a comfortable home, integrated into the community.

Her eldest child is in university. Her two teenagers are well on their way to post-secondary education. And the youngest child is a happy healthy, bouncing child, with no memories of trauma.

Stable, safe housing is hope. Children bloom. Remembering to play, seeing the importance of hard work. Achieving more at school. Mothers regain their sense of selves, increasing autonomy and self-advocacy.

Along the way, they've built home. Not necessarily a place- it isn't necessarily the apartment they lived in. But it be might the security with each other. The love and trust and positive memories. Something more than just walls.

But it starts with safe housing.