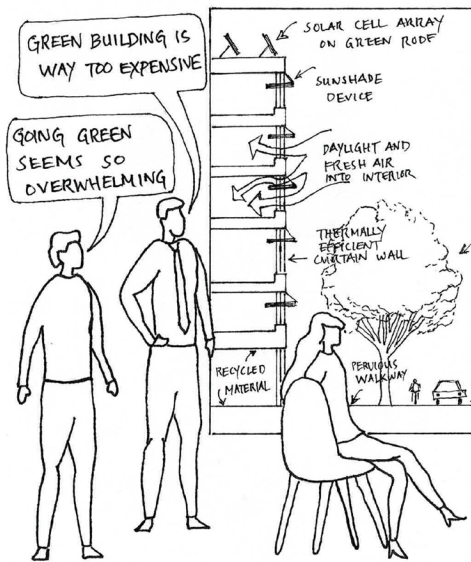


2021

ARCH 510 GRADUATE SEMINAR DESIGNING FOR SURVIVAL

STUDENT EDITORIALS

FALL 2021



DAYLIGHTING AND ARCHITECTURE
CHANGE DOESN'T HAPPEN OVERNIGHT
CREATING MULTI-SENSORY DESIGN
CULTURALLY INFORMED SUSTAINABILITY
SNOWED INN
ARE WE FORGETTING OUR FOUNDATION?
UNDER THE WATER'S SURFACE
BAD APPLES

SANUJA DAHAL
MARCO DELGADILLO
TRINITY DION
GABBY KEIM
KYLER LEE
ANJAN SHAKYA
AMY SMITH
LARAE TOMERA

Thanks to the graduate students in Arch 510 who wrote, peer edited, rewrote, peer edited, rewrote... these editorials.



DAYLIGHTING AND ARCHITECTURE

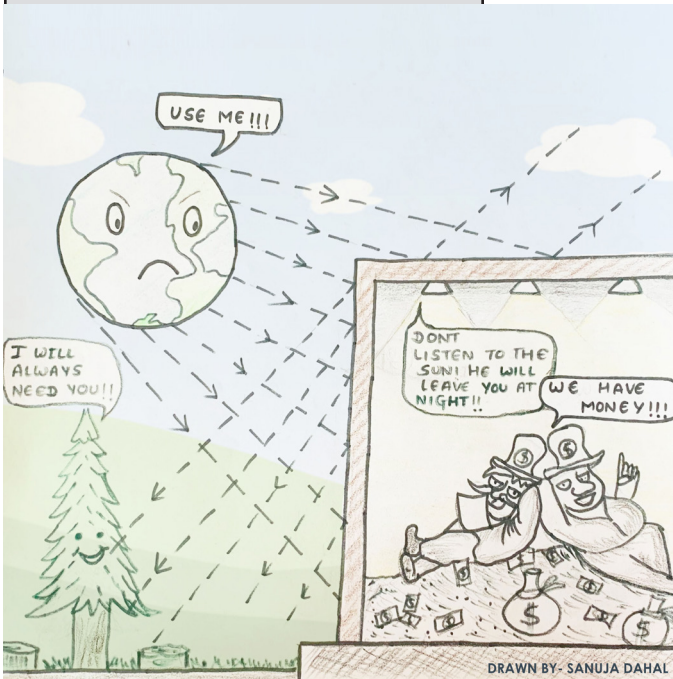
Daylight is both the direct and indirect sunlight readily available daily. In modern society, where technology is taking a step ahead, people are more dependent on electric lights rather than natural light. Many architects don't consider natural daylighting while designing a building and limit themselves with electric lights. To be a successful architect I believe, one should grasp all the natural advantages available to design a good building. According to Le Corbusier, "Space and light and order. Those are the things that men need just as much as they need bread or a place to sleep".

Light controls humans' emotions and shadows create a sense of motion. And windows, the smallest barrier between the exterior and the interior, provide natural light and harmony between exteriors and interiors, nature, and people. Light works with color to accentuate the beauty of a space and it is a major natural element in architectural design.

We have heard people talking about their working spaces as being dull so they don't feel like working or sometimes they have health issues. The major reason these things happen is because of the insufficient daylighting inside a building. People are not getting enough sunlight and are suffering from vitamin D deficiency. According to a study, "almost half of London office workers only receive up to thirty minutes of sunlight a day during the winter, and two-thirds estimated they receive less than an hour of sunlight a day". Lack of sunlight not only affects you physically, but also affects you mentally by providing a low level of serotonin which is associated with the risk of depression.

Daylighting not only helps in personal health but also in the health of the building. It also saves energy costs and lowers the HVAC costs. Having said that daylighting is important, still careful consideration must be taken while introducing daylighting or else it may have a negative result like excessive heating, glare problems, etc. Daylight can be controlled in various ways—shading devices, use of vegetation as the buffer zone, louvers, etc. Light when properly controlled and effectively used will result in a better living space. Introducing daylighting in a museum will make the space livelier through user satisfaction with well-designed interior environment and also by making a step closer to sustainability.

—Sanuja Dahal



CHANGE DOESN'T HAPPEN OVERNIGHT

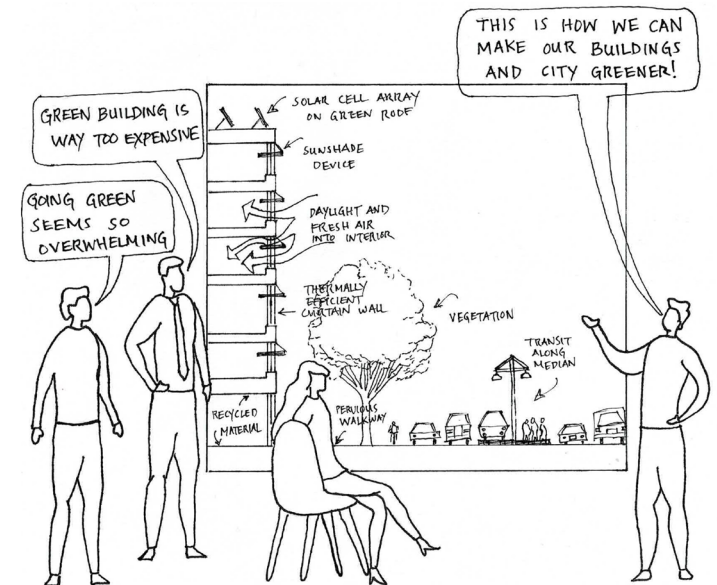
Hospitals and care systems are increasingly looking for ways to improve efficiency and reduce overall costs while also improving the overall patient experience. Sustainability initiatives offer significant environmental and financial benefits for organizations—benefits that will help hospitals and care systems thrive now and in the future.

Sustainability can be defined as the ability of a system to continue doing what it is doing over time. In recent years, society has increased its focus on being “green” and becoming more environmentally friendly. To be truly sustainable, however, initiatives must stand the test of time by being fiscally sound while benefitting the community and the environment. This effort requires more than just slapping solar panels on a roof or claiming to be LEED certified. Don’t get me wrong, those would be great starting points if implemented correctly, but there is much more to consider with sustainable integrated methods versus focusing only on systems.

Hospitals and care systems that pursue sustainability initiatives find benefits in multiple areas. Their efforts contribute to a healthier environment, improve the organization’s public perception, and can help their local communities. Environmental sustainability is also good business, as it helps lower operational costs and allows hospitals to direct more resources to patient care. These benefits can help hospitals meet their Triple Aim—improving population health, improving the patient experience, and reducing per capita cost.

Sustainability can improve population health by contributing to healthier communities, reducing pollution, and reducing the use of community resources such as water and energy. Sustainability can contribute to a better patient experience by improving a hospital’s environment and public perception, as well as by promoting loyalty among patients concerned about the environment. Finally, sustainability can reduce the per capita cost of healthcare by reducing healthcare expenses. For example, spending less money on utilities enhances hospitals’ ability to free up resources for patient care. The benefits of sustainability are more important than ever before. Hospitals and care systems are facing incredible financial and regulatory pressures to make changes as the healthcare environment shifts from a volume-based market to a value-based market. Sustainable practices could play a key role in finding better solutions to this shift.

—Marco Delgadillo





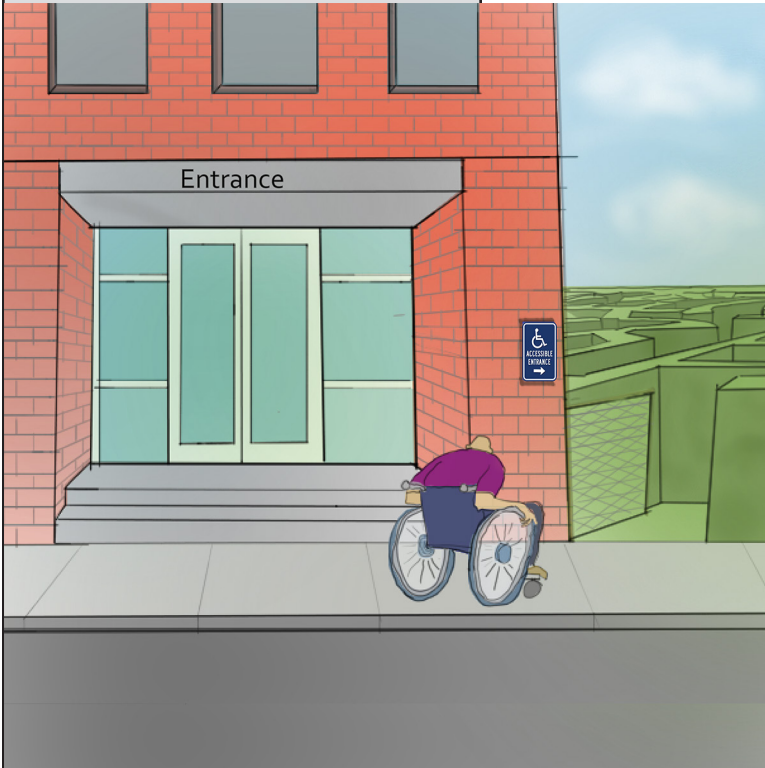
CREATING MULTI-SENSORY DESIGN

Millions of people have a physical disability and have to find a way to traverse their environments. They deserve changes to the built environment as much as the rest of us. We are constantly designing to make things more interesting or easier to navigate but those designs aren't always the best for everyone. When we think of accessible architecture, we think of the basic rules that a designer has to include in their program. Often these rules, especially among students, are an afterthought in design. It is something that gets worked in near the end of the design process. Accessible design shouldn't be an afterthought. I want to find a way to explore accessible architecture, as a design goal. I plan to do this by exploring architecture through the senses.

While there are several mental and physical limitations that the people of the world have to face, my plan is to focus on three physical limitations—blindness/low vision, deafness/hearing impairment, and impaired mobility. 20% of the US population has hearing issues, 2.3% of people have visual disabilities, and 16% of people physical mobility issues. (*Disability Statistics in the United States*) While some of these percentages might seem small, remember each of these things affect millions of people in the population. Many things affect people with disabilities, they tend to receive less pay and less education either through bias, or suffer harder access. We can make a change to the built environment, make it easier to use but also make it a positive and enjoyable experience for them to navigate their built environment. By focusing on these three I can address accessible issues, while exploring sensory architecture.

With the use of sensory architecture, the spatial stimuli can address a wider audience through their senses. By understanding the nature of our responses to spatial constructs we can ascertain more successful design relationships between the user and the space. Making it possible for those who can't see, to feel or hear the space and vice versa. Creating a multi-sensory design that can interact with a larger majority is a noble goal.

—Trinity Dion



CULTURALLY INFORMED SUSTAINABILITY

There is a statistic that has been drilled into my head via many of the anthropology classes I have taken the past few years: indigenous peoples make up roughly 5% of the world population and protect about 80% of the planet's biodiversity. The interesting thing is, that despite this, indigenous communities have often been left out of general discussions of climate change and the actions needed to mitigate the damage of our climate crisis. On top of this, many indigenous communities, especially those in the Americas, have been displaced from their ancestral lands to reservations and reserves due to colonialism. In the Americas, most indigenous communities were displaced to lands that were harder to maintain and not very fertile. Furthermore, many of these communities were no longer allowed to continue with the earth stewardship practices that had always been an integral part of their cultures. In the modern era, these lands often seem to be at the epicenter of some of the worst manifestations of climate change, manifestations that might not be so critical, had these people been allowed to continue with their stewardship practices.

The United States Department of Commerce defines earth stewardship (sometimes referred to as environmental stewardship) as the responsible use and protection of the natural environment through conservation and sustainable practices to enhance ecosystem resilience and human well-being. Sounds good right? So, why has the government maintained policies that prevent indigenous communities from engaging with their earth stewardship practices? The answer is that they don't always align with various governing bodies' opinions regarding climate change. Climate change and climate crisis have become greatly politicized over recent years, and despite ample evidence, some communities and their governing bodies have refused to change anything about how they treat the environment – whether that be through the continued building of non-sustainable buildings and spaces, refusing to decrease the excess use of fossil fuels, or their refusal to legalize the earth stewardship practices that once helped to maintain eco-resilience and lessen and contain the effects of natural disasters (such as wildfires, floods, etc.). While many communities have started to clean up their act, it is still an issue that greatly affects the world at large and indigenous communities in particular.

As previously mentioned, many indigenous communities are faced with substantial, damaging climate crisis events. Instances that genuinely destroy indigenous communities. These moments of environmental degradation are rarely reported on in terms of the communities that they affected, if they are reported on at all. And yet, despite this, the problem is fairly widespread. One such example can be seen in the case of the Biloxi-Chitimacha-Choctaw. For many years, decades even, the Biloxi-Chitimacha-Choctaw found refuge in their home on an island off the coast of Louisiana. This island is known as the Isle de Jean Charles. Once upon a time the island contained at least 22,000 acres, however as sea levels have steadily risen, the island has lost 98% of its land mass. What was once a large island with a thriving indigenous community, is now a small 300+ acre strip of land from which many people have been forced to displace themselves as their homes and livelihoods have sunk into the ocean. Another example can be seen roughly 3,950 miles to the northwest, in the 380-resident Yup'ik village of Newtok, Alaska. A place where the Yup'ik people have also been forced to either flee or die as their lives and community are threatened by thawing permafrost and erosion which have resulted in flooding and weak soil. Over the past few years, this has essentially resulted in the ground dissolving beneath the town of Newtok, allowing many of their community resources, as well as their homes, to sink into and be washed away by the neighboring Ninglick river.

The Karuk people have seen a different side of climate crisis than the Biloxi-Chitimacha-Choctaw and the Yup'ik peoples in a couple of different ways. Firstly, the Karuk people, who live in the Klamath Basin in Northern California, have had to deal with their residences being continually threatened by the wildfires, as opposed to the sinking and flooding seen in the other two communities. These wildfires have received significantly more press coverage, given that they have been decimating the Northwest United States in recent years. The Happy Camp fire of 2014 was the blaze with the most direct and devastating impact on their communities in particular – losing houses and businesses alike. The other way in which their situation differs from the former two examples, is that the Karuk people have long been attempting to convince the local governments to allow them to reinstate their formal ritual burnings. These were an act of earth stewardship in the form of controlled underbrush burnings which once helped to limit the number of out-of-control, large scale fires that happen

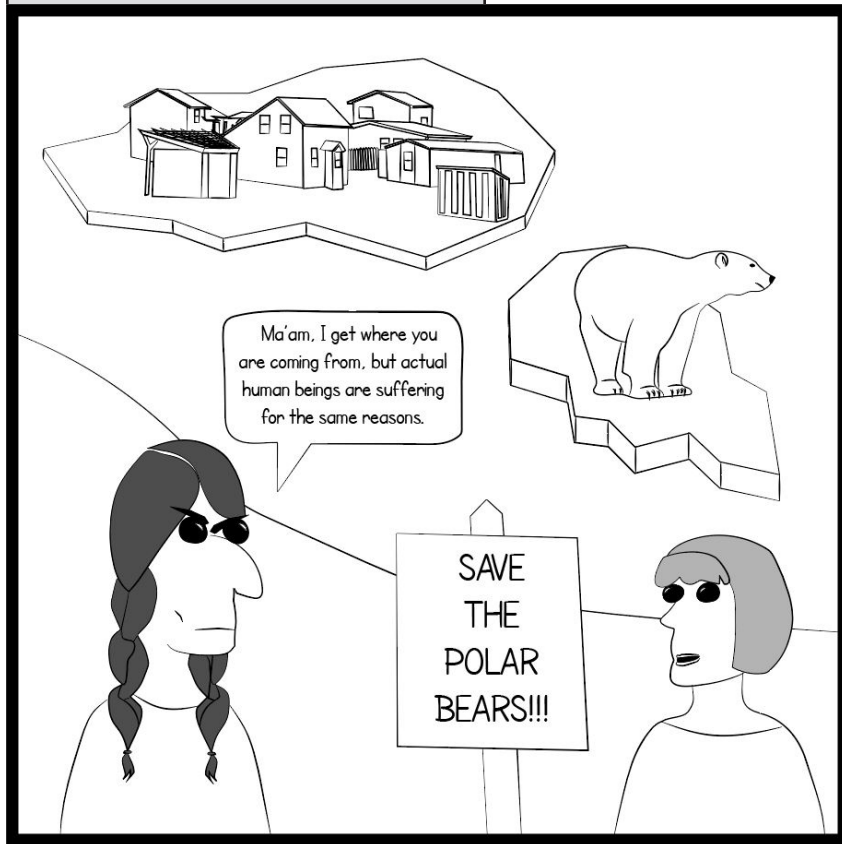
• *Continued on next page*



in this area. It was their earth stewardship practices that once effectively controlled the devastation that wildfires brought to the American Northwest. It has only recently been brought back into practice in some of the affected areas, and it has proven to be helpful in places where colonial fire suppression has failed. This is just one example of how colonial conservation efforts have actually proven to be more harmful than good, when replacing the ritual practices of the indigenous peoples who once tended the land.

So, what can be done about this issue? On an individual level, there isn't much a single person can do beyond reaching out to government officials, petitioning, and donating funds towards research. However, with enough support from multiple individuals, these communities can be provided with the resources and spaces they need to help make their cases to local governments. By providing spaces and resources to these peoples, they can continue to develop and put forth research surrounding the subject of various earth stewardship practices. They can reestablish their cultural connections to the land, reimplement their stewardship practices, and even research how to better them. With the funds and resources to prove and improve the effectiveness of these practices, they can put forth more evidence that earth stewardship works. With ample evidence, these communities can build on their arguments to legalize their earth stewardship methods and hopefully convince local governments of the necessity of sustaining eco-resilience, indulging in sustainable systems, and taking action to mitigate the effects of climate change. The implementation of spaces that display regenerative techniques in their design and help indigenous peoples to accurately test and display their earth stewardship practices, is something that could potentially kick-start a better understanding of indigeneity and sustainability and how both of these concepts affect the world around us.

—Gabrielle Keim

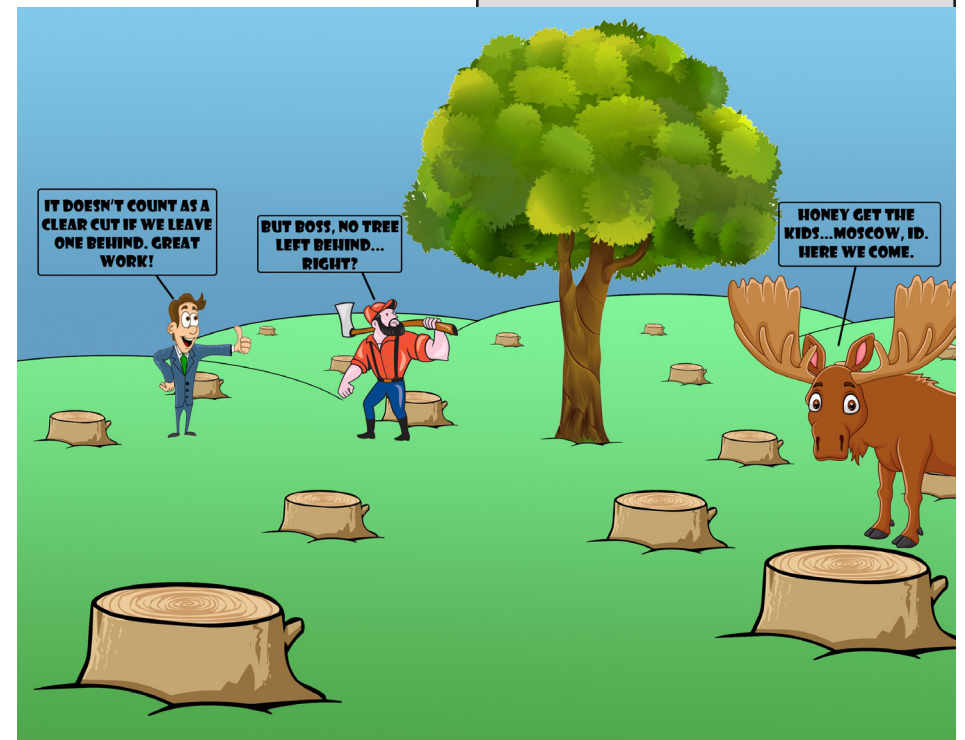


SNOWED INN

The United States ski resort boom started in the early 1960s. Trees were clear cut to form ski slopes, and ski lodges were constructed in order to facilitate the ski resorts necessities. Business has been a success as most Pacific Northwest ski resorts have expanded their lots by adding more lifts along with even more deforestation. As the sport has continued to become more popular, many ski lodges have had to adapt to the user demand. Tacky additions and remodels exist to this day at multiple ski lodges local to the Pacific Northwest. The lack of permanence among ski lodges has never been higher than it is currently. The aging infrastructure has proven to be outdated as it has endured many decades of harsh weather. These lodges are patched up and repaired in the summer in order to be ready for the large crowds that the winter snowfall brings. Constructing for permanence among such a desolate area will also allow for the possibility of summer activities.

Although ski resorts only commit a very small amount of deforestation, it is still a contemporary world problem that must be addressed. In a world that is following a trend of mass production, we must be completely in tune to being resourceful, unlike current ski resorts. Recycling existing materials, being aware of construction efficiency and using regenerative design will all serve as a stepping stone to limiting the amount of deforestation caused by ski resort construction. Locally sourcing trees that may have fallen from high winds on site can also prove to be a great resource for mass timber production while limiting the impact of deforestation. Designing for permanence and structural integrity will limit the amount of future repairs, resulting in strategic construction to reduce stress on product demands that cause deforestation.

—Kyler Lee





*The world is changing
Everyone wants to reach the sky
But I don't see my own shadow
The world is changing*

*I look above to see the clouds
But instead of white it's so dark
The world is changing*

—Anjan Shakya ...

ARE WE FORGETTING OUR FOUNDATION?

Street Vendors have been around since ancient times. They were the only source that people could rely on for buying their basic requirements like food, clothing, and other household items. We have seen and learned that street vendors have been part of the community since historical times. People used to gather around street markets filled with vendors, which became one of the means of social gathering. But now the same gathering is considered as obstruction in pathways and the same vendors are considered as nuisance due to mismanagement.

The problem with unmanaged street vendors is common around the world. Some cities have been able to manage them properly while in most places street vendors are targeted as illegal traders and considered to cause disturbance to the public, especially in developing countries in Asia, Latin America, and Africa. Due to poverty, lack of job opportunities, and immigration the number of street vendors has increased worldwide over time. It's a result of globalization.

Street vendors from New Road, Kathmandu, Nepal, to New York, USA, are often seen as a disturbance in the society. They are often considered as poor, unhygienic, and low-quality material traders. It is widely considered that only lower income people shop with street vendors and that shopping with such vendors might affect people's societal status. People usually prefer going to a more aesthetically good-looking shop to get similar service/product that the street vendors can provide at a lower price. It is necessary to understand that our society as a whole is not the same as it used to be. There are more opportunities around us and people work at whatever jobs provide them the means to sustain their families. Professions that used to be underrated are now in high demand. But, does that mean professions with low incomes should be neglected? What if farmers stop growing crops? What if construction crews stop their work in search of corporate jobs? Every profession is important in our society for our common good. Similarly, street vendors are part of us. Even if we might not go to such vendors on a regular basis, there are many groups of people who still need them for their daily livelihood and there are vendors who need such buyers too. So, **“Are we forgetting others' Foundation?”**

—Anjan Shakya



UNDER THE WATER'S SURFACE

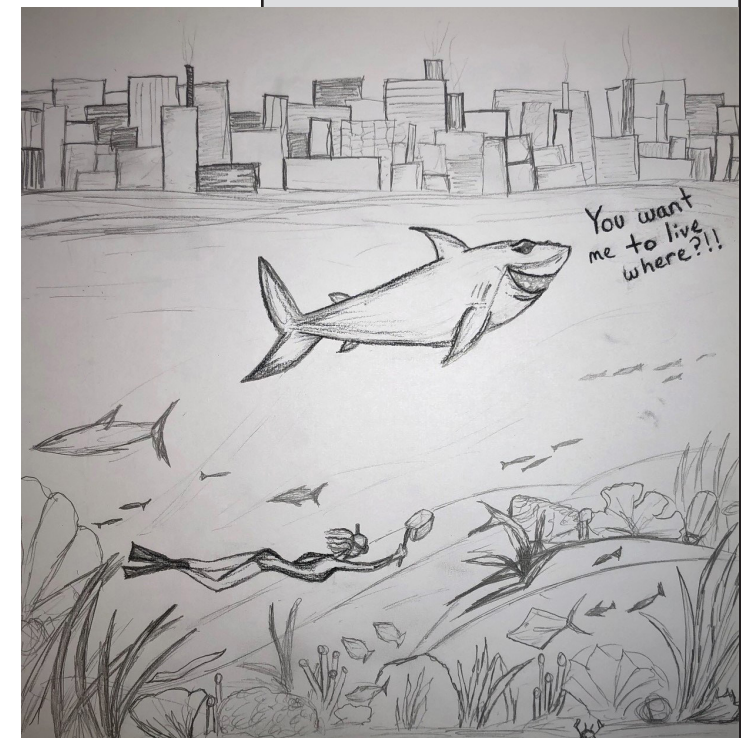
Streams rush, murky ponds alarm, and horizons hide. The head pictures not what is there, for fear halts our movements; perhaps fear of the unknown. Yet, a step in the once still surface casts ripples. A slight movement is causation for water trickling over stones. And prints in the sand break the rhythm of the waves. Onward, we expose the concrete forest and nurture the river's natural flow. We illuminate the briny waters and varied aquatic creatures. Paths are journeys, walls we swim through, and structures become the hills we climb. The city dissolves and we know. Our minds can now grasp the expanse of our imagination. Our world is vast and here we have stepped forward. We have entered not an aquarium, but are immersed in the experience of community, conservation and adventure.

City Aquarium Portland inspires the world to travel to see freshwater creatures and sea life of the Pacific Northwest. Found in a reused building along the Willamette River, they will wonder why someone would fill an old cement factory with water. The idea is odd, but there is an opportunity. The city's history has deep roots with Portland Cement along the waterfront. Readapting a factory is quirky, but it relates to the motto of "Keep Portland Weird." Also, the preservation of the site acts as a metaphor for the current state of the city. If concrete can become water, then protests can be celebrations, broken windows can be frames of togetherness, and diversity can be accepted. Recent events and political tension have led to a much needed morale makeover and the scenery could use a facelift. Portland will make the news because of what it has to offer and will become a beacon on the global scale.

The aquarium will bring happiness to the children and the guppies; also, to the adults and the big fish. Not only will it be about the guest experience, but also thought and research will showcase sustainability and conservation. Through passive systems and recycled materials, the project will have what should be implied sustainability in any new architecture. The built environment will protect the aquatic creatures living in the aquarium and those living in the wild oceans by utilizing the power of water and the sun, but also promote conservation, rehabilitation, and education.

Each aspect of the project will submerge the imagination into life below the water's surface. Whether causing ripples into a freshwater lake, or breaking the waves on the Pacific coast, the City Aquarium Portland will be the next step.

—Amy Smith





BAD APPLES

One would not think that adaptive reuse, a subject that is inherently sustainable, would have so many wasteful aspects. This has a lot to do with the mismanagement of resources by those with biased views on what is valuable. For example, current trends might influence how one perceives worth. They can then determine that a part of a structure could be eliminated purely because it is aesthetically out-of-date, not because it is no longer viable.

Another extension of these biases are the associations present within certain building types. When a structure is typecast in this way, it is difficult for one to permit themselves to change it. These associations are strong in chain businesses, where recognizable signage and features are used as marketing devices. A clear example is the Pizza Hut. Because the red roof of a Pizza Hut is so iconic, many are hesitant to convert them and instead choose demolition.

I propose, however, that we do not have the privilege of being so particular. If we are to set ourselves up for success in the future and establish the most sustainable practices, we must accept all parts of the built environment as having the potential for future use—no matter how particular or outdated. We must resist these manmade influences.

There is an idea sold in the United States that the best adaptive reuse projects are historic structures of brick or lath and plaster. These quirky and charming constructions will turn into bed and breakfasts while the local fast-food restaurant gets demolished for the same reason that customers ignore unusual produce at the grocery store—they believe that there is only a right and wrong choice. Even though an irregularly shaped apple is just as nutritious as any other, people assume that it is unusable because it is different from the apples in advertisements and posters. Through subconscious influence, customers want perfect apples and cute historic adaptive reuse projects.

The buildings of 150 years ago can be seen today in downtown historic districts as offices, restaurants, and other small businesses. In 150 years, will our successors have the same experience? If the trend of today is to hollow out our historic buildings and completely demolish chain businesses to make way for the next thing, will their cities instead feature masses of construction waste?

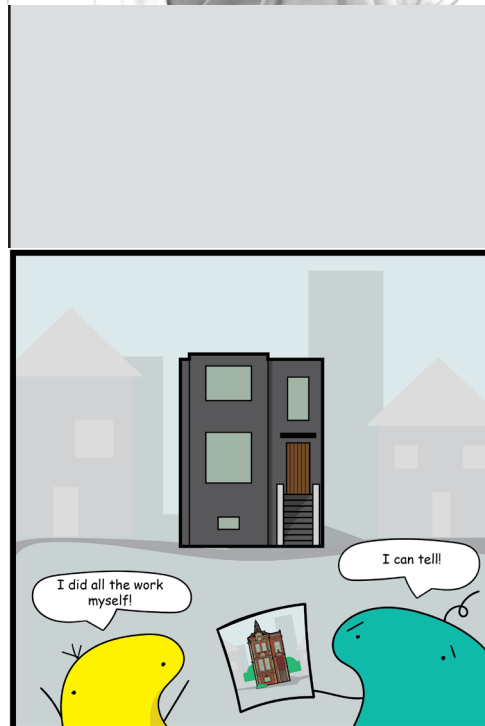
Is the architecture of today really intentional and sustainable? Or are we pumping out fast food chains and big box stores that will occupy space, eat up resources and become hand-me-downs unusable in the future, while instead focusing our intentions as architects toward singular, novel, magazine cover gracing, “LEED Certified” projects?

There are 13,446 McDonalds restaurants in the United States right now. If they were to go bankrupt tomorrow, what will become of these buildings? Can they only be used as fast-food restaurants forever? Is that fair to a community? If a different program should occupy its square footage, should it be replaced by another construction? Should we do this 13,446 times?

We have allowed the vast expansion of chain restaurants and stores across America. We have known that they are limiting and niche constructions. But what if they fail? What if we run out of materials and have to reuse every structure regardless of their former use? Will we? Can we? Call me a doomsday prepper, but we need to have a plan. We can’t just let these buildings expire and become trash for future generations.

How do we ensure that all parts of adaptive reuse, from fast architecture to capital A Architecture, are treated with the same respect and intentionality? How can we better focus on REUSE and not unnecessary erasure?

If we are to make the most of our resources, we need to reuse all buildings. If we want more affordable construction, we need to reuse all buildings. We need to utilize more materials. We need to accept that new program can and will enter a preexisting structure, and that we need to make the buildings of today flexible and receptive to such. We need to recycle what we can, at any scale—even if we can’t use the whole, we need to salvage the parts. This is nonnegotiable. There cannot be any more disposable architecture. We need to use what we can, even from the bad apples.



—LaRae Tomera