2013

ARCH 510 GRADUATE SEMINAR
DESIGNING FOR SUSTAINABILITY

Vernacular Architecture

Passive Strategies

Environment

Avant-Gardism

Technology

Form

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Architecture is often known as a problem solving process, a problem which first needs to be discovered by those who will inevitably solve it. Other problems though are established by the world itself and the interaction between life and its supporting environment. There is a harmony that life and the environment is expected to follow, a balance that must be maintained in order to sustain either side of the scales. Though, harmony is beginning to crumble and decompose this state of sustainability as life disrupts the balance of nature; excessive burning of fossil fuels, improper waste disposal, and an irresponsible consumption of natural resources each contribute to outweigh that which can be supported on this planet. Numerous issues exist to cause these environmental threats, but also restrict the development of a solution. These issues begin to identify problems the world is facing while also avoiding what might be a viable solution achieved through sustainable design. In many ways the world has lost understanding of harmony between life and nature because of a lack of education about our environment, bringing about misconceptions involving causes and solutions surrounding current environmental decay.

Where does your energy come from?

The planet, and all the life it sustains, is a delicate system that if not cared for may likely wither and die. This system has been neglected as many people appreciate the natural environment as did in the past, whether they intend to or not. This problem is largely due to how the world has evolved so drastically within the past century with ever increasing forms of technology and less concern of environmental impact. As this evolution has generated the developed world of today, it has also created misconceptions about what this world has to offer; such misconceptions include continuing to believe this planet has an unlimited supply of resources, which will only further force it to a state of disrepair. This drastic development of the world creates a problem where there becomes less of a connection to the natural environment. This disconnection has not come about by any individual willingly, but rather by an evolution of lifestyle that as a result has led to disregarding basic survival and sustainable principles developed in the past.

Currently there are many programs and a fair amount of effort targeted to remedy these issues, but the effort is often thwarted yet again by misconceptions about issues such as the cost, impact, or value of such systems. Many times projects incorporating sustainable design techniques are turned down due to the idea they are too expensive, and the sustainable strategies are viewed as add-ons rather than ecologically

logical designs. These projects are in turn value engineered to maximize space while meeting the client's budget, which often results in an oversized, non-sustainable building using meager building materials and giving poor energy performance. This notion of oversized projects leads to the public misconceptsion that quantity triumphs over quality, when more often than not, the reverse makes for the better design, creating a healthier building for both people and the environment. The problem with the sustainable design trend is just that, it is often viewed as a trend. Buzzwords such as 'Green' or 'Eco-Friendly' have become marketing ploys to make money rather than to understand the true fundamentals of sustainability. This ploy has been seen often in product design, where the new 'Green' product arguably does help the environment by using renewable materials for construction, yet is still fabricated and manufactured in foreign plants requiring a huge embodied energy to travel across the planet to reach the consumer. These misconceptions about sustainable design not only create issues, but restrict any issue to truly be solved as people are set up to believe they are helping the environment, when in reality the impact is minimal at best

A solution to begin to address these issues simply involves education of people concerning sustainable design and practices. This education can be delivered simply through experience and passive involvement. Learning about sustainable design and practice can be accomplished by living in sustainable communities and experiencing sustainable living on a day-to-day basis. These communities would embrace sustainable design by harvesting and consuming local resources, thriving off of walkability and amenity access with nature and the built environment once again existing in harmony. Though this ideal world of a sustainable community would be challenging at such an early stage of change, people can take the first step to learn about sustainable design through environmentally responsible architecture by passive, experiential means. Education centers that offer more than a typical science center or museum can lead people to enjoy the benefits of sustainable design and possibly carry over strategies into their lives. Architecture itself would be the medium, where people spend much of their day, and if these buildings were developed utilizing sustainable design principles, people would begin to see the change first hand. These centers would offer the education for people to realize the urgency of implementing sustainable design, and a process in which to begin to repair, cut back, and give back to the natural environment.

—Joseph Anderson

RESTORING OUR PAST

Since the industrial age, the United States has been plagued with abandoned industrial sites that have occupied ideal locations for building types and urban revitalization. These sites have come to be known as brownfield sites ever since the early 90s. These sites are typically located in current or former industrial-zoned sections of towns and are considered to be a nuisance to the surrounding environment. They can discourage activation of a town or city because of their annoyance towards the street. Sometimes these sites propose opportunity for immediate revitalization and other times they are deemed too contaminated from previous use to be a destination for development. No matter what the case is, one thing is clear; if your town has a brownfield site within it that can help restore its local environment, change must be done. And, it must be done in the most sustainable manner.

Sustainability is considered to be designing for the present without compromising the world of the future. This definition should be considered in terms of social, environmental, and economic design strategies. The word sustainability tends to sometimes bring about many thoughts when spoken. Different people have different opinions of the word and what it entails. Some consider it to be the most important concept to incorporate into future designs for the built environment, while others think of it to be a fad that will pass in the near future. I consider it to be pertinent to design while including other forms of inspiration. I feel that sustainable designs are required in this day and age. However, they should not compromise aesthetics. When anything is designed for the built environment, one must think about the future and how it will be affected. Since we as designers will soon be on the frontlines and responsible for how the world is directly impacted, we must start acting now.

—Adam Council
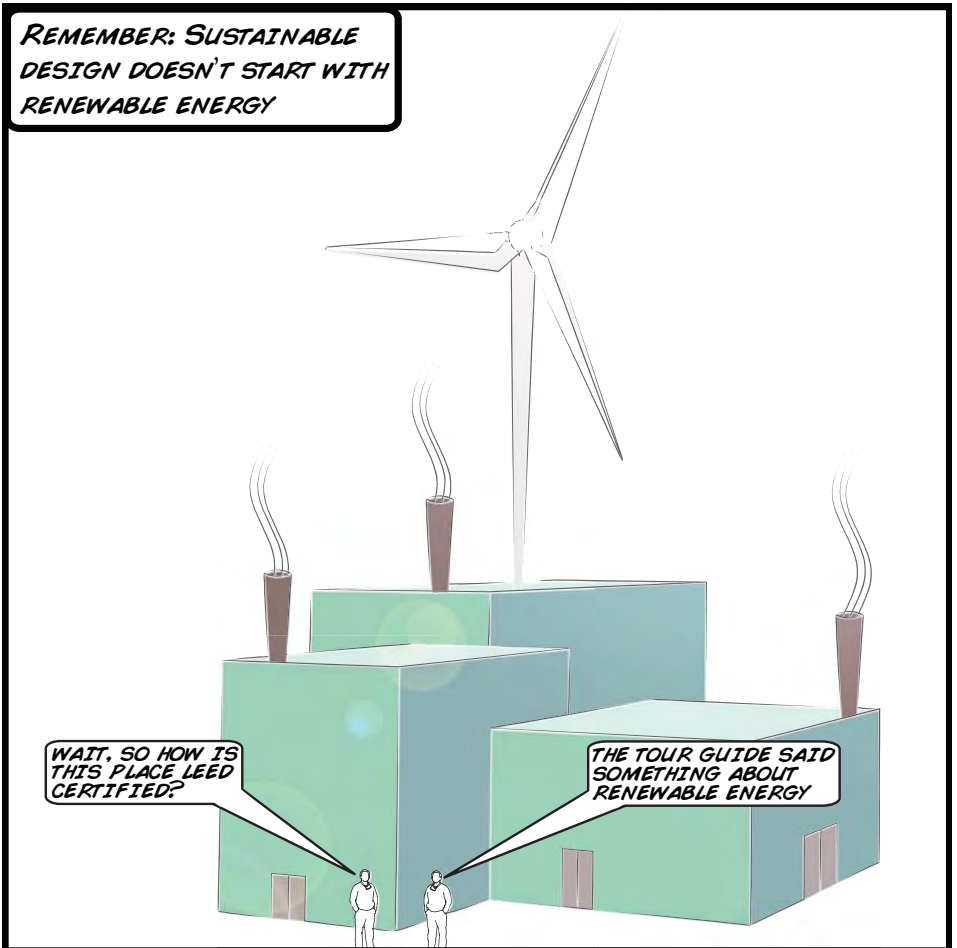
TURN IT BACKWARDS: A PLEA TOWARD SUSTAINABILITY

We are killing the earth with our selfish ideologies. We take what we want, when we want it and with little to no regard of the consequences of our actions. We see the earth as a commodity with an endless supply of resources, constantly taking without giving anything back. It needs to stop. Research has shown that the world's resources, which we took for granted, are depleting and before we could see what was happening, we robbed the earth of its ability to sustain life.

We need to change our destructive ways. Bigger isn't always better and more isn't necessarily the solution. We need to turn it all back. We need to start to create rich, green cities that give back to the earth rather than concrete jungles that only accommodate ourselves. People can survive without many things: electricity, medicine, cities, government, and clothes; but take away the plants and we would all die. That is how important nature is.

Unlike humanity, nature has a harmonious relationship with the earth. It gives as much as it takes. It is successful because it is flexible, and has stability over long periods of time. The only energy it uses is what shines upon it and blows through it. It recycles everything, and it supports its everlasting network of communities. So why can't we? Why can't we, as a civilization, be flexible and provide long term stability without causing destruction? We should look toward nature as a guide to turn things around and improve the land that we build upon.

This isn't a new concept, using nature as a guide in reshaping our built environment. But it bears repeating. Even after our 'wake up' call (water pollution, fossil fuels: oil supply decline, resource depletion, and the like) humanity still isn't on the right track, although we may be headed in that direction. Unfortunately, most phrases associated with natural practices such as 'sustainability' or similar slogans like going 'green' and 'eco-friendly' have become cliché and jaded, used mostly as a branding mechanism to receive attention. They no longer have the powerful meaning that they demand, but that is still necessary.

Being sustainable isn't just about specific checklists or receiving a pat on the back; it's about consciously maintaining ecological balance. It's about giving back as much (if not more) than what is taken. It's about being able to maintain and sustain life on earth with the resources available and not using any in excess. It allows humanity to meet the needs of the present without sacrificing the needs of future generations. Sustainability is a concept that, no matter how cliché it has become, needs our attention.

Everyone played a role over the years in the earth's destruction and it will take all of us again to correct our wrongs. It will take years to reshape and change our world but no one is exempt. It is our responsibility to be sustainable; as designers, architects, and builders of our buildings; as city council members and politicians in our policies; and as citizens in our everyday lives as consumers. Sustainability is a plea for a unified better tomorrow: for a future of regeneration, coexistence, and stability; and it starts now.

—Emilie Edde
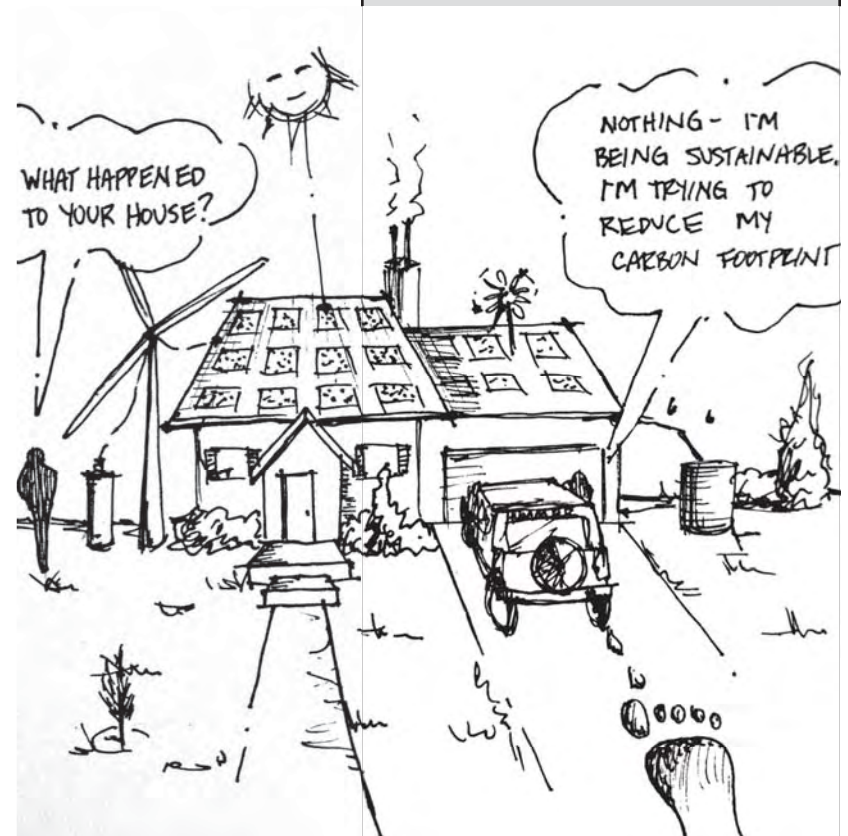
LEARNING FROM YESTERDAY TO IMPROVE TOMORROW

Education is important at all ages. Our school system requires that all students pass standardized tests with certain scores that have transformed how teachers educate. It is a goal-driven evaluation process that only evaluates children under a particular scope. The standardized tests are very limiting to properly evaluate a child's knowledge. This is one issue that is of concern for students all over America. Students need to be evaluated with a broader range of subjects that go beyond math, reading, and comprehension. I'm not proposing an immediate solution to evaluate children's learning. I do believe, however, that there are methods to affect their ability to learn. Changing the built environment around them can encourage positive academic outcomes and an improved outlook on their developing personalities and attitudes.

I know this is an issue in the school district of Milton-Freewater, Oregon. The children at the different schools are struggling to get the grades, get the test scores. A major reason I believe affecting the outcome of these results is the facilities they inhabit on a day-to-day basis are unhealthy to be in. This environment is restricting their ability to learn by having poor day lighting features, poorly maintained facilities, and uncomfortable environments. Currently, there are 55 million K-12 students in America that are spending their days in schools that are affecting their health and ability to learn. On a short-term basis, kids are getting sick more frequently and missing more days in school, which does nothing to help them learn. However, the long term effects can be worse.

Children are still growing physically and mentally, thus they become more susceptible to illnesses. One of the major factors that can lead to these illnesses is poor indoor air quality. These environmental exposures can lead to asthma, neurodevelopmental disorders, obesity, endocrine disorders, and even cancer. Consequently, thoughtful and strategic sustainable design can change this grim reality and promote better health, positive attitudes, and productivity. Designers have begun to change the face of schools by providing safe, comfortable, yet fun, learning environments through sustainable design strategies. However, many people still perceive green design as being much more expensive than traditional design. In most cases, it is not true. Consequently, the economic return and health benefits are much greater than for traditional design.

A study conducted by the Center for Ecoliteracy titled: "Green School Design: Cost Effective, Healthy, and Better for Education," speaks to the benefits of green design. Green school construction can cost 2% less than conventional construction at about

"Architecture lives to die another day"

"The reason why LEED certification does not equal good architecture."

THE BANNER BANK BUILDING

$3 less per square foot. Financial savings can be 20 times as high as the cost of going green with lower costs of water and energy consumption. Furthermore, these schools can use up 33% less energy than traditional schools. These economic benefits attribute to lower health costs, teacher retention, and increase in student attendance. These are just some of the benefits of green schools. The past and current schools have demonstrated that if we want a better future for our children, the time is now to act and transform education facilities.

The schools of the future need to be a healthy learning environment for children. I plan to take this a step further. The community of Milton-Freewater can participate and use the new school to learn about green design practices. How can the creation of a green school help the members of the community grow and prosper? Everything we do is interrelated and if young and old of all socio-economic and ethnic backgrounds can come together to learn about how they can contribute to a better life, better place, better society, then the school can become a hub of education, transformation, and inspiration. As a society we cannot afford—financially or physically—to keep designing, living in an ignorant, unsustainable manner. Architects have a responsibility as leaders, designers, and educators to change how people use and view their built environment. By not taking every appropriate opportunity to educate people at large about sustainable/regenerative design, we are failing in our responsibility to society.

—Victor Ferral

REVITALIZING A HISTORIC DOWNTOWN—BACK TO THE FUTURE?

What is it that gives places their individual qualities and defines the life of a city? Architects and urbanists are accustomed to describing and creating the organizational structures, the layouts, and physical attributes of our cities. But what are the relations between the design of a city—its form and the life engendered by that form?

A desire for urbanity, personality, and identification has always been a major factor in inspiriting urban design. Historic cities like Landshut, Germany have their own specific features and a physically powerful relationship to history and context, so in order to design successfully designers need to consider this relationship wisely, while at the same time have the design open to current and future needs. The city is remarkable for various reasons, its foundation by the Wittelsbach dynasty, its gothic cathedrals next to the first renaissance palace north of the Alps, but all these historic facts are only quasi-triggers that encourage appreciation; they describe the essence of the city only superficially. If you take a closer look around, when you walk through the streets and alleys—because old cities were designed for pedestrians—the hidden elements that define this extraordinary city reveal themselves and we can feel them.

Although renaissance, baroque, classicism, and art nouveau dominate the façades of the city, Landshut is still referred to as the gothic city, because the road building lines and regularities of the gothic art of city planning were considered until the 19th century; This city is classic example of gothic architecture; but why is it important that we understand this unique gothic city organism? We have to understand it because the demand for "modernity" without considering the historic context, destroys the sensible balance of streets and spaces, cubic capacity, proportions, and relationships among city quarters. In order to design within this context, one has to understand what a city like this meant to its people, and still does today, maybe today more than ever, since modern city planning rarely accomplishes what we ultimately are longing for—true comfort.

So the question is where and why do these old urban spaces exude the kind of charisma that is pleasant to us; that we desire, consciously or unconsciously. Might the methods/devices of the gothic city-planning-art be the only ones, in whose conception we can breathe and live, because gothic city-creations breathe and live themselves?

The challenge to design within a historic context is something that architects do not only face with historic cities, but (if they want to design effectively) with every city—every city has its own relationship with history and context, some more then others. And architects need to respond to that relationship, because as we all know the monotonous new city that was designed without considering these relationships, and designed on a rectangular drawing board leads to dissatisfaction and frustration of the citizens and most importantly it is responsible for the citizen's disinterest on the urban life.

—*Filip Fichtel*

DESIGNING FOR DELIGHT IN HYPERDENSE CITIES OF THE NEAR FUTURE

From 1950 to today, the population of Earth has increased from two and a half billion people to over seven billion people, and is expected to reach ten billion by 2050.

An increasing population creates a higher load on our planet's natural resources. Scientists predict that our planet can only support between two and forty billion people. A major factor affecting carrying capacity, (the number of people able to be supported by our planet,) is technology. The biggest factor, however, is the lifestyle of those people.

Today, most of the population of the United States uses far more than their share of Earth's resources, and does so at the risk of losing the health and resilience of Earth's common resources and at the expense of those living in developing nations. In order to reduce our impact on the planet, we must change our lifestyles.

The easiest change we can make is to increase our urban density. By increasing our proximity to others, we reduce our impact on the environment. If a person decides to move to a dense urban environment instead of building a new suburban home, the land where the home would have been built can be preserved and the carbon emissions caused by the lifestyle of that person will be reduced by 75%.

The good news is that many people are choosing to move to cities already, and it's no surprise why. Cities offer many amenities not available in rural or suburban developments, eliminate the need to own and maintain a car, and naturally encourage a lifestyle that increases physical and emotional health.

There is a drawback, however. In 1950, seven hundred and fifty million people lived in cities, representing thirty percent of the world's population. By 2050, over six and half billion people, representing seventy percent of Earth's population, will live in cities. This exodus will create a higher demand on the limited amount of land within cities. While most public services reduce in cost per capita as more people use them, there is no way to scale land area. It is fixed, and as more people demand its use, its cost goes up.

While strategic expansion of cities is good and will continue, we are seeing a slow, but steadily-increasing change from land as an endless commodity to a precious and limited resource. This will drive people to live in even more dense urban conditions than ever before imagined, resulting in the birth of hyperdensity.

While there are problems and concerns associated with hyperdensity, it is possible to design for delight in these hyperdense cities of the future. Design will stretch beyond the architectural, to include the design of human interaction, facilitation of private quiet spaces for reflection, spaces for celebration and competition, spaces for fulfilling productivity, and spaces where meaningful lifelong friendships can be cultivated.

These cities will provide the means, and hopefully remove the barriers, to self-actualization for everyone, whereby we can all become who we truly want to be.

—Daniel Flesher
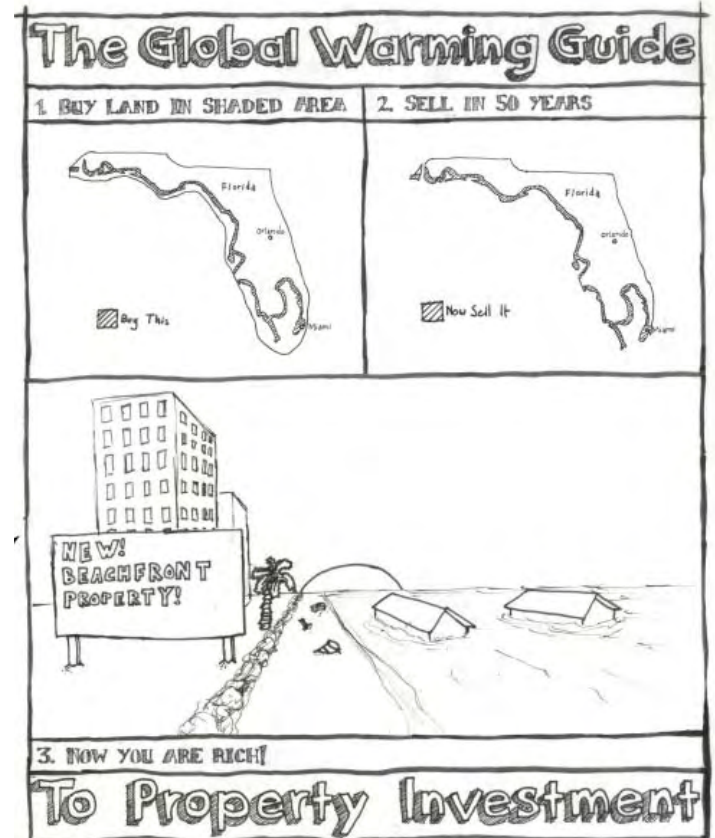
[DIVERGENT URBANITY] VERTICAL DENSITY VS. SOLAR-DRIVEN FORM

Solar access in urban environments is an issue that is currently overlooked, just like buildings that become overshadowed. Seldom do developers think about how their grand building will overshadow those that are on a smaller and not so grand scale. This problem is typical in most, if not all, cities. This issue is further exasperated as world population increasingly grows. The case is that the majority of population will migrate towards urban environments. In order to house the influx of migrants, developers seem to only want to build vertically. There is seemingly no other way to solve this dilemma. But addressing the dilemma in this fashion only creates more issues. And while there are many issues created, the issue that will be addressed in this forum is that of solar access.

Solar access is at most times taken for granted, or only remembered when the day is "getting too hot." However, although not popularly recognized as one, it is a basic human need. If we look towards history, in the past many things were dependent on solar access and it defined how a certain culture would develop. If there would be enough sunlight to grow crops, if there was enough sunlight to dry their clothing, etc.. The sun was undoubtedly tied to their daily lives and was something that previous cultures depended heavily on. In modern times it seems like people in the city are simply living in their neighbor's shadows. They become accustomed to not seeing the sun because that skyscraper is right in front of them. It becomes the norm. This is where I take a stand, every person should have solar access, even if this means a few partial hours. Urban dwellers should indulge in the sun's warmth, the delight in seeing the sun set in all its glory, or the initial warmth the sun provides upon breaking dawn.

This idea of having rights to solar access also brings forth the idea of reconnecting with our environment. So often we are so preoccupied with what we are doing inside of our dwellings that we become oblivious to the outside environment. To the falling leafs that reached the end of their existence, to the mountain ranges that paint the sky a resounding white(with the freshly fallen snow), and to the raindrops that accumulated on the window pane when it's raining. It seems all that human beings want to do is concentrate on the task-at-hand and get it done in order to move on to the next task, never taking a moment to really realize what is occurring in their immediate surroundings. Is this how we should live our lives? I think not. This is where architecture can help combat this bullheaded desire to work on what is in front of us. Architecture can help establish that connection between where we dwell and our environment—invite inhabitants to engage and interact instead of react and reside.

—Jose Gallegos

THE DIMENSIONS OF THE USER'S ROLE

Architecture alone is not to solve the sustainable movements for social success, but is one of the symptoms of such a change. Analytical work must be done about how architecture can "serve all" and be an including, empowering force instead of a segregating one. Sustainability design should approach the question of the role of the user in architecture from a sustainable perspective. In the most common understanding the phrase "user-oriented" has an emphasis directing attention to ways of getting feedback from the user and integrating it into the design process.

With instructions, exhibited through the places we live in, and featuring a vast array of sustainable practices, architecture can provide positive experiences to low-income children and adults who will learn how to discover their abilities to be sustainable and cultivate skills and techniques. The collaboration with community outreach organization will extend our ability to make a difference by providing young people a safe place to learn and grow. Smart sustainable architecture can "serve all", be an including and empowering force instead of a segregating one.

A 1990s report by the United States Department of Education found 14 million students attend roughly 25,000 schools with substandard conditions (1995). "In the United States there are approximately 49 million students in the K-12 education system (US Dept. of Education 2011–14)[1]. Thus, improving the quality of schools has the ability to have a real and lasting impact on our communities.

—Brenda Gomez

1. Data provided by the US Departments of Education web site:<http://www2.ed.gov/about/reports/strat/plan2011-14/draft-strategic-plan.pdf>
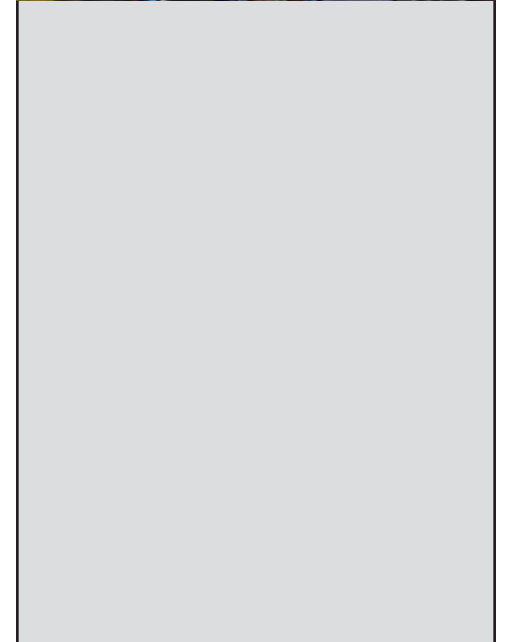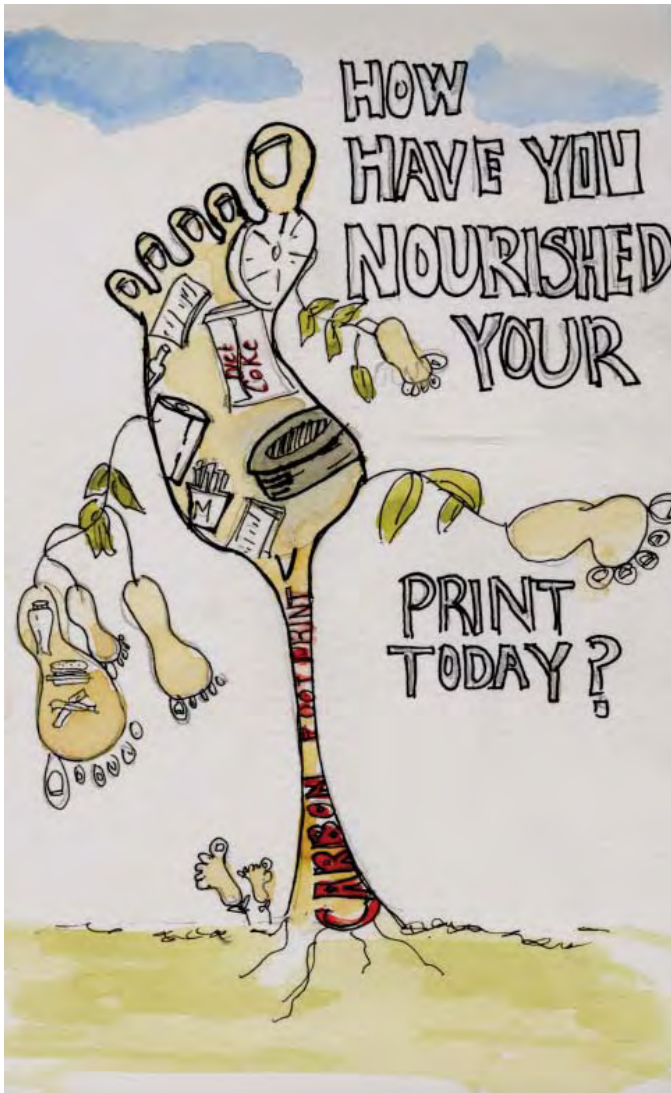
CHINA'S URBANIZATION IN LOS ANGELES

Racial bias is a normal and healthy human instinct, and taken at face value, is in no way a bad thing. However, discrimination, based on race, gender, class, and many other factors often leads to social barriers that hold us back from advancing as a species. The unfortunate reality is that often racism and discrimination go hand-in-hand and are difficult to address as separate issues, especially when emotions and social stigmas as first conclusions are allowed to dominate our rationalization capabilities. So how is it that we treat one without affecting the other and what role does the build environment play in influencing our attitudes towards both racism and discrimination?

I would like to first examine what the positive effects of racial bias are within our global society. One good thing racial bias does to help people to give them a sense of pride in their cultural differences. Having a racial bias towards your own race allows you to form a greater sense of identity and individuality within a global context. Having a sense of how you are different than the other races of people on the planet goes a long ways toward giving you the ability to formulate your own understanding of place by allowing you to better understand where you came from and how that makes you unique to some and similar to others. Anecdotally, this idea should make sense to anyone in the world as I think we all have on some level experienced the sense of comfort that comes from being in the company of those in whom we recognize parts of ourselves. On a greater scale this actually helps preserve the diversity of the human experience, in my opinion, especially within the context of the growing strength of globalization, which threatens to force us as people towards greater and greater degrees of homogenization. I think there is an important balance we need to promote between overspecialization of species and complete homogenization. When a race tends towards an inward bias of culture and practices, they preserve the thing that makes them unique, in the face of powerful forces that would strip that away from them. This resiliance allows for us to have a greater amount of diversity within our increasingly global society.

The threat with racial bias we have been facing is that often times it pits one group of people against another. When this happens there are always two losers in the fight. I think the trick to preserving culture, while still respecting the values of another, is to both hold your own racial bias while at the same time encouraging other races to promote their bias to you so that you can learn what makes you different and appreciate your own cultural differences and recognize positive benefits of other cultures as well. So how can the build environment provide a stage for this promotion to occur? I think we start with shared public spaces.

—John Rock

WHERE SCIENCE MEETS SUSTAINABILITY

Everyday breakthroughs are being made in the fields of science and medicine. We are constantly researching and testing theories for curing diseases and creating new drugs for healing the sick. Vaccines were invented to end epidemics and diseases such as smallpox and polio seem like a thing of the past. We place so much emphasis on healing our sick and disease prevention. Our children will no longer worry about having a bout of chickenpox. There is a vaccine for that too! While these are all very progressive means to a healthier world, we are slowly but surely facing a new calamity. All of the cures and preventative measures for diseases, such as cancer and AIDS will not mean a thing if we have no air to breathe, land to grow food on, or clean water to drink.

Humans may be the most advanced beings on this planet, but we are also the most destructive. We have the power, the ego, and the means to destroy our world, but we also have the ability to save it. While many of us do not wake up each day and think to ourselves, "today I will cut down a tree, add 2 pounds of garbage to the dump, spill oil on the road because my car has a small leak, pollute the ozone with my gas-burning rig, and burn about 400 kW of energy," it is just what we are doing. Our actions maybe innocent in our eyes, but in a larger picture, they are not. Unfortunately, for how advanced we are, there is one thing that we just do not seem to understand. Or possibly we do understand, but we live in a world that cares only about today. There is no vaccine for us when it comes to the destruction of our planet.

Today many people seem to imagine sustainability as a choice. We can choose to recycle or not. We can choose to conserve water, or turn off the lights when not in a room. While one person's actions may seem insufficient to help our planet, they all add up when everyone participates. It is time we make it a practice and not just a choice. We do not have to be doctors or scientists to know that our actions have consequences. Taking it one step further, we can choose to design buildings that do not rely solely on mechanical systems and energy-draining lighting. We ultimately are responsible for what happens in 100 years by changing our decisions now and being held accountable for our actions today.

Karin Settles
Arch 510
Cartoon

"Hey Bob, what are you doing?"

"The Moscow paper said it would like its residents to go green. But no matter how many days I water, the grass is still brown."

So as we look to the future we can only imagine what our planet may look like. We have two options. The first is a dark, gloomy, trash-infested earth where we are scouring the world looking for more land to take over and inhabit. The second is a green, lush, beautiful planet where we coexist with the land and wildlife is abundant. Which path do we choose? As more and more people become aware of the impact we are making on the earth and that there is a choice to be made, they are hopefully choosing sustainability!

—*Karin Settles*

LOOKING AT THE PAST, A PATH TO THE FUTURE

The universe is established based on the principle of "balance." All creatures consider this rule and instinctively live in constant interaction and balance with the other occupants of the world, but humans, as the most intelligent creatures, give themselves the right to interfere in major aspects of life on the earth deliberately. The environment has been vastly transformed by the hands of humanity. This transformation has had its biggest impact in the recent two or three centuries. Pollution, ecosystem destruction, and natural resource depletion are some of the problems that this transformation has caused.

Architecture, as the most important tool involved in shaping the built environment, plays a major role in this process. It is critical to re-consider architecture as a method to reach adequate sustainability. Over the centuries, vernacular architecture with a profound perception of human scale and needs, surrounding nature, and natural resources reached a climax of balance between preserving the environment and changing it to better suit mankind's needs. Our ancestors, by studying their culture and exploring the various relationships between people and their natural environment, had achieved a meaningful definition of place. By knowing their surroundings and translating the captured ideas into their buildings, they had obtained an understanding of what makes a place distinctive and wonderful. Form was an interpretation of culture, function, and materials used to create it. This makes one's encounter with the building more meaningful. Sophisticated passive architectural strategies help balance the relationship between the building and the environment in which it is located in.

There is no doubt that our deference to vernacular architecture should not be translated to a superficial mimicking of its forms, symbols, and signs. The only way to achieve a rich and meaningful perception of ancient architecture is to understand the underlying conceptual foundation behind its components. Architecture is a dynamic procedure that for fruitful survival needs constant revisions. Technology as a strong parameter could play a key role in its evolution; but it is also a double-edged sword. Although it has helped humans conquer their most complicated challenges of modern life, it has imprinted the most destructive impact on the closed cycle of ecosystems on the earth. The current global ecological crisis has presented a need to reconsider the issue of sustainability. Mechanical technology is still a powerful effective arm, but looking at the past's thoughtful solutions could help humans take solid steps towards saving the planet. Harmony and balance mingled in the vernacular architecture could present the ultimate solutions for the current destructive problems.

The only way to respond to the future needs is to be inspired and supported by the past. A strong tree needs roots for growth, and without its roots, it will only live a short period of time. The expansion and the growth of architecture in the context of enriched vernacular architecture will make it a sturdy tool in the hands of humanity to make changes where they are needed for development in a compatible and harmonic way with the surrounding nature. Extremism carries a negative connotation, but it can be positive and constructive if it used to keep the "balance" of the nature.

—Shirin Shirazi
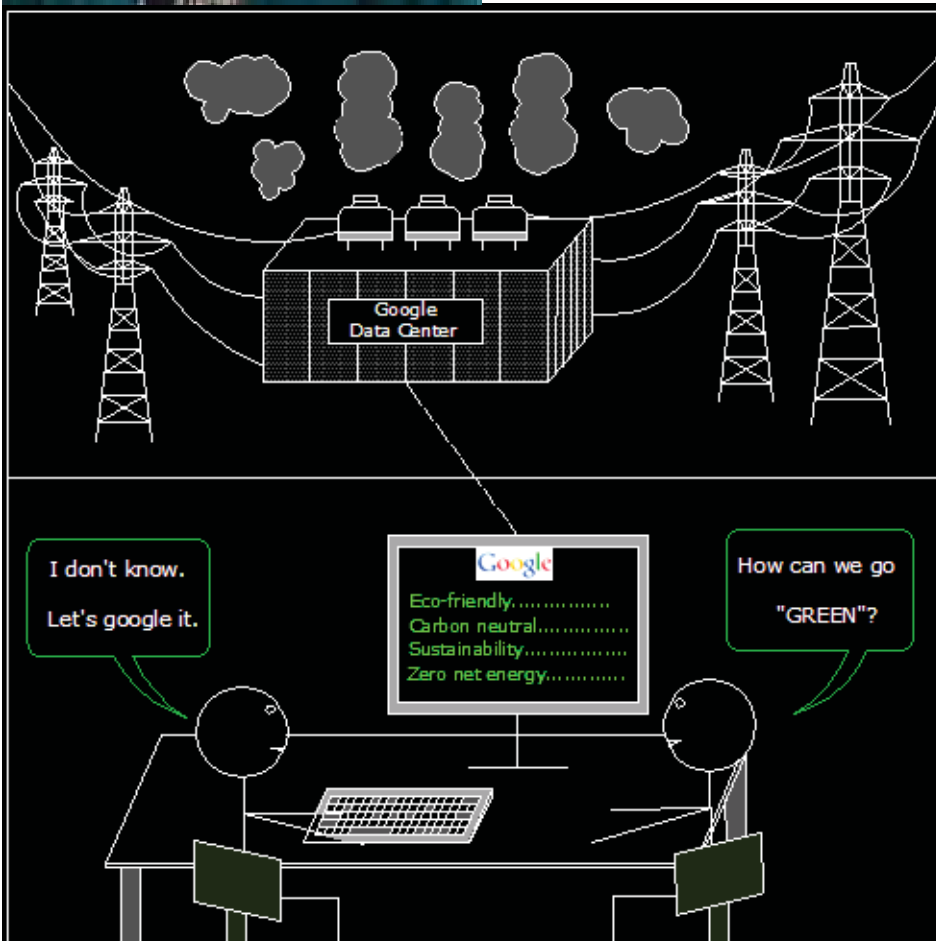
WHEN IS PASSIVE DESIGN GOING TO BECOME AN EXPECTATION?

"Turn off the light when you leave the room." "Shut the door, we don't want to heat outside."

"Turn off the water while you are brushing your teeth." "Don't be a waster-roo."

Ever since I could reach the light switch, go outside to play, handle a tooth brush, or take out the trash, my parents ingrained these ideas into my head. I knew that was what they wanted me to do, but I didn't quite understand why. My parents are not environmentalists, trying to save the planet one light switch at a time. They weren't trying to educate me in sustainable principles or decrease their carbon footprint. They had a different understanding of why it was important to conserve energy. They knew the utility bills were coming, and they had a single goal: save some money by not wasting.

Electricity, heating, cooling, and water aren't viewed as amenities; they are expectations. In our culture every household, every building is expected to have electricity and running water. This is a given. There would be utter frustration and irritation if you walked into a room, flipped the switch, and nothing happened. Bewilderment. Fury. Anger. When you flip a switch SOMETHING SHOULD HAPPEN! Each year, every household and business spends thousands of dollars to ensure that they meet these expectations. They pay as if there was no other way or option. Many aren't interested in any other option.

We will always have these expectations; that will always be the case. It has been woven into our being. It is a part of the "American Dream" we try to live every day. I do not suggest that the feelings be changed in regards to these expectations. I do not feel like we need regulations or legislation passed to put limitations on our individual energy use. If a person or company wants to pay thousands, tens of thousands, or millions of dollars for their energy use, they can and should be able to. I do feel, however, that there are ways around paying a fortune for these expectations or 'amenities.'

Design strategies have been used for centuries to design systems passively and lower the level of energy needed to heat or cool a building. Vernacular architecture in all types of climates provides great precedents for passive design. Cooling Tower. Tromb Wall. Night-Flush Cooling. Thermal Mass. Daylighting. Cisterns. Roof Gardens. Permeable Pavement. A few things on the list of many that can be integrated to help minimize the use of energy, water, and time. These are currently viewed as amenities and are not always implemented in today's architecture. Why not? Why not use these for the opportunity to save a dollar or two?

It is through the integration of passive design strategies that the energy and water bills can be reduced significantly. Why would you not use daylighting? Why would you not use passive cooling strategies? Why would you not reuse grey water? Why would you not incorporate these strategies to save a few dollars? When are passive design strategies going to become expectations and not amenities?

—Jeff Slichter

WHEN WILL WE LET PASSIVE DESIGN TAKE THE MAIN STAGE?
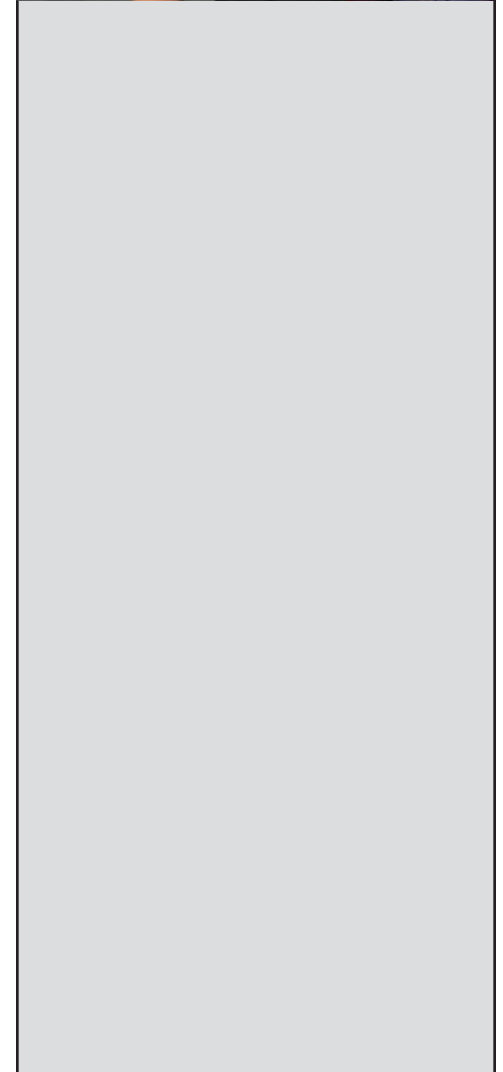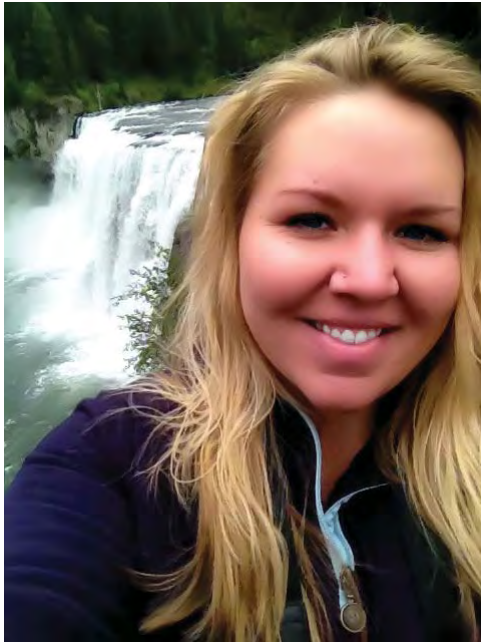
PRESERVING THE HISTORY THAT INFLUENCES OUR FUTURE

"in the end, the character of a civilization is encased in its structures"

—Frank Gehry

Historic buildings are the cornerstone of this country along with many others. The detail and craftsmanship that originally went into an historic building is something that should not be ignored. These buildings are crucial elements in our perception of culture and identity through time and, therefore, important for our future. By observing and studying historic buildings, we learn from our past and enjoy the accomplishments of our ancestors.

Historic preservation is beneficial to the community in the following ways:

- **Culturally:** richer for having the tangible presence of past eras and historic styles.
- **Economically:** increased property values and tax revenues when historic buildings are protected and make the focal point of revitalization. The community is subsequently attractive to visitors seeking heritage tourism opportunities.
- **Socially:** when citizens take pride in its history and mutual concern for the protection of the historic building fabric.
- **Developmentally:** having a converted and well-define planning approach for the protection of historic building while accommodating healthy growth.
- **Environmentally**: when historic buildings are restored or rehabilitated rather than demolished and disposed of in the landfill.
- **Educationally:** teaching local heritage.

Historic preservation is a good investment, and it would do us well to encourage its activity. It creates jobs, produces income, and produces state and local tax revenue. In addition, historic designation raises property values at a substantially higher rate of return than non-designated areas. All these aspects of preservation are vitally intertwined—historic designation leads to historic rehabilitation, which in turn generates heritage tourism and increased property values. In the end, everyone benefits from this robust contribution to the economy.

While it is good to be aware of all the economic benefits of historic preservation, these are only a few of its numerous advantages. It helps the environment by curbing urban sprawl and encouraging smart development. As well as fostering education by providing the atmosphere and the structures that teach us about the past while beautifying the places people want to live. Preserving these structures teaches respect for the legacy of our nation and the built environment of our forefathers and builds community awareness. With all these virtues and this evidence revealing powerful economic benefits, history preservation quite simply makes cities better places to live, work, and visit.

—Kelsey Stenersen

LIGHTS OUT

What brings you to a gym? What makes you motivated to work out? Does the architecture and design of a gym make your workout better? As times changes and technology advances, so does our population, meaning that we are using resources and energy faster with our growing population. With that in mind, we have to think about how we are going to energize and power the future generations. It is also important to think about new, innovative ways about producing energy and reducing/minimizing energy consumption. What better way to conserve energy then to harvest it from people that are already burning it. Also, it is beneficial to plan for the future by designing for the future and how things could possibly change.

Would you be more enthused to go to a gym if you knew you were giving back to the building? For many, probably. Especially with the energy consumption so high for gyms and the amount of energy that could be saved, it is an innovative way to look at some alternative strategies that could benefit the building's consumption, especially for the people that are already working out. It's an extra incentive to work out harder, when you know that the energy you're producing is going somewhere. It may be powering your TV, charging your phone, or just being stored back into the building power supply. It's an added benefit to know that you don't need to put any further effort to help power the building, or at least some parts of it. Also with the opportunity to get enough people to utilize the equipment with passive and active strategies being implemented in the building, it could put a good dent in the energy consumption of that building. An example is with a short 30 minute run by one person, one can light a CFL bulb for 2.5 hours, now just imagine how much you can light with a full cardio area being used constantly for 2 hours.

A gym can be a haven for some. After a long stressful day or week, some people may look forward to working out and the architecture and design layout of the building can greatly affect how someone feels about the space they are in. How long they want to be there and how often they want to go. It's all about openness, having a free and friendly environment where people feel welcome. The goal is to create an interactive integrated use of different strategies, such as passive and active strategies along with the use of human-generated energy. Another goal is bringing in lots of light and exploiting outdoor/indoor interactions while still letting the users feel comfortable and safe in the space. The strategies that could be implemented in this building will hopefully, in the future, become finalized and be developed in other instances and building typologies.

—K.C. Tillerson