Ian Collins Carr Undergraduate Portfolio
Contents

1  Arapahoe Omnivore’s Library
   Urban Farming Center

5  Water Street Therapy Center
   Urban Infill

9  Nazca Line
   Mausoleum for the A.P.S.

11  Scaffolding House
   Performative Abode

13  Columbia Cemetery Design Build
   Storage and Restoration Facility

17  School for Burmese Refugees
   B.T.I Competition

(Cover)  Pyatt Studio LLC.
Context

The Arapahoe Omnivore’s Library posed a unique opportunity to reinvigorate a whole city block by transforming an empty lot into an urban farm and learning center where the community could not only interact with local farmers but also actively learn about the sustainable practices of urban agriculture in a learning library and lecture room. Located in downtown Boulder, Colorado, the farm and building would seemlessly mesh into the surrounding context of buildings and park spaces.

Content

The program for the Arapahoe Omnivore’s Library, on the surface, seemed straightforward. A library and auditorium aimed at educating the public about urban farming practices would also contain the necessary support systems, such as offices, meeting rooms and universal accessibility. The challenge was to design a structure that would do more than provide the basic programmatic requirements. I took it upon myself to incorporate a roof garden viewing platform and a more public space underneath the belly of the library for free-flowing park space to connect to the southern farm land and the existing creekside park space.

Concept

The design was informed by two separate ideals; the idea of rooting the building in its site, and by touching the earth as lightly as possible. These ideas manifested themselves physically in the form of the building. The Lecture Hall nestles itself into the earth, while the Library, which makes up the majority of the building, hovers above the earth and provides a connection to the creek and distant treeline. The resulting building sensitively interacts with the site, by attempting to disrupt the natural environment as minimally as possible, while also taking advantage of the built environment’s ability to capture and frame views, and attempt to enhance the naturally occuring surroundings.
(top) comprehensive site plan
graphite on mylar
(left) building model
basswood, taskboard
Transparency + Informed Complexity

As a first foray into creating an effective floor plan, my intention was to design a legible synthesis of circulation, structure and fenestration. Circulation was dictated by ADA requirements and also engendered a flow whereby users would become engaged with the building as a whole. Perforations and structure were established along the lines of a simple grid as a means to establish a clear reading of space and a logical organizational system.
(top) diagram illustrating universal accessibility
ink on mylar
(left) model view from ramp
basswood, taskboard
Urban Infill

The site for the Water Street Therapy Center was not ideal. Located in a historic sector along the Boulder Creek, the building acknowledged the surrounding context of buildings and responded to the potential problems faced by the natural environment, which has a history of corrosive flooding after periods of intense snowfall. Situated in what appeared to be an alley and abandoned parking lot, the positioning of this structure required a response that could engage the street as well as provide a private place for users to enjoy the personal spa experience. Great care was taken to ensure that the building both activated a street level interest and a privatized interior courtyard.

Phenomenology

This studio posed the issue of focusing on a very fundamental element, water, and interpreting its transformative qualities into a series of therapeutic bathing spaces for public use in the downtown sector of Boulder. The focus of the building became to heighten one’s sense of consciousness through visual, aural and tactile experiences with water. The placement of the entry path along the creekside creates a sublime effect of passing through a narrow threshold between two bodies of water to the central bathing court of the spa. Individual bathing pods play with light and water to create soothing effects. Light and dark interplay with water to attempt to heighten the transformative effects of the pools.
(top) sectional perspective
   colored pencil on paper
(right) interior perspective sketches
   pencil on paper
**transparency**
An entry procession undergoes a visual and experiential breakdown of transparency from an opaque street entrance to a fully transparent connection to the neighboring creek.

**permeability**
The upper floor of the spa utilizes a more sparse structural skeleton that allows sunlight to infiltrate the porous spaces.

**program**
Programmatic blocks are assembled clearly to generate a seamless flow of experience to each required use.

**massing**
The building is designated by one block that demarcates the building within its surrounding urban context and another “inner-court-yard” that becomes a private space within the city.

**site**
The site is designated by a typical urban block and the adjoining building.
(opposite left) diagrams illustrating systems of order
    colored pencil on paper
(opposite right) initial study models for bathing spaces
    foam core
(right) aerial model views
    basswood, foam core, plexiglass
The Program

The American Philosophical Society’s Mausoleum called for 200 crypts for members’ burial remains and 1500 niches for internment of cremated remains. In addition, a monument to Copernicus, an admired figure of the A.P.S., was called for as a ‘bridge’ between earth and sky.

Contemplation + Reflection

In an effort to create a space that would yield contemplation and reflection, this programmatic requirement manifested itself in the form of a long pathway, stressing the overwhelming nature of moving through a space that was both concerned with life and death. Through an act of steady movement, the dramatic quality of being surrounded by the remains of great thinkers inspires one to take the time to truly contemplate his or her experience in the universe. A large reflection pool runs the length of the path, providing a sensual relief from the presence of stark materials such as concrete and steel.

Monument

The path terminates at a crossroads, where the lower level dedicated to the niche wall and the upper level of the crypt floor begin to intertwine. At this point the experience shifts to the memorial structures that commemorates Copernicus by focusing views on Earth and Sky as well as paying homage to the 5 classes of the American Philosophical society; Mathematical and Physical Sciences; Biological Sciences; Social Sciences, Humanities, and the Arts, Professions, and Leaders in Private and Public Affairs. Each Memorial becomes a place for rest and pause, and an opportunity to consider how each of the various fields of study focus on different viewpoints in academic discourse, while holding a similar vision of propelling knowledge and education in such a way that differing opinions may still come back to a central argument.
combined site plan, building plan, sections, isometric elevation + axonometric projection. 
ink on mylar
**A Response to ‘Placelessness’**

The Scaffolding house was a solution to the vague proposal to design a ‘performative’ abode. The ‘performative’ aspect manifested itself as an interplay of a kit-of-parts construction assembly, able to adapt to various environments by providing a basic framework that could be expanded upon and customized. Inspired by the process of assembling scaffolding units, the home would have an appearance of constantly being under construction, and its steel frame and cladding would support this aesthetic and function. The aim was to create a simple home under 400 sq. ft. that could perform as a sort of mobile home that could be packed up and assembled, and deliver a very basic set of amenities for spare living.
(top) detail model illustrating facade system
  *basswood, plexiglass*

(below) exploded construction axonometric
  *adobe illustrator*
The Client + Site

The Parks and Recreation board commissioned our twelve student team to construct a new facility on the Columbia Cemetery that would provide a space to house and restore dilapidated grave stones that had been in disrepair in a remote facility for years. With only $15,000, the structure would have to be simple enough to execute on a shoestring budget. Our proposal would have to adhere to the strict requirements of the Historic Landmarks board, as the building was on a historically registered site.

The Program

The Program called for storage space and a restoration office, a space for tool storage and a public space that would provide an educational component that instructed users of the history of the cemetery. Over a 12 week period, and many arduous meetings with the Boulder County Historic Landmarks Board, a design proposal was agreed upon, leaving our team 6 weeks to fabricate and complete construction.

The Solution

Our team developed a plan for the building that was simple in its construction. The structure would be determined by a 4’ structural grid and the appearance of the building would be simple and iconic in the cemetery. The plan was organized among three distinct zones: work and restoration, public space, and tool storage.
My role

After settling upon a design that our twelve person design team thought met the needs of the program and client, each student spear-headed a particular aspect of the project. With such a seemingly simple design, the elegance of the structure would rely on the details. I spent much of the pre-construction phase developing the steel connections. My aim was to develop composite pieces that could be pre-fabricated in our workshop to make assembly in the field easier so that we could meet our deadline. These connections not only aided in the process of assembly, but also served as beautiful examples of engineering as a compelling architectural detail.

1. corten steel cladding
2. polycarbonate sheeting
3. non-structural framing
4. 2 x 8 LSL structural skeleton
5. plywood shelving

(top) initial structural sketches
   pencil on paper
(left) 3d models of connections
   Rhino 3d
(bottom) exploded axonometric detailing
   structure
   Rhino 3d, Adobe Illustrator
Raw Steel

After a rigorous process of sketching, 3D modelling, and prototyping, we developed a strategy that employed flat-pack steel pieces that we fashioned in a puzzle piece format and adorned with pre-drilled holes for ease of assembly. Our drawings were sent to a local steel cutting factory, and we picked them up ready to weld together. We spent a week assembling and bead-blasting them and were ready for on-site assembly.
Historic Landmark

The result of our 12 week design build: a project sensitively integrated into the landscape of the Columbia Cemetery, Boulder, Colorado’s oldest and most historic cemetery. We managed to complete the project on time and on budget and each student had the opportunity to contribute a specific skill and personal touch to the building.
School for Burmese Refugees
Building Trust International Competition

Political Geography
Burmese refugees live in a vulnerable and unstable state. They are constantly exposed to attacks from the Burmese Army, have no means of state-supported trade and rely on NGO support for education. The school seeks to promote self-sufficiency and security. All of the elements of our modular school are contained in a simple, elegant structure, using construction methods that are both highly attuned to existing Thai practices of building and easily transportable and replicable to adhere to various environments. A simple re-purposing of technology allows refugees to connect with their homelands as well as broadcast their plight to foreign countries.

Design + Construction
By employing a literal size-regulated module that satisfied the classroom needs, we created a system of measure that could be replicated to account for the growth of the school. Local materials and construction methods (bamboo, woven partitions, earthen bricks) informed our plan of construction; providing refugees a level of self-sufficiency in altering the design of the school to properly fit their needs. 12m x 3m frames of locally sourced timber comprise the main structure. A double-height roof module, anchored by chicken foot foundations and framed by sturdy bamboo shafts, shelters the building and allows crop storage above. The secure storage room is constructed of grass-reinforced compressed earth blocks that can be formed from the very earth the refugees tread upon. The 12m x 3m unit, the walkway, the roof and the brick rooms are each constructed separately, ensuring simple construction.
(top) exploded axonometric detailing construction technique
Rhino 3d, Adobe Illustrator

(center) longitudinal section
Rhino 3d, Adobe Illustrator

(bottom) floor plan
Rhino 3d, Adobe Illustrator
Communication

Communication is an element of infrastructure that the Burmese government strictly enforces. The BlackBox is durable, compact and can be connected to any local cellular network. It contains power and hardware that allows global internet access and has the ability to access secure messages from anywhere in the world, to anywhere in the world. It is equally effective at a school, a refugee camp, a protest or a city.

Technological Innovation

The blackbox itself is a 1mx1mx2m aluminum box with retractable handles. It can travel through tough conditions and hook into any local cell network. Inside contains all the hardware required to access messages from anywhere in the world. A double roof system is utilized in order to optimize the building to the extreme heat and rain conditions. Wind, rain and sunlight are all extremes in Thailand, but this system lessens their effects.

24 Hour Plan

Burmese refugees cannot afford buildings that serve only 1 purpose. A canteen during the day transforms into sleeping quarters at night; a classroom becomes a hub for computer terminal setups for communications where information can be transmitted; a school can provide a venue for merchants to sell their goods when classes aren’t in session, and a field can serve as a source of revenue for refugees who can benefit from agricultural production.
Thanks to my family, friends, and instructors for helping to make this work possible