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01//RECONFIGURED TERRAINS
research laboratories + scientist dwelling

studio
400 level, second semester, spring 2011

advising professor
Rana Abudayeh

site
the Very Large Array, Magdalena, New Mexico

project description
Any architectural gesture entails a reconfiguration, in some capacity, to the landscape it occupies. This landscape has been reconfigured by man on a massive, almost incomprehensible, scale through the very large array, which spans a distance of 30 miles in the plains of St. Augustine. In a landscape with constructed properties, the architecture does not only impact the natural layers of the site, but also the function of its constructed mechanics. The program is an attempt to establish daily habits and fuel coincidental findings by incorporating dwelling units into the program of the research facility. The building introduces a dramatic shift in the site’s pattern of occupancy, functions, and overall experience.
J. B. Jackson reflected on the landscape as “a composition of man-made spaces on the land.” From the combination of the root words land, referring to the earth’s surface, and scope, meaning a combination of forms, the intervention of the Very Large Array onto the Plains of San Augustin redefines the natural scale under the conditions of man. Boundaries that were previously perceived through referential landforms are redefined as the satellites shift, reconfigure, and adjust. Astronomers often use the concept of parallax – the apparent displacement or difference in the position of an object viewed along two different lines of sight – to determine the distance of stars and galaxies. Parallax is the fundamental relationship between the body, space, and time. Sequential experiences in space are experienced as one moves at highway speed across the landscape.

The overlap of these two conditions reveals the complexities of the site.
views diagram // the sequence of the building takes the user through multiple perspectives of the machinery, earth, and sky, allowing new spatial perceptions of the landscape to occur.

right // view corridor through research laboratories, sky garden, and cafe.
WAREHOUSE 508

a venue for creative youth development

studio
400 level, first semester, fall 2010

advising professor
Margaret Pedone

site
Downtown Albuquerque, New Mexico

project description
Warehouse 508 is a youth center located in the warehouse district of downtown Albuquerque. Bounded by the train tracks, Tijeras bridge, and First Street, the site is one of many “in-between” spaces in the city fabric with limited access, a resultant of intersecting paths and functions that define the urban fabric of Albuquerque.
The design process began by investigating the social, historical, and natural factors that have influenced the development of the warehouse district.

There is a direct connection between education levels and poverty rates throughout the Albuquerque-Santa Fe area. The downtown area has some of the lowest education levels and the highest poverty rates. These social conditions have an intricate relationship to the surrounding networks and built systems of the city.

The railroad, which has a strong historical presence on the site, disconnects all the roads but the major corridors that pass through downtown, creating dead ends and streets and high-crime activities.
section AA // An exterior screen on the south facade shades exterior terraces in the summer and allows light to penetrate interior space in the winter.
The building is a response to the social, historical, and natural factors that have influenced the development of the warehouse district. The design acts as a link between an "in-between" space and the surrounding urban fabric. The original warehouse typology is maintained through industrial materials such as corten steel, brick, and concrete. The horizontal circulation core of the building is aligned to the original grid of Albuquerque and connects the warehouse to the adjacent Convention Center. An interior skate park makes adaptive reuse of the original warehouse structure. The building also responds to the natural forces of its environment. Gathering spaces are created in between each of the buildings, which allow the program to overflow from inside to outside.
Keshet Dance Studio

Studio
300 level, first semester, Fall 2009

Advising Professor
Rana Abudayeh

Site
Albuquerque, New Mexico

Project Description
Keshet Dance Studio is a non-profit organization with the mission to inspire passion and open unlimited possibilities through the experience of dance by uniting professional dancers with the community. The design of the studio unifies the rhythm of dance with the rhythm of the city. Sited along historic Route 66, the building choreographs coincidental encounters and social interactions through a series of alignments, cues, and repetitions in architectural form and is a play on the rhythms and patterns of the city.
The study of One Flat Thing Reproduced, a dance sequence choreographed by William Forsythe, was the starting point for design. The composition was broken down into several identifying factors:

- **Motion movements**: Themes that are repeated during the dance and are separated by periods of improvisation.
- **Rhythm**: Consistent and uninterrupted throughout the dance sequence.
- **Cues**: Audio, visual, or bodily communication between the dancers that induces or prohibits movement.
- **Alignments**: Short instances of synchronization between dancers in which their actions share some, but not necessarily all, attributes.

These identifying factors were translated into conceptual study models that generated to the final building design.

Unlike dance or music, the experience of architecture is highly contextual. This led to an investigation of the EDO area in Albuquerque to discover the rhythm of the site.

Closely spaced buildings and a focus on frontality gives Central Avenue and unique urban feel.

Route 66 between the University of New Mexico and Downtown has irregular traffic patterns that fluctuate between the nightlife of Central Avenue and the daytime work schedule of downtown and the university.
04//LIMINALITY

youth retreat center

studio
205 level, second semester, Spring 2009

advising professor
Kima Wakefield

site
El Malpais National Monument, Grants, New Mexico

project description
The concept of liminality was the foundation for this project. The state of liminality, as described by Carolyn Heilbrun, “is to be poised upon uncertain ground, to be leaving one condition or country or self and entering upon another, but the most salient sign of liminality is its unsteadiness, its lack of clarity about exactly where one belongs and what one should be doing, or wants to be doing.”

The ambiguous, in-between stage from youth to adulthood is challenging and filled with hardships, especially among many inner-city youth. Amidst the desolate terrain of El Malpais exists an escape for discovery and reflection. This retreat center helps to enhance the well-being of teens and foster positive youth development.

Upon arrival, the violent landscape of El Malpais National Monument offers little refuge in its vastness.
The continuous wrapping of the building creates a form that is evocative of the twisted and folded lava crust covering the landscape. The coiled and curved skin of the building fluidly incorporates the indoors and outdoors. Similarly, the lava tubes are continuously exposed and concealed throughout the landscape, often displaying a vivid contrast between light and dark.

The landscape is a field of contrasts: light and dark, exposure and concealment, extreme heat and cold. The building exists amidst these conditions as a refuge from extremes - a place to reflect on where one has been, and where one might go.
05//ASCENSION
OBSERVATORY

ornithology center

studio
200 level, first semester, Fall 2008

advising professor
Katya Crawford

site
Bosque del Apache National Wildlife Refuge, New Mexico

project description
Situated on part of a controlled wetland area dedicated to the preservation of habitat and breeding grounds for migratory birds, the program was to design an ornithology observatory and educational center. Unique edge conditions begin at the water’s edge, and extend to the surrounding wetlands, the distant mountains, and the horizon of the desert beyond. The design of the building highlights these edge conditions to teach visitors about the unique ecosystem of the Bosque del Apache and the interaction between living systems.
06/EXPERIENTIAL
ARCHITECTURE
memory foam materials research

studio
300 level, second semester, Spring 2010

advising professor
Dana Galloway

research team
Research and design work was completed as a collaborative effort with colleague: Zachary Tyler.

project description
"We have a lot of memory foam. Let's see what we can do with it." This was the basic parameters for design. Visco-elastic polyurethane foam, also known as Memory foam, was developed by NASA and is mainly used in mattresses, pillows, and medical applications. It has many unique properties, most notably its reaction to heat and its ability to retain shape. This project explores how architects can engage in research and development with new materials in the field of design. During the design process, the unique qualities of memory foam were closely examined in conjunction with the architectural elements of form, light, and space.

The final design was an interactive wall that brings challenges interactions between the human experience and the architectural world. It has been flexibly designed to be installed in a variety of locations with the intent of being produced from recycled mattresses. The soft, textured, and sensitive surface engages users and encourages a more responsive interaction between people and building materials.

light control
The foam transmits varying amounts of light in relation to its thickness. Color can be added during the manufacturing process to provide a diffused hue.

added insulation
Polyurethane foam has a U-value of 7.14 BTU/h ft²°F.

thermal quality
Visco-elastic foam is unique in its reaction to temperature. It is softer when warm, and firmer when cold. This quality allows the user to engage in the relationship between the foam, building, and interior environment.

human interaction
The design breaks down barriers between the architectural world and the human body. It utilizes the foam’s thermal and visual performance as well as its interactive qualities.
EL SEMBRADOR

organization
Engineering Ministries International, December 2012

project manager
Zask Graham

site
Catacamas, Honduras

project description
Engineering Ministries International (EMI) is a non-profit organization with seven offices worldwide that mobilizes architects, engineers, and design professionals who donate their skills to help people step out of poverty. During the fall of 2012, a team of 18 design professionals met in Honduras for one week to initiate the designs of a secondary school and a 15-year master plan for Escuela El Sembrador.
Escola EI Sembrador has been offering hope to underprivileged youth since 1954 through academic education, vocational training, and leadership training. The goal of the school is to raise up a new generation of Hondurans that would leave the school with a strong work ethic and a sense of patriotism for their country. EMI provided EI Sembrador with the design of a new secondary school building as well as a 15-year master plan to help them prepare for future growth.

An important step of the planning process was to understand the school’s extensive history, previous development, current use, and vision for the future. The phasing plan was developed based upon these findings and the projected number of students in the future.

The proposed master plan builds off of the existing developed area of EI Sembrador. A residential area north of the current campus will be a mix of single family homes for staff families as well as apartments for teachers. The educational core will include the primary school, secondary school, administration, maintenance for the educational campus, clinics, student residence, assembly, and sports areas.

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- **01**: Existing
- **02**, **03**, **04**, **05**: Phasing

- **02** phase 1: New
- **03** phase 2: Demolition
- **04** phase 3: Existing
- **05** phase 4: Existing
- **06** phase 5: New
Secondary School // In the late 1960s, a reservoir was constructed to generate hydro-electric power for the school. Today, the reservoir still generates power and serves as a habitat for much of the local wildlife. However, the beauty of the reservoir goes largely unnoticed by many students and visitors. The design of the school is meant to bring people through the central axis of the campus and up to the reservoir. Siting the second story of the building at level with the reservoir makes it possible to take advantage of the cool breezes for natural ventilation as well as unobstructed views.

Three separate wings of the school make it easy to divide construction into phases as funds become available. It also creates a central courtyard that will be used for school events and social gatherings.
08//PERSONAL WORK

travel and photography

Lightning Fields 2010

timeapse 2011
Work Experience
Engineering Ministries International Intern // August 2012-present, emiusa.org
Architectural Designer, modhab LLC // December 2011-July 2012
Architectural Intern, Garrett Smith, LTD // July 2012-August 2012

Visual Art Training or Coursework
2011 UNM Summer Abroad Publication // available online
Architectural Graphics I & II
Three-Dimensional Design
Introduction to Architectural Drawing

Community Service
Engineering Ministries International // August 2012-present
AIA Albuquerque Design Awards Student Jury // Spring 2010
AIAS Vice President, UNM Chapter // 2010-2011 Academic Year
Member of Tau Sigma Delta (Honor Society in Architecture and Allied Arts) // 2010 - 2012
Member of Phi Kappa Phi Honor Society // 2010-2012

Previous Architectural Coursework
Design Studio I, II, III, IV, V & VI
Japanese Modern Architecture
Politics, Culture, & Architecture
Structures I & II
Architectural Journeys
Human Factors in Design
Landscape Architecture, Site-Environment
Environmental Controls I
World Architecture I & II
Introduction to Architecture

Construction Experience
Alternative Construction
Construction I
Creative Constructions Company // June-July 2008

Travel Experience
Europe 2011: Independent Travel & Summer Study Abroad, UNM School of Architecture and Planning
Nicaragua 2007: Amigos de las Americas, Student Volunteer and Community Development Project
Europe 2006: EF Educational Tours, Eldorado High School, Photography III

Independent Research
Sustainability Studies Capstone Project: Greenhouse for St. Charles Borromeo
Experimental Architecture: Architectural Applications of visco-elastic polyurethane foam
UNM Undergraduate Research Quest Day: Affordability and Sustainability in Housing, in collaboration with José Cornejo

Thank You
aaron bridgers
undergraduate architecture // 2012
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