

BEING THE MOUNTAIN

IIT COLLEGE OF ARCHITECTURE, CHICAGO IL

STUDIO BY PRODUCTORA

FALL 2016

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Ricardo Legorreta, Ixtapa Hotel, Ixtapa Guerrero, 1980 (Photo Armando Salas Portugal)

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ARCHITECTURE & TOPOGRAPHY

Course Description

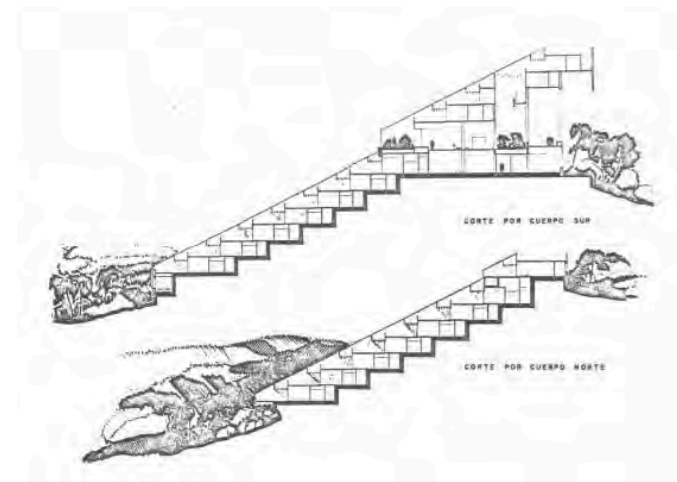
The city works as an agent of change of different urban and social conditions. Searching for new models to understand, developing and solving city problems while rethinking individual and collective metropolitan experiences, the studio explores the relationship between topography and architecture through the design of a housing program with mixed use additional programs on a steep site.

Rethinking habitat implies debate about urban politics, new social relationships, programs, new forms of habitation among other things. The Studio encourages students to achieve real breakthroughs in the creation of a new habitat.

Precedent

The topic of this studio is triggered by our fascination with Armando Salas Portugal's photography of the Ixtapa Hotel by Ricardo Legorreta built in 1981 (see cover), an image we encountered preparing the exhibition 'Mexican Modernisms' for the Palais des Beaux Arts in Brussels in 2010. The cropped image - an endless continuum as if it were an Andrea Branzi drawing for Non-Stop City - shows a continuous field of hotel room terraces, each very similar in design but occupied in different ways with people, daybeds, tables, chairs and plants. Legorreta wrote about the building:

"The new design would not be a tower; it would not be a form on the mountain but be the mountain, with rooms terraced down the slope. It wouldn't fight with nature but blend with the topography." (1)



Section of Ricardo Legorreta's Ixtapa Hotel, Ixtapa Guerrero, 1980

(1) ATTOE, Wayne, "The Architecture of Ricardo Legorreta.", University of Texas Press, Austin, TX, 1990, p.150.

The Ixtapa Hotel consists of an extended volume draped over the whole surface of a hill sloping downwards to a private beach. The rooms are stacked one on top of the other following the exact same inclination as the existing topography, creating a fairly easy constructive solution. Seen from the ocean the building looks like a massive 10 story construction, but in reality it rarely raises more than two levels above its foundations.

The Ixtapa project raised our interest in building types that are architecture and topography simultaneously. The idea to make a mountain-like building or a building-like mountain was however not new. In 1925 F. L. Wright's had already designed his proposal for the Gordon Strong Automobile Objective and in the early sixties some visionary architects in Caracas, Venezuela had started construction on the Helicoide, a large scale commercial project that unfortunately would never be fully completed. Also Cesar Pelli's project for Santa Monica (1965) or Moshe Safdie's Puerto Rico Habitat (1968) or the many stepped and terraced housing projects developed and built during the seventies (2) were obvious precedents to this project. All these projects defied one way or another the modernist ethos of simply 'multiplying by stacking', a strategy that had proved to be a commercial success but had been far too often a redundant social failure. Many of these projects exemplify well a paradoxical ambition: to be mega-structure and vernacular village simultaneously, to be extremely large and extremely small at the same time. But rather than issues of scale, it is the notion of territory and the shifting relation between architecture and the ground it stands on that interest us here.



Cesar Pelli Sunset Mountain Park Santa Mónica; Los Angeles 1964

(2) The housing project in Umiken, Switzerland by Team 2000 might be one of the most noteworthy. These 30 units of hillside housing organized around diagonal elevators, demonstrate the design excellence and expertise the Swiss obtained after following permanently a national strategy of building housing on steep hillsides not suitable for agriculture.

The relation between modern architecture and topography is a scarcely investigated topic (3). Some exceptions aside, modern architecture always had a cumbersome relationship with topography: uneven landscapes were generally quickly annihilated by plinths, supporting columns or cantilevers in order to allow the architect to play an untarnished game of clean orthogonality. Modernism wanted to detach itself from the earthly matter and generally manifested itself a singular object in contrast with the natural surroundings. With a more mature modernism in later decades, a shift in the relation to the immediate surrounding changed significantly. Introduced into the architectural vocabulary in the 1960s 'context', 'contextual' and 'contextualism' were part of the first substantial critique of modernist practice.(4) Mostly however these ideas of context were concerning the need for a historic continuity (Rossi) or with a formal relation to its surroundings (Rowe). So, in general these ideas were rather related to a historical urban environment, and much less to topography, geology or natural situations. Legorreta's Ixtapa project can be read as a project to understand that shift in relation. It can help us to understand how the inclusion of the diagonal vector in seventies architecture (as an addition to the modernist orthogonal ethos limited to the horizontal and the vertical), is not only inspired by vernacular architecture, but also a product of the shifting relation with topography.

The disdainful relation between modern architecture and the earth it stands on, is very well expressed in Le Corbusier's first of his five points of modern architecture: "*Pilotis: (...) The rooms are thereby removed from the dampness of the soil; they have light and air; the building plot is left to the garden, which consequently passes under the house.*" One can indeed claim that for early modern architecture, 'the plan is the generator' as Le Corbusier so clearly phrased it. The re-discovery of the topography, context and a full exploration of the section will only happen in a later phase of modernism. This studio will attempt to trace this change in attitude by exploring together with the students this thesis through a limited selection of reference projects and texts on architecture.

(3) See for example: David Leatherbarrow "Uncommon Ground: Architecture, Technology, and Topography", Cambridge, Mass.: MIT Press, 1999. I must clarify that Leatherbarrow's book is claiming that modern architecture and technology was actually very sensitive to its relation to topography and surroundings. By illustrating that through six lesser known projects (by Richard Neutra, Antonin Raymond, and Aris Konstantinidis) the argument is rather weak. In my point of view, they are rather the exception that confirms the rule that modernism had an uneasy relation to topography.

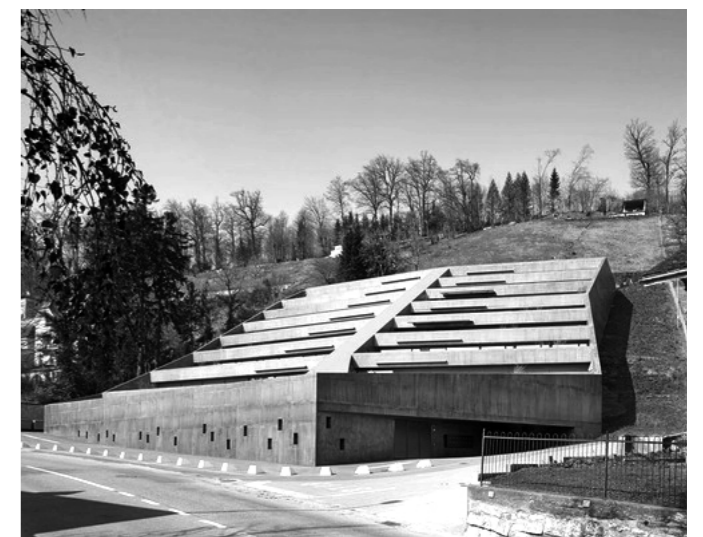
(4) FORTY, Adrian, "Words and Buildings, A vocabulary of Modern Architecture", Thames and Hudson, London, 2000, p. 132.



Housing project in Umiken, Switzerland by Metron (1963-71) with 30 units of hillside housing organized around diagonal elevators.



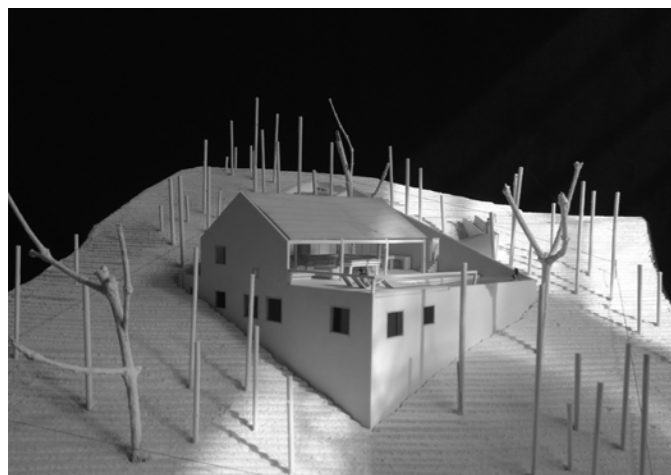
Tita Carloni, Balmelli House, Rovio, Switzerland, 1957



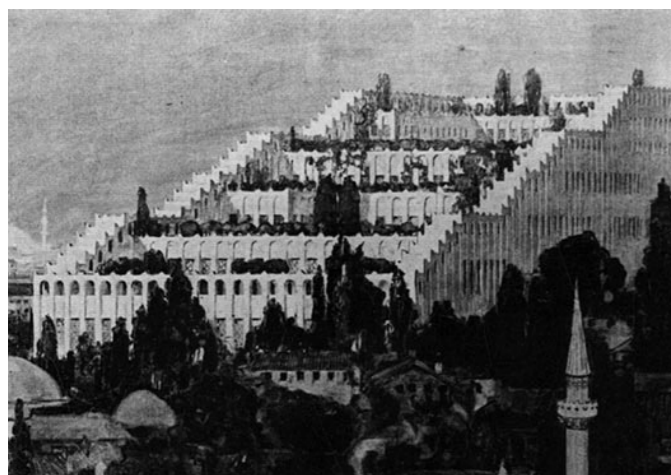
Ken Architects, Terraced Housing in Brugg, Switzerland, 2013

PRODUCTORA

Our office has worked in many occasions on sites with steep hills. From the House in Chihuahua (2008), the addition to that same house (ongoing), the Diaz House (Valle de Bravo, 2011) the Blas House (Valle de Bravo, 2014), the House in Ginigala (Sri Lanka, 2012), the House in Tequesquitengo (2014), the Fleischmann Residence (Los Angeles, under construction) to larger public projects such as the Museum in Teotitlan del Valle (under construction) or the Cultural Auditorium in Cuernavaca (under construction) ... all these projects mediate one way or the other very specific geographic and topographic conditions.



PRODUCTORA, Casa Blas, Valle de Bravo, 2013



Hans Poelzig, House of Friendship, Istanbul, 1916

CASE STUDIES

The content of the studio will be complemented by collecting and researching multiple case studies that will serve as references for the development of the project. Some initial examples here below:

References

- Romero Gutierrez, El Helicoide de Roca Tarpeya. Caracas Venezuela, 1955
- Tita Carloni, Casa Balmelli, Rovio, Switzerland, 1956
- Geoffrey Bawa, A.S.H. De Silva House, Sri Lanka,

1959

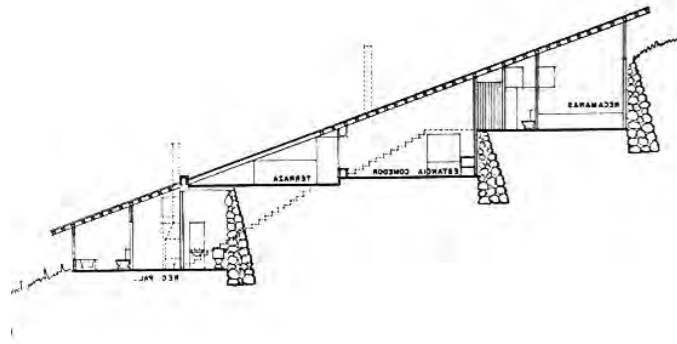
- Jose Antonio Coderch de Sentmenat, Torre Valentina, Costa Brava, 1959
- Siedlung Halen, Atelier 5, Bern, Switzerland 1961
- David Leavitt, The house at Ansty 1962
- Cesar Pelli Sunset Mountain Park Santa Mónica; Los Ángeles, 1964
- Alvar Aalto, Shiraz Art Museum, Shiraz, Iran, 1969
- Moshe Safdie, Habitat Puerto, Puerto Rico, 1971
- Hans Scherer, Strickler & Weber, Mühlehalde Terrace Housing, Umiken Switzerland, 1963-1971
- Ricardo Legorreta, Casa en Valle de Bravo, 1973
- Kikutake & Kiyonori, Pasadena Heights, Mishima, Japan, 1974
- Ricardo Legorreta, Hotel Camino Real Ixtapa, Ixtapa, Guerrero, 1981
- Glen Howard Small and Shizuo Harada, Tatami Mat Hillside Housing, 1985
- Tadao Ando, Awaji Yumebutai International Conference Center, 1995
- Tadao Ando, Rokko Housing I, II and III, Kobe, Japan, 1981-1998
- Iñaki Ábalos y Juan Herreros, Planta Reciclaje Valdemingomez, Cañada Real, Madrid, 1999
- Alvaro Leite Siza, Tolo House, Lugar das Carvalhinhas, Alvite, Paroquia de Cerva, Comunidad Ribeira da Pena, Distrito de Vila Real, Portugal, 2005
- E2A, Terrace Housing, Meilen, Switzerland, 2001-2005
- Eduardo Souto de Moura, 2 Houses in Ponte de Lima, Portugal, 2003-2012
- Ken Architects, Terraced Housing in Brugg, Switzerland, 2013

Other examples

- Adolf Loos, Grand Hotel Babylon, Nice, France, 1913
- Hans Poelzig, House of Friendship, Istanbul, 1916
- Hans Poelzig, Festival Theatre, Hellbrunn Salzburg, 1920
- Frank Lloyd Wright, Gordon Strong Automobile Objective and Planetarium, Sugarloaf Mountain, Maryland, United States, 1924-1925.
- Justus Dahinden, Tent House, Rigi, Swiss Alps, 1954
- Moshe Safdie, Habitat 67, Montreal, Canada, 1967
- Justus Dahinden, Ferrohouse, Zurich, Switzerland, 1970
- Justus Dahinden, Hill City, 1968-1972
- DP Architects, Golden Mile Complex, Kallang, Singapore, 1973
- Neave Brown, Alexandra & Ainsworth Estate, London, Great Britain, 1972-1978
- Georg Heinrichs, Autobahnüberbauung Schlangenbader Strasse, Berlin, Germany, 1981
- Glen H. Small, Turf Town, Los Angeles California, United States, 1983
- Renzo Piano Building Workshop at Punta Nave, Genoa, Italy, 1991
- Tadao Ando, Awaji Yumebutai (gardens), Awaji, Japan, 1995
- Emilio Ambasz, Fukuoka Prefectural International Hall, Fukuoka, Japan, 1995



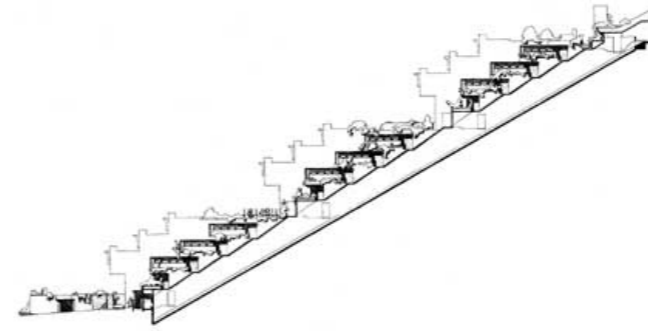
Moshe Safdie, Habitat Puerto, Puerto Rico, Rico 1971



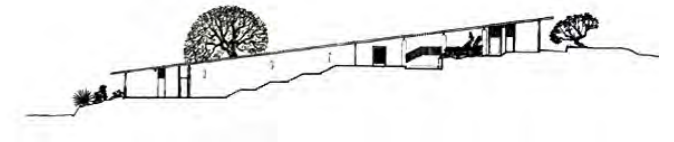
Ricardo Legorreta, Casa en Valle de Bravo, Mexico, 1973



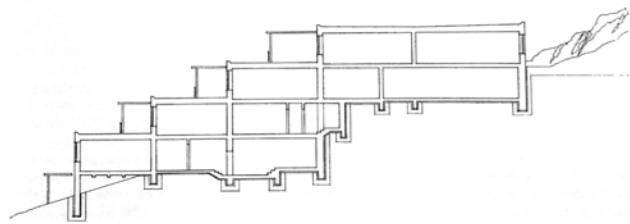
Alvar Aalto, Maison Luise Carre, Bazoches-sur-Guyonnes, France, 1956-59



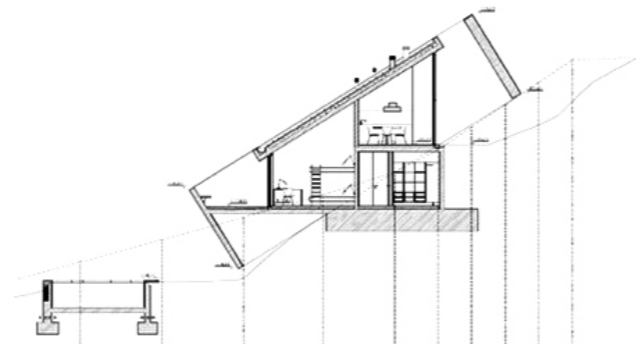
Hans Scherer, Strickler & Weber, Mühlehalde Terrace Housing, Umiken, Switzerland, 1963-71



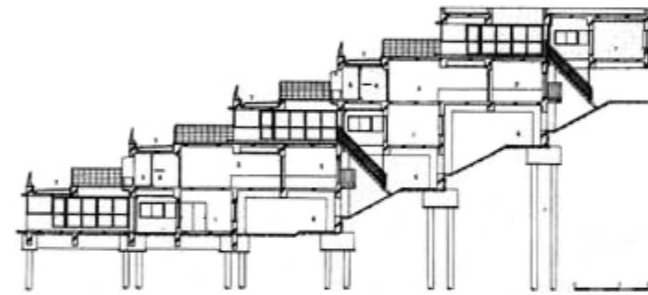
Geoffrey Bawa, A.S.H. De Silva House, Galle, Sri Lanka, 1959



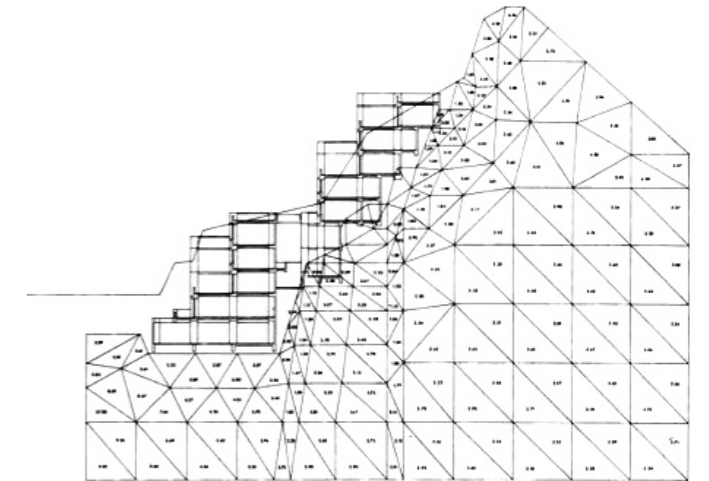
Alvar Aalto, Terrace Housing at Kauttua, Finland, 1938



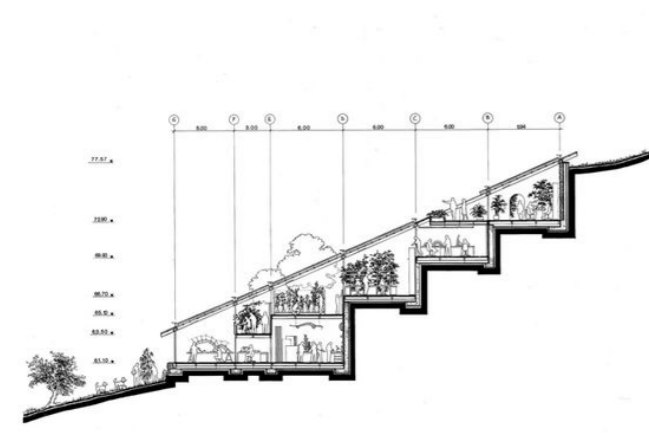
Eduardo Souto de Moura, 2 Houses, Ponte de Lima, Portugal, 2003-12



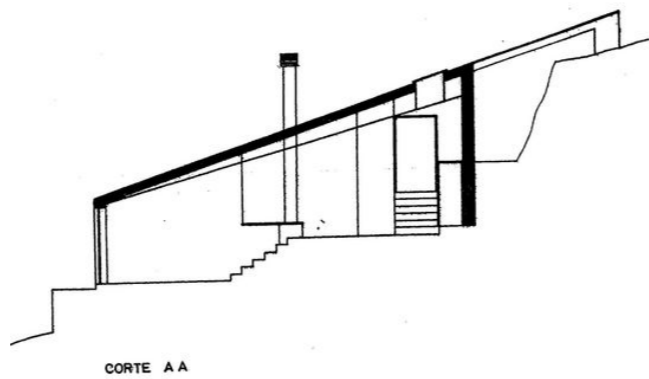
Kikutake & Kiyonori, Pasadena Heights, Mishima, Japan, 1974



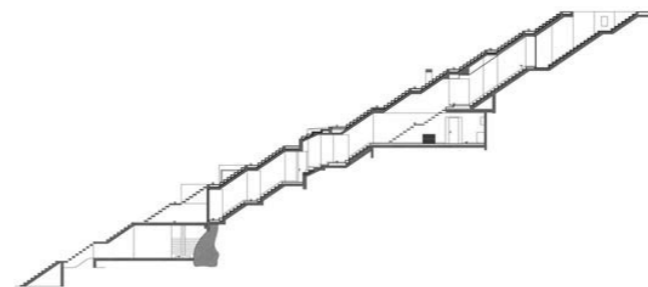
Tadao Ando, Rokko Housing I, II and III, Kobe, Japan, 1981-1998



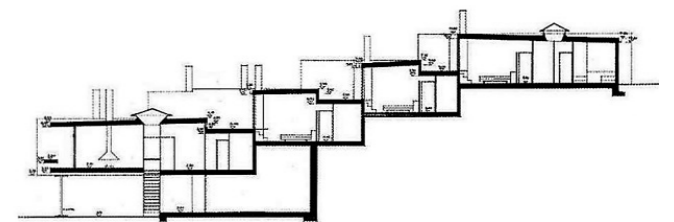
Renzo Piano Building Workshop, Punta Nave (Genoa), Italy, 1989-1991



Sergio Fernandez, House in Caminha, Rua da Fraga, Caminha, Portugal, 1973



Alvaro Leite Siza, Tolo House, Lugar das Carvalhinhas, Alvite, Paroquia de Cerva, Comunidade Ribeira da Pena, Distrito de Vila Real, Portugal, 2005



José Antonio Coderch, Torre Valentina, Costa Brava, España, 1959

PROJECT SITE

"Nature somehow always charges us for the insults we've inflicted over the years. This is perhaps the case of the landslides in the hills of Santa Fe where, in a foolish and wrongheaded way, office and apartment buildings, houses, and luxury shopping centers have been built on sandy and porous terrain above garbage-filled caverns. [These properties] were then sold for thousands of [US] dollars to people who, seeking status, didn't notice the risks of living on unstable land." ⁽¹⁾



Santa Fe, Mexico City, Landslide Zone (Photo Eduardo Miranda), 2015

Los Contrafuertes of Santa Fe

Los Contrafuertes (The Buttresses) of Santa Fe were built as a response to the necessity of solving a soil mechanics problem in order to retain a large mass of land that would allow the construction of one of the main avenues in Santa Fe, Av. Vasco de Quiroga. The construction of this project meant to cut through an already existing natural topography and to solve what could have been a serious landslide problematic. This manmade terrain cut is now the boundary that separates what used to be the landfill for Mexico City, and the new development of the City Santa Fe.



Los Contrafuertes, Av. Vaco de Quiroga, Santa Fe, Ciudad de Mexico, Arq. Eliseo Arredondo González, Arq. Ismael Palomares García, Colinas de Buen Ingeniería, 1995-1996.

Architecture as Infrastructure

Recent landslides just next to million dollar developments in the rich and corporative outskirts of Mexico, urges us to rethink the way we deal with natural topography when developing land and demands us to explore alternatives to the modernist ethos of simply 'multiplying by stacking'.

In this studio we will do a project proposal -in a very specific relation to the existing sloped topography- that can help prevent landslides by making the building itself work as a ground retaining wall. A long site just next to the Av. Prolongacion Vasco de Quiroga, in Santa Fe District was chosen to develop a section that could be extended over the whole length of the topographic break: architecture as infrastructure. At the same time we aim to generate typologies that improve the relation to the street, promote walkability, develop new systems of vertical circulation and review the historic typology of terraced housing. The relation between architecture and topography, between the natural and the manmade will play a central role in those urban and architectural explorations.

In order to solve the overall problematic rigorous controlled laboratory studies where made. The final proposal was to make large volumes of mass with layers of ground material and soil-cement. The form and aesthetic of these volumes alludes to the architecture of our ancient Mexico, functioning as buttresses and retaining walls while giving aesthetic value to the large space they occupy, seeking to achieve an urban landscape that characterizes the site.

Project Name: Los Contrafuertes (The Buttresses or 'Counterforts') | Location: Av. Vaco de Quiroga, Santa Fe, Mexico City | Authors: Arch. Eliseo Arredondo González, Arch. Ismael Palomares García | Engineering: Colinas de Buen Ingeniería | Year of construction: 1995-1996 | Awards: Mention at the First Landscape Architecture Biennale of Mexico

⁽¹⁾ José Gil Olmos, "Mexico City-Santa Fe Landslides: Nature Displays the Corruption" (<http://mexicovoices.blogspot.com/2015/11/mexico-city-santa-fe-landslides-nature.html>)



LOGISTICS

Studio Exercise

First exercise: With volumetric models a series of formal solutions will be explored, produced and photographed. These exercises – without scale or any specific program – will allow students to have an intuitive and fresh initial approach to the problem. (Individually)

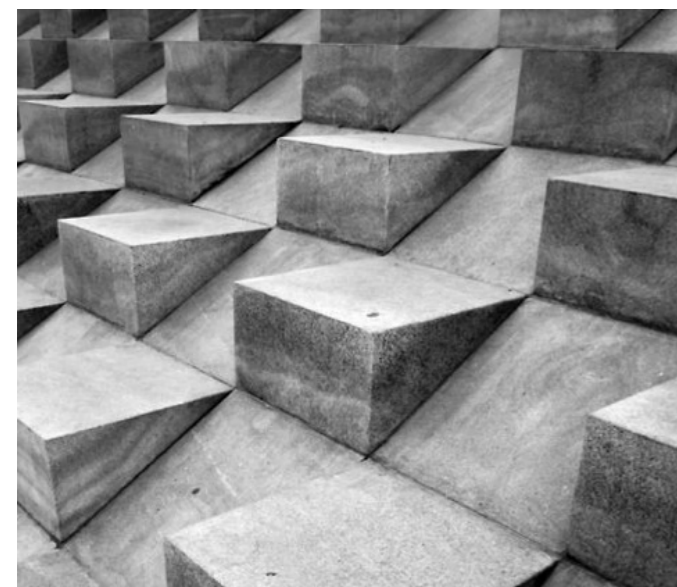
Case studies:

Simultaneously with the development of both exercises, students will review and make a graphic synthesis of several architecture-and-topography projects. PRODUCTORA will propose some case studies and students will bring forward research examples of their own. (Individually)

Second exercise: The studio explores the relation between topography and architecture through the design of a high-density housing development on a steep site in the City Santa Fe district in the outskirts of Mexico City. A continuous production of physical models, drawings and images will allow the project to be evaluated on structural, programmatic, formal, functional and theoretical qualities. The final projects will be developed in groups of two.

Study Trip

A study trip is planned to Mexico City (October, 2016) in order to obtain general understanding of the city and its socio-cultural context, to visit the site, to establish dialogue with local architects and critics and to visit several private and public buildings.



Concrete Steps

Required Resources:

- As general format, the studio will work with metric system.
- Floorplans, sections, elevations and axonometrics will be black color line drawings made in CAD according to a given graphic reference.
- Images will be done with three color scheme, red, blue, yellow and green using different opacities and intensity variations.
- The produced material of each exercise should be both physical (printed on high resolution paper) and digital (uploaded into the studio's Dropbox account and orderly put in each submission and final review folder).

Attendance Policy: Students cannot have more than 3 unexcused absences.

Grading Policy:

- 10% Attendance and participation
- 30% Mid-term review
- 60% Final Presentation

A more detailed description of the project and final presentation requirements will follow. Grading criteria is subject to change at the discretion of instructor.

Americans with Disabilities Act (ADA) Policy Statement

Reasonable accommodations will be made for students with documented disabilities. In order to receive accommodations, students must go through the Center for Disability Resources office. The Center for Disability Resources (CDR) is located in Life Sciences Room 218, telephone 312 567 5744 or disabilities@iit.edu.SW

Calendar

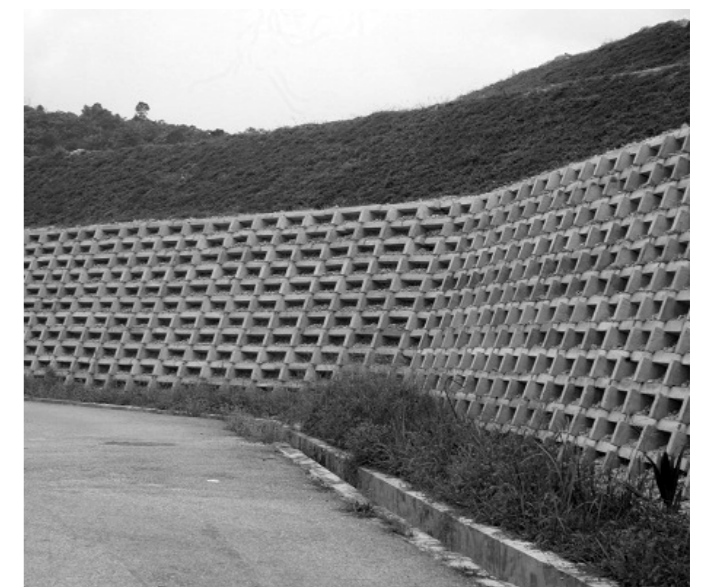
- Week 01 (22.08 - 26.08):** PRODUCTORA at IIT
Studio Lottery
Studio Introduction, first exercise, form analysis and case study research
- Week 02 (29.08 - 02.09):** First exercise development
Friday 02: Skype with PRODUCTORA
- Week 03 (05.09 - 09.09):** First exercise development
Friday 09: First Exercise Submission
- Week 04 (12.09 - 16.09):** PRODUCTORA at IIT
Second exercise, conceptual scheme plans and model, lecture from PRODUCTORA
Monday 12: Case study exposition and first exercise review
- Week 05 (19.09 - 23.09):** Second exercise conceptual scheme development
Friday 23: Skype with PRODUCTORA
- Week 06 (26.09 - 30.09):** Second exercise conceptual scheme development
Friday 30: Second Exercise Conceptual Scheme Submission, skype with PRODUCTORA
- Week 07 (03.10 - 07.10):** MEXICO CITY (Itinerary to be defined)
Tuesday 4: Second Exercise Conceptual Scheme Submission with guest jury
- Week 08 (10.10 - 14.10):** Second Exercise: Final Scheme Development
Friday 14: Skype with PRODUCTORA
- Week 09 (17.10 - 21.10):** PRODUCTORA at IIT
MCHAP Symposium week
Monday 17: Second Exercise Final Scheme Submission
Friday 21: Midterm review
- Week 10 (24.10 - 28.10):** Second exercise final scheme development
Friday 28: Skype with PRODUCTORA
- Week 11 (31.10 - 04.11):** PRODUCTORA at IIT
Monday 31: Second Exercise Final Scheme Submission
Final scheme development and editing
- Week 12 (07.11 - 11.11):** Second exercise final scheme development and editing
Friday 11: Skype with PRODUCTORA
- Week 13 (07.11 - 11.11):** PRODUCTORA at IIT
Second exercise final Scheme development and editing
- Week 14 (21.11 - 25.11):** Second exercise final scheme development and editing
Thanksgiving break
- Week 15 (28.11 - 02.12):** PRODUCTORA at IIT
Friday 02: FINAL REVIEW - Plans, models, detail model, images, case study research



Panna Meena Kund (Step Well), Jaipur, India, 16th Century



Salt Evaporation Ponds in Maras, Sacred Valley of the Incas, Peru



Retaining wall system with precast concrete cribs

BEING THE MOUNTAIN

Studio Professors:

Carlos Bedoya

carlos@productora-df.com.mx

Skype: bedoyaikeda

+52 1 (55) 2728 8998

Wonne Ickx

Abel Perles

Victor Jaime

info@productora-df.com.mx

Assistant Professor:

Agata Siemionow

asiemion@iit.edu

Cloud Studio

Design Research on Metropolis

www.arch.iit.edu

Arch 419 / Arch 545

Mo-We-Fr, 2-5:50pm

Upper Crown Hall, CoA

IIT College of Architecture

S.R. Crown Hall

3360 South State Street

Chicago, IL, 60616-3793, USA

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