AN INHABITED STRUCTURE

PROGRAMME

Design studio BSc2
Professor: Walter Angonese

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atelier angonese

Università della Svizzera Italiana
Accademia di architettura - Mendrisio
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**Build, don’t talk**
- Ludwig Mies van der Rohe -

but

**any decision needs a reflection**
- Hermann Czech -
An inhabited structure
Preface by Walter Angonese

Tectonic thinking in architecture, understood as the broader set of constructional, structural and static elements, is one of the foundations on which our teaching method of “building the idea” is based.

The term tectonic comes from the ancient Greek. Originally restricted to the craft of the carpenter and the builder, called “Tekton”, it evolved through the centuries towards a more general concept of “making”, including the idea of poesis, aspiring to the category of aesthetics as well as technology, as Adolf Borbein stressed in his philosophical study of 1982:1

Tectonic becomes the art of joining. “Art” here is to be understood as encompassing tekne, and therefore indicates tectonic as assemblage not only of building parts but also of objects, indeed of artworks in a narrower sense. With regard to the ancient understanding of the word, tectonic tends toward the construction or making of an artisanal or artistic product... It depends much more upon the correct and incorrect applications of the artisanal rules, or the degree to which its usefulness has been achieved. Only to this extent does tectonic also invoke judgment over art production. Here, however, lies the point of departure for the expanded clarification and application of the idea in more recent art history: as soon as an aesthetic perspective – and not a goal of utility – is defined that specifies the work and production of the tekton, then the analysis consigns the term “tectonic” to an aesthetic judgement”.2

The principle of building – and not just in architecture – is the result of an activity, namely structuring: giving a structure to things and meanings. The importance of the structure ought to go beyond the usual confines of a scientific approach and manifest itself as tectonic expressiveness in an interstitial dimension, between its physical-mathematical and artistic-cultural significance. Tectonics, as we understand the term, is bound up with an act of architectural creation and manifests the architect’s intention to make visible the intangible concept of the structure through a particular constructive and expressive manifestation rooted in its time and in a given place.

It does not refer only to the task of producing the material construction necessary to meet certain requirements and bound up with a principle of statics, but also with the activity that raises this construction to a form of art 3.

“An inhabited structure” is a challenge for us to extend the significance of occupying a space generated by the interplay between a system of forces, and exploring the many possibilities inherent in the intrinsic meaning of structure, “an essentially autonomous entity of internal dependencies” 4 but one that is continuously changing.

An analytical approach to space was indicated by Konrad Wachsmann’s research into space, understood as a mathematical function, produced by the human mind, and as such it can be constructed, inhabited. Wachsmann thus theorized an infinite architecture that is identified with...
the space in which it is set. In modularity, Wachsmann expressed the possibility of its assembly and development in infinite space, thanks to a rigorous construction technique that enables the ideational moment to be fulfilled without mediation in the construction 5.

"An inhabited structure" can also be understood as the act of sitting in a chair, since it is a structure and has a tectonic, architectural entity, hence it is space. It is clear that the notion of dwelling, habitually occupying a place or home, requires a spatial entity that is defined and circumscribed. The very notion of space represents an extension of the body, but to define structure it is not enough to determine the limits or insert pillars; the structural dimension is attained when a system of relationships is established between the interplay of forces and the corresponding arrangement of building elements that define form and space.

It is not necessary for structural thinking to be immediately present, even in its intuitive dimension, in the process of "building the idea", or whether it is instead a spatial architectural intuition. What is important is that it should be considered in a specific and primary way.

As Pier Luigi Nervi wrote: "The conception of a resistant system is a creative act that is only partly based on scientific principles. The static sensibility that determines it, though a necessary consequence of the study of equilibrium and the resistance of materials, remains a purely personal capacity, like the aesthetic sensibility."6

The value of intuitive and conscious meditation has to draw on history, on collective and even contemporary experience, as a source of knowledge and method, and enables us to be less arbitrary in our choices. "An inhabited structure" is not to be understood as the act of physically or conceptually occupying something that is already present, but as building the structure first and then living in it, or even building it while living in it.

We can therefore claim that any architectural act should be associated with this structural conception. In this field, the architectural world is divided: all too often its value is associated only with its spatial/cultural entity, directed at the object and seeking to create or be reduced to its notion of statics, the sole task being to absorb the flow of forces.

This year we wish to explore architecture in this fertile space between the physical and cultural dimension, an experiment that seeks to restore awareness of tectonics in architecture. To enable us to concentrate intensely on the theme of the structure, no specific context will be assigned. Left to the student's discretion is the choice of a place of his or her knowledge or memory, strong enough not to be undermined and to accept the presence of a structural entity to be inhabited.

The housing programme is limited to 50 square metres, with the requirement that the space should be related to everyday life (living, sleeping, etc.). The project will be explored down to the scale of the constructional detail, developing and verifying the initial structural insight. Several iconographic references will be included and will serve as a further element of understanding. The semester, as usual, will start with the "redrawing and rebuilding" of ten significant houses in the international architectural panorama.

This year we will devote research and study to the great architect and engineer João Battista Vilanova Artigas, a prominent exponent of the Brazilian Paulista school. His buildings are all related to precise and sustained tectonic thinking, which he succeeded in conveying in a spatial architectural concept still unmatched today.
The method of redrawing and physically rebuilding ten houses in models made of MDF will introduce the students to all the factors and instruments that should be part of their architectural equipment, and will make for an equally rapid learning of measurements, standards, vocabulary and scale, a method that has proved very effective over the years.

Finally, since travelling to Brazil is out of the question, the field trip – an integral part of the teaching process – will be devoted to the great Spanish architect Alejandro de la Sota, one of the fathers of Spanish architectural success (together with Josep Antoni Coderch), whose works, with a similar rigour, embodied an outstanding ability to combine tectonic and architectural thinking. The four-day trip will take us from Galicia to Madrid. In addition to buildings by Alejandro de la Sota, on our journey we will visit works by some of the disciples of this great architect.
**10 houses of João Vilanova Artigas**

The first phase of the studio sessions will focus on "an inhabited structure" through the redraw and rebuild of ten significant houses by the architect João Battista Vilanova Artigas. The selection of houses serves to bring out themes recurrent in his works, very differently distributed over the years. For this exercise the students will be divided into groups.

Each group will be assigned a house to be redesigned in vector drawings on a scale of 1:50 by developing plans, sections and facades. An accurate drawing, faithful to the original, is required. Both the study material and the guidelines for the graphic design will be provided. On the basis of the graphic material produced, which will include personal research and interpretation of the material provided, each group will make a model of the house on a scale of 1:33, connected with the internal spatial qualities of the house and its details, anticipated by a small study model on a scale of 1:100. This model will display the structural and tectonic approach to the house and make it possible to assess the value of the use of colour, which in some of Artigas’s houses is closely bound up with their tectonic features.

This phase of analysis and structural study will receive support from the engineer Roberto Guidotti. The models will be made of wood and will have to be painted white.

For the development of the models and instructions for their construction, detailed information will be provided at the beginning of the semester through the support of Danilo Bruno, who is in charge of the modelling workshop. This learning experience will enable the students to acquire the ability to compare different projects and analyse them critically, with these abilities being refined in the process of abstraction by making models on a scale of 1:33.

**EXERCISE 1 “REDRAWING AND REBUILDING 10 HOUSES”**

The first phase of the studio sessions will focus on “an inhabited structure” through the redraw and rebuild of ten significant houses by the architect João Battista Vilanova Artigas. The selection of houses serves to bring out themes recurrent in his works, very differently distributed over the years. For this exercise the students will be divided into groups.

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**Drawing**
- 1:50 Situation plan, elevation, section according to the layout given by the Atelier.

**Model**
- 1:33 White model, made of wood-mdf material.
- 1:100 Structural study model, made of cardboard

**Calendar**
- 21.09.17 W01 Presentation of exercise 1 and lecture by Roberto Guidotti
- 28.09.17 W02 End-in of the mock-up model 1:100 and first draft of drawings
- 04.10.17 W03 End-in of the second draft pdf drawings with final layout
- 19.10.17 W05 End-in of exercise: presentation and exhibition

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<td>08</td>
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<td>Domschke house</td>
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### Travel itinerary

**GALICIA - MADRID**

**05.10.2017**
- 12:30  R. Molezún, Roiba house
- 15:00  A. De la Sota, Domínguez house
- 16:30  A. De la Sota, Residential building Pontevedra
- 16:30  A. De la Sota, Sports pavillion
- 18:30  M. Gallego Jorreto, House in Corrubedo
- 19:30  D. Chipperfield, House in Corrubedo

**06.10.2017**
- 06:45  Flight from Santiago de Compostela to Madrid
- 10:30  Alejandro De la Sota Foundation
- 11:30  A. De la Sota, Gymnasium of ‘Colegio Maravillas’
- 13:30  M. Fisac, hidrographic study center
- 16:00  Fernando Higueras Fundation
- 17:30  F. Oiza, BBVA - Bilbao’s bank
- 18:30  Architectural promenade along Paseo de la Castellana
- 19:30  Francisco Alonso de Santos, Shoe shop ‘Manuel Losada’
- 21:00  Herzog & de Meuron, ‘Caixa forum’

**07.10.2017**
- 09:00  A. De la Sota, ‘Cesar Carlos’ High School
- 10:30  A. De la Sota, CENIM
- 11:30  R. Molezún, Huarte house
- 13:00  F. Alonso de Santos, house in ‘Puerta de Hierro’
- 16:00  S. Zuazo, ‘Casa de las flores’
- 17:30  Mansilla + Tuñón, Museum of Royal Collections
- 18:30  J. I. Linazasoro, ‘Escuelas Pias’
- 20:00  ‘Matadero’

**08.10.2017**
- 09:00  Molezún y Corrales, Pavilion of exagonos
- 10:15  Ensamble studio, Hemoscopium house
- 11:30  A. De la Sota, Varela house
- 13:30  Fernando Higueras, Lucio Muñoz house
- 13:30  15:00  MVRDV, ‘El Mirador’ collective housing
- 16:00  A. De la Sota, Dairy CLESA
- 16:30  A. De la Sota, Calculation Unit
- 20:45  Flight from Madrid to Milan Malpensa
The field trip in the second semester will take us to Morocco, travelling to the cities of Marrakech and Casablanca. Morocco is a fascinating country, with its blending of different cultures and its architecture expressed in impermanence, between past and present.

What the memory retains, engraved in my mind from those golden days, and the experience of friendship, brings it closer to the latent and mythical essence of Happiness, feed of the rest of our days (the sun lapses the sea, seen from the tower of the unfinished Mosque of Rabat, set on a sprinkled ground of shafts and column foundations, baths on the deserted beaches of the Atlantic, high and soft waves, Roman runs at the sight, dust covering horses and knights, rifles fired a meter away, windows open in a broken car, boiling under the sun, refusing the Atlas as the Desert, curved trunk upon the entrance of the Mosque of Fez, leather tinged with a thousand colors, odor as unbearable as beautiful, sharp line on the desert frontier, black pebble against sand in the color of Gauguin, calm in the terraces where one drinks mint tea, silence or whisper, sweet look, look and voice of an ancient culture of wise men and poets, landing in Algeciras, again the shrilly voices, in the cafes and in the terraces).

I remember this and more and I do not believe it’s just nostalgia. I remember the absence of anxiety. The presence of absence. Álvaro Siza July 2006 Porto. (translation edited by Atelier Angonese)
## Calendar

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<td>Opening lecture by Walter Angonese</td>
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<td>19.10.2017</td>
<td>Photo shooting Models E01 + start individual project</td>
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<td>16.11.2017</td>
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<td>Final critic / Atelier dinner</td>
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<td>Archiving / photo shooting models</td>
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<tr>
<td>22.12.2017</td>
<td>Atelier cleaning</td>
<td>18:00</td>
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## Select bibliography

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