AR-402(y)  Théorie et critique du projet MA2 (Huang)  

Huang Jeffrey

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<tr>
<th>Cursus</th>
<th>Sem.</th>
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<tr>
<td>Architecture</td>
<td>MA2, MA4</td>
<td>Obl.</td>
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<td>Mob. AR</td>
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**Language** English  
**Credits** 13  
**Withdrawal** Unauthorized  
**Session** Summer  
**Semester** Spring  
**Exam** During the semester  
**Workload** 390h  
**Weeks** 14  
**Hours** 6 weekly  
**Lecture** 2 weekly  
**Project** 4 weekly  
**Number of positions**

**Remarque**  
Inscription faite par la section

**Summary**  
This studio explores the meaningful generation of architectures by the use of artificial intelligence/deep learning and parametric tools and introduces the notion of the digital vernacular in architectural and urban design thinking.

**Content**  
The advent of new digital technologies has had a twofold impact on architectural thinking and urban design, transforming, on one hand, the processes for form generation and design production through algorithmic and parametric technologies, and, on the other hand, enabling an escape from the static fate of the built environment by facilitating dynamic interaction between inhabitants and their surrounding. Our interest in the orientation "Form + Type" is to explore meaningful form generating processes by the use of deep learning and parametric tools and introduce the notion of digital vernacular in architectural and urban design thinking. In particular, we examine the potential of cultural resilience and vernacular remix to explore novel architectures that address bio-climatic and socio-economic challenges.

This Spring studio builds on our fall studio but is offered as an autonomous course, i.e. while there is continuity in the topics and approaches, the studios can be taken independently. The intellectual aim of the studio is to question the extent to which the data-scape can artificially generate architectural and constructive form. Our interest is directed at the decoding and recoding of two distinct domains of knowledge: exteriority which represents a many-layered geographic condition and anteriority which represents the embedded knowledge of local architectural typologies and systems. While the exteriority of geographic data is crucial to our research, we place a primary emphasis on the generative potential of typology- what we have called "growth typologies". Decoding anterior form and then recoding and deploying it across new territories allows us to challenge the role of architecture in urban developments of increased scale and complexity.

**Keywords**  
Digital Vernacular - Data-driven Design - Deep Learning - Morphogenesis - Artificial Design.

**Learning Prerequisites**  
**Required courses** N/A  
**Recommended courses**  
*AR-401(Y) Théorie et critique du projet MA1 (Huang).*
Learning Outcomes
By the end of the course, the student must be able to:
• Interpret the morphogenetic parameters and other issues of relevance to the project using drawings and diagrams.
• Critique a specific project brief and a specific context and respond with a meaningful data-driven design concept.
• Translate a data-driven design concept into meaningful architectural propositions at appropriate scales and levels of granularity.
• Produce coherent architectural representations and models at sufficient levels of detail.
• Formulate the morphogenetic narrative and create convincing arguments for the design propositions.
• Develop convincing final diagrams, drawings, renderings, simulations, physical and digital models.
• Interpret the site-specific parameters and other issues of relevance to the project using drawings and diagrams.

Transversal skills
• Design and present a poster.
• Collect data.
• Make an oral presentation.

Expected student activities
• Architectural projects will be developed individually (or exceptionally in groups of 2).
• Some group work may occur in the analysis stages.

Assessment methods
Projects will be reviewed and assessed based on:
(1) their conceptual strength and innovation,
(2) the coherence and resolution of their architectural translation,
(3) their representative clarity and expressive power, and
(4) the persuasiveness of their communication, both orally, and through the physical and digital artifacts.

Supervision
Office hours Yes
Assistants Yes
Forum No

Resources
Bibliography

Ressources en bibliothèque
• Growth typologies, localities and defamiliarisation / Huang

Websites
• http://ldm.epfl.ch