

DISRUPTIVE ARCHITECTURES

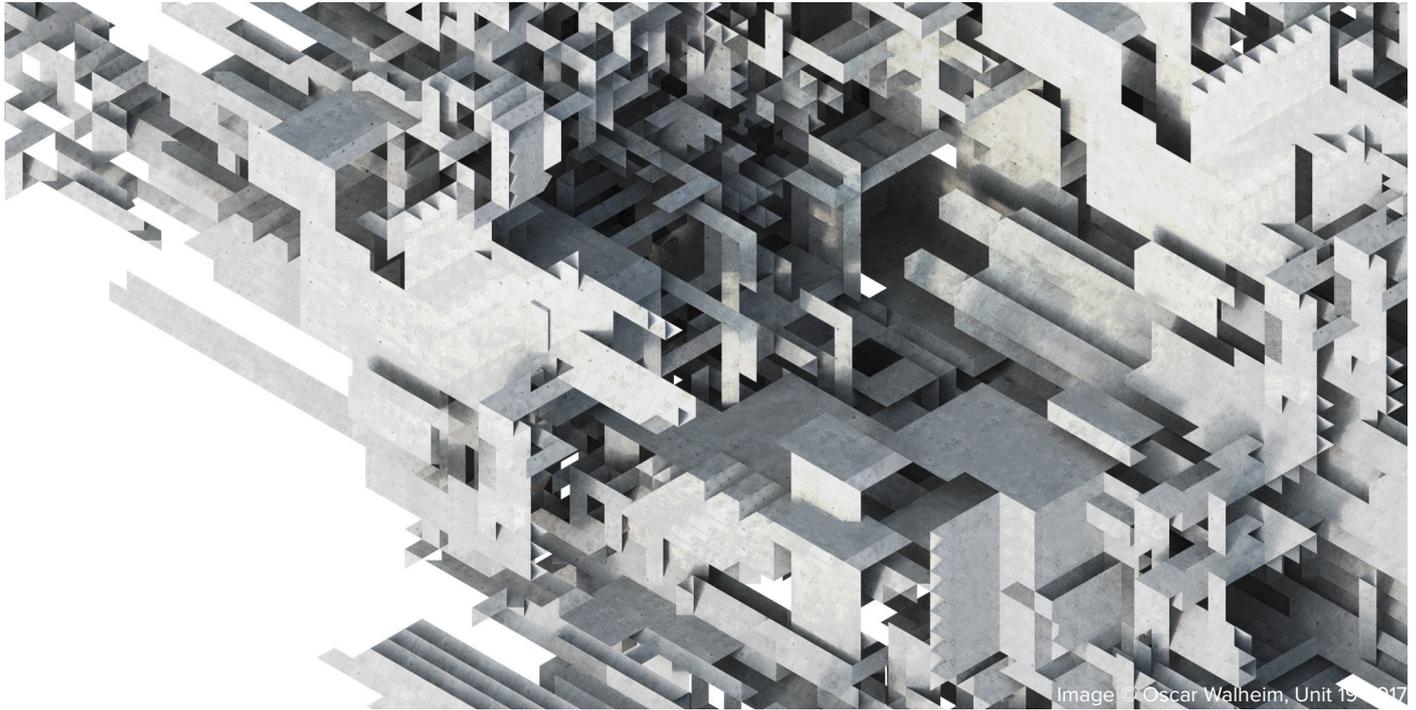


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If General Motors had kept up with the technology like the computer industry has, we would all be driving \$25.00 cars that got 1,000 miles to the gallon. - Bill Gates, 1997

1 /// WHOLLY DIGITAL*

Twenty years on, this famous quote used by Microsoft CEO Bill Gates to emphasize transformations within the technology sector would be even more antithetical still if applied today to the construction industry. While both electronic devices and cars have dramatically increased in quality and efficiency in terms of their use of digital manufacturing, a typical building is not made in a factory, but by people in the field. As the home is being invaded by 'smart' gadgets and 'the Internet of Things', its basic building blocks are planned and put together through processes that have not changed within the last 100 years. Powerful and not-so-subtle political and economic structures maintain this as the status quo in building design and construction, relegating contemporary architecture to the domain of the surface: the design of the facade, the interior wall or the suspended ceiling.

In Unit 19 this year we will refute this unfortunate position of the architect as only a cosmetician. To do this we will rethink the way in which we utilise new technologies as well as the processes, supply and production chains of neoliberal capitalism to reinvigorate and release our discipline - and society - from the limitations and constraints of our contemporaneity. Instead of designing buildings with advanced digital tools and techniques, but then utilising building practices that are extremely wasteful and inefficient in terms of impact on the environment, time and resources, in Unit 19 we aim to think about architecture as being wholly digital* in both process and artefact. We will explore this both at the scale of a part; i.e. the brick or beam, as well as the whole; i.e. the building. In particular, we will continue this year to look at the most pervasive architectural typology worldwide: the house, or housing.

2 /// DISRUPTING VALUE

In the 20th century many new models for the industrial production of housing were proposed, from Wachsmann and Gropius's General Panel System (1942) to the Metastadt building system by Dietrich (1965–72) that envisioned an architecture made out of parts - adaptable to changes over time in synchronicity with the social and economical changes happening in their communities. Yet today the vast majority of our housing stock is constructed out of fixed and permanent materials, perpetuating the limited possibilities of floor plans value-engineered by developers. Especially in the UK, where an annual construction shortage of 100,000 new homes is exacerbating unaffordability, radical and disruptive innovation could help to quickly build housing that challenges and disrupts the value systems that have restricted its provision.

3 /// NO MORE STANDARDS

After decomposing traditional notions of the house and the activities related to dwelling into their basic constituent parts by analysing a series of canonical case studies, we will set out at the start of the year to speculate on new models of ownership and organisation. We will aim to design architectures which are disruptive technologies to the contemporary social, economic and cultural contexts from which they originated. We will challenge existing economies of development within the housing sector, breaking the culture of the profit-focused developer model. We will not sit idly or comfortably within our current models for society.

We will set up design processes where standard traditional building elements (wall, floor, ceiling, beam, column, panel), as well as spatial and organisational principles and relationships are identified, challenged and re-conceived. While breaking down the traditional notions of housing such as 1, 2, 3 bedroom apartments, living room, kitchen, communal corridors and courtyards, we will replace traditional construction methods with new types of systems that create complex architectural assemblies out of discrete elements.

4 /// COLLECT, TEST, DEPLOY

The unit will undertake several visits to architecture practices as well as factory and construction sites to acquire and collect knowledge about the construction industry in relation to standard and progressive models of housing production as well as work with our cross-faculty partners in The Bartlett such as the MSc programme in Strategic Project Management. Towards the end of Term 1 we will visit The Netherlands in search of experimental and canonical modern and contemporary collective housing projects and to engage with architectural practices and academic researchers that are at the forefront of this work.

As always in Unit 19 we will treat the project sites as a prototypical scenarios in which to deploy our proposals. The proposals will be tested in will be tested in sites that are currently undergoing transformation as part of the (controversial) rapid growth in areas just outside of Central London. Adding into existing nodes such as White City, Walthamstow, Elephant and Castle or Hackney Central (for example) will allow students to position their projects within current social, economic and political issues.

Year 4 students will develop proposals for housing projects in London, of which parts (column, beam, wall, window) can be developed as packages which can be taken out into the real world and tested within the communities the students choose to work in. In addition the Year 4 students will be led, Jakub Klaska from Zaha Hadid Architects through the Design Realisation module. The Year 5 students will develop architectural proposals that are informed by both analogue and automated technologies of their choosing.

5 /// DESIGN COMPUTATION LAB

Unit 19 is a unique unit in the MArch Architecture programme as it is formally a part of a research laboratory, Design Computation Lab (DCL) co-directed by Mollie Claypool, Manuel Jimenez Garcia, Gilles Retsin and Vicente Soler. The lab brings both students from Unit 19 and Research Cluster 4 in MArch AD together under one umbrella, enabling cross-pollinating across the research-orientated thinking of RC4 and building design-orientated thinking of Unit 19 in MArch Architecture. This structure enables the lab and its students to be holistic and innovative in its thinking. Students can expect to share crits and group tutorials with the other lab co-directors and students throughout the year.

** To be 'wholly digital' is a way of thinking: it can be analogue or automated. However, to support students interested in the latter, software tutorials will be provided both within the unit and through the Bartlett Open Classes. Students joining Unit 19 need no knowledge of these technologies before entering the unit.*