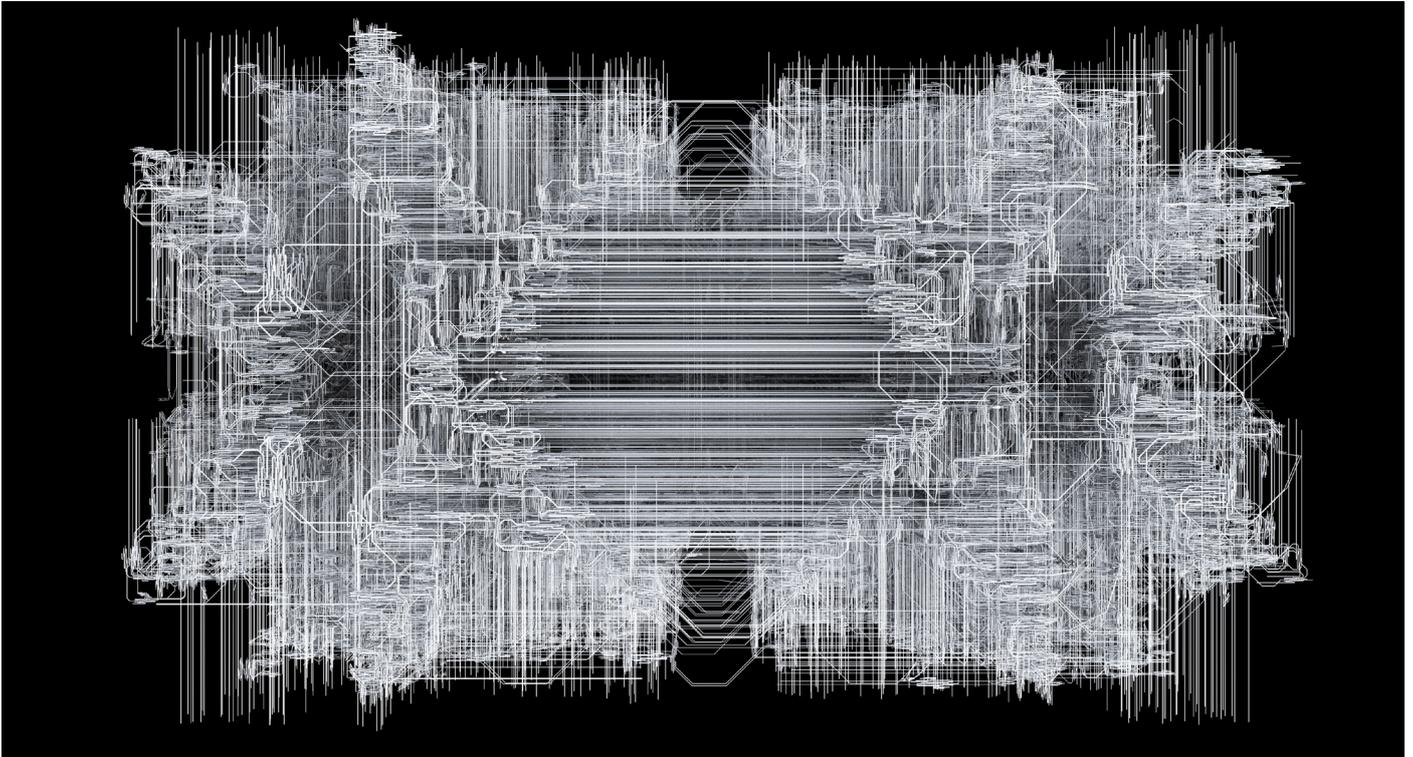


UNIT 19

AN ARCHITECTURE MADE OF PARTS

MOLLIE CLAYPOOL
MANUEL JIMENEZ GARCIA
GILLES RETSIN

unit-19.net
discretedesignlab.com



Elliot Mayer, 2015-2016

INDUSTRY IN CRISIS

The austerity model of governance has failed, made starkly apparent in the vote to Brexit in June in the UK. Waiting lists for government-funded housing are numbering in the thousands across the UK; houses are not being built quickly enough, architectural practices are stagnating waiting for the outcomes of Theresa May's approach to leaving the EU, Generation Rent still can't get on the housing ladder – we are very clearly in a period of crisis, particularly in the design and construction industry.

Unit 19 believes that there is something that we can do, and that is to engage more radically with the building industry as well as with the public, who desperately need better solutions to housing that raise, not reduce, their living standards.

In addition, we believe that we have the tools available to us to re-think how we live and how we design and construct houses through the use of novel design, fabrication and assembly methods. However, these are usually inadequately used and their power and potential often misinterpreted.

To engage with this, we will engage with new forms of production/reproduction, design methods and making, while actively rethinking why, what and for whom we design. We will identify populations and a demographic(s) who we will view as active participants in the development of the work, informing and transforming the way we design to live. We will critique existing economies of building in the construction industry, breaking the culture of the profit-focused developer model with developing open-source, participatory, and/or micro-financed/localised models for construction.

AN ARCHITECTURE OF PARTS

We believe the construction industry is so flawed that we need to go back to basics. So we state the obvious: all architecture is made of parts! But what is a part, what are the building blocks of architecture? How can we rethink what they do, and what values should parts hold for us as designers?

In the pursuit of an architecture made of parts, we will develop “digital materials”, i.e. physical geometries which have the same structure as data in a computer program. Digital materials can be compared to Lego: every piece has a male-female connection which is the equivalent of the 0 and 1 in digital data. The design possibilities – or the way that parts can combine and aggregate – can be defined by the geometry and therefore, design agency, of the piece itself. To date, the concept of digital materials has been developed in the context of media arts at MIT, but has not been applied in architecture and related disciplines of the built environment.

By utilising digital materials as a conceptual driver for the project, we will hypothesise that a single part can hold enough information or data (or ‘design agency’) to be able to design, fabricate and assemble parts – or the bones, rather than the skin – (column, beam, stairs, services, windows) for an entire house, or housing.

PARTS OF A HOUSE

Year 4 students will work with our industry partners in both design and engineering as well as B-Made developing proposals for a single family house, scale parts of which (column, beam, wall, window) could be built for the end of year exhibition. They will be lead by our Design Realisation tutor, Vidal Fernandez from Rogers Stirk Harbour + Partners through the process of readying the packages of instructions for construction i.e. the submission for the DR module. The Year 5 students will develop individual proposals for digital materials for a house or housing, informed by developing relationships with our partners in the Institute for Digital Innovation in the Built Environment as well as the MSc in Strategic Project Management in The Bartlett School of Construction and Project Management led by Effie Konstantinou. These partnerships will help students better understand and develop the future applications of their designs both in the digital and physical economies and modes of production.

Our computation and robotic fabrication expert Vicente Soler will aid students in developing methods for the production of their building parts particularly in Term 3. Software tutorials will be provided both within the unit by ex-Unit 19 students and the Bartlett Open Classes. Students interested in Unit 19 need very little to no knowledge of these technologies before entering the unit – all tuition is provided.

THE FIELD AND THE SITE

Unit 19 always uses the field trip as a means to develop a field of work into prototypical and data-driven approaches in a particular context. This year we will work between two countries - Spain and the UK. Madrid and Barcelona will be the location of our field trips.

The development of building systems will emerge from the acquired knowledge about the construction industry in relation to to the housing crises in both countries. The projects can be understood as construction kits, consisting of discrete parts embedded with versatility to respond to different socio-economical contexts, politics and economies. Year 4 and 5 proposals will start to be tested in sites around the perimeter of Madrid and Barcelona, where social housing schemes were developed in the late 90s and early 2000s, as well as in the Olympic Park in the currently highly-contested area at the intersection of the Boroughs of Hackney, Newham and Tower Hamlets along the stretch of the River Lea around Hackney Wick.

THE LABORATORY

This year the unit will operate wholly within a new research lab at The Bartlett School of Architecture that is the first of its kind, Discrete Design Lab, bringing both students from professional courses and post-professional courses together under one umbrella in order to further gain, develop and augment the student’s skill sets, interests and ambitions. We recognise that in order to stay relevant as professionals in a flailing industry, we need to work together, nurturing what each student brings to the lab while also in the pursuit of a common goal: to challenge the future of our discipline, its relationship to design, users, materials, resources, engineering and industry. We are looking for individuals who are committed to pursuing an architecture of the near-now – speculative and yet grounded – who want to learn, be challenged, work together and engage in lively debates.