The Why Factory

Our World, Our City, Our Block

According to the United Nations Population Prospects, the world population will reach 11 billion in 2100[1]. This growth brings with it significant social, economic, and environmental challenges. Climate change, environmental impacts (and their public health implications), social and demographic frictions, economic and planning policy, to name a few, all heavily influence and are shaped by the sheer numbers of people living in or moving to cities around the world.
What will be thus the footprint of 11 billion inhabitants? How much is it that we need? What are the impacts of those needs? What are the design products necessary to fulfill these needs and absorb their impact?.

Throughout the 20th Century, from the CIAM declarations to SIM City, architects, urban designers and different stakeholders have tried to decompose the different components of the city into grids, lenses, layers, categories…, looking at programs, densities or functions. Despite all efforts, this attempt often resulted in a simplistic top-down interpretation of settlement. Those urban 'layers' were often too rigid and soon outdated. Parameters such as time, evolution, resilience or sustainability, for instance, were barely included in the urban development considerations a decade ago.

In the past 10 years, The Why Factory has explored independently a wide array of alternative approaches to the construction of the city: Biodiversity (*Biodivercity*), Permeability (*Porosity*), Connectivity (*4minCity*), Automation (*Robotic City*), Density (*Vertical Village*), Sustainability (*Green Dream*), Freedom (*Anarcity*), Self Sufficiency (*Food City*), Flexibility (*Barba*), Customization (*Egocity*), Leisure (*Absolute Leisure*), Inventions (*World Wonders*).

Now, in the academic year 2016/2017, the different Studios that The Why Factory will offer (MSc1 and MSc ¾ at TUDelft, IIT Chicago and GSAPP New York) are an invitation to look at the city through a multitude (or an almost unlimited number) of filters simultaneously, and to test the capacity of adaption of existing/traditional urban forms to the application of this new urban agenda. Let us turn the construction of a city into a demountable, elastic and malleable act.

[1] *World Population Prospects.* United Nations, 2015

T?F Academic Program Fall 2016

1.0. Cloud Workshop: The 11 Billion People City

TUDelft Msc1, TUD Msc3/4, IIT, GSAPP (83 students)
September 12-16, 2016
Instructors: Winy Maas, Javier Arpa, Adrien Ravon, John Manaves, Patrick Janssen
Teaching Assistant: Chun Hoi Hui

2.0. Our World

TUD Msc1 (44 students)
Instructors: Winy Maas, Tihamér Salij, Diana Ibáñez López, Stavros Gargaretas
Future Models Seminar Instructors: Paul de Ruiter, Michaela Turrin
Building Technology Instructors: Ferry Adema, Erik Hehenkamp

3.0. Our City

IIT Chicago (14 students)
Instructors: Winy Maas, John Manaves, Felix Madrazo, Arend van Waart

4.0. Our Block. At home in the slab

GSAPP New York (12 students)
Instructors: Winy Maas, Javier Arpa, Adrien Ravon

5.0. Our Block. At home in the tower

TUDelft Msc3/4 (14 students)
Instructors: Winy Maas, Adrien Ravon, Javier Arpa

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Our Block. At home in the slab

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1.0. Cloud Workshop: The 11 Billion People City

September 12-16, 2016

1.1. Excel Mania (4 days)

Beyond CIAM

During the first part of the workshop, students will develop an illustrated matrix that combines the different topics, ingredients, parameters and units of measurement involved in the calculation of the footprint of an hypothetical city of 11 billion inhabitants, from the global to the domestic scale. What do 11 billion people need? What does one person need?.
We will analyze typologies, heights, floor area ratios, accessibility, energy, biodiversity, food, automation... we will measure and compare, hopefully, all that can be quantified. But we shouldn´t avoid getting to the bottom of the matter, to the bottom of the wishing well that the city represents to its inhabitants. Let´s speak about the world in the first person too[2].
Students will work in teams of three (approximately 27 groups of 3 students from different universities). Each group will focus on a given topic and will produce one large excel file illustrated with axonometric views.

Data collection: Students will explore different sources (from CIAM declarations to the CIA World Factbook, from the UN reports to the Monocle rankings, etc…) so as to build a vast inventory of the different components that have an impact on a 11 billion people city footprint.

Parameters: How to measure our global footprint?. Students will refine and organize a list of parameters to help calculate the 11 billion people city footprint (quantity, length, height, area, volume, light, noise, CO2 emissions, energy consumption…).
The information will be organized following a dimensional sequence: length (Km1), area (Km2), volume (Km3), time (Km4), other (Km5?)[3]...

Axonometric views: Students will develop a collective catalogue of standard elements included in the global footprint calculations (from wind turbines to urban blocks, from plants or bridges to personal needs...). This catalogue will serve to define the graphic language to be used by all students from different universities throughout the semester.

1.2. Future Scenarios (1 day)

What if...

In the last day of the workshop, having understood there is a multitude of components with an impact in the 11 billion people city footprint, students will propose a list of future scenarios at the scale of ‘our world’, ‘our city’, ‘our block’ and ‘our home’.

Scenarios: Students will produce a collection of almost 100 hypothetical future scenarios (each group of 3 will produce 3 scenarios): What if cars disappear? What if solar energy is the only resource available? What if national borders are eliminated? What if we are forced to live in complete autarchy? What if regulations impose a FAR of 20 at a global scale? Those future scenarios will be developed in relation with the data gathered during the *Excel Mania* exercise.

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[2] *Density is Home. Housing by a+t Research Group*. Aurora Fernández, Javier Arpa, Javier Mozas. a+t Publishers, 2011

[3] *KM3: Excursions on capacity.* MVRDV. Actar Publishers, 2005

Students are expected to have attained a certain degree of understanding of the vast array of consequences and implications of these different scenarios.

Production of Visions: Each team of three students will develop one vision per scenario (3 visions per group). Each vision will be explored at three different scales: 'our world', 'our city', 'our block' and 'our home'. Those different scales are determined by four distances in Google Earth (1000km, 10km, 1km and 10m)[4]. Each team may focus on different locations. Visions will be produced using Photoshop. The four slides will be mounted as an animated sequence.

[4] *Powers of Ten*. Ray and Charles Eames. Movie, 9 minutes, 1977