Graduation Plan

Master of Science Architecture, Urbanism & Building Sciences

Graduation Plan: All tracks

Submit your Graduation Plan to the Board of Examiners (Examencommissie-BK@tudelft.nl), Mentors and Delegate of the Board of Examiners one week before P2 at the latest.

The graduation plan consists of at least the following data/segments:

Personal information	
Name	Adrianna Karnaszewska
Student number	4872290

Studio		
Name / Theme	Architectural Design Crossovers – Heterogenous City London	
Main mentor	Roberto Cavallo	Architecture and Urban Design
Second mentor	Freek Speksnijder	Building Technology
Third mentor	Alper Alkan	Architecture
Argumentation of choice of the studio	Multidisciplinary and multi-scalar approach to architectural design, focus on complex issues in the context of contemporary urban metropolis.	

Graduation project	
Title of the graduation project	Urban Foodscapes
Goal	
Location:	London, United Kingdom
The posed problem,	Food has always been one of humanity's main agendas and a basis for development of human settlements. Growing food dictated the yearly rhythm of life and its consumption was a backbone of daily activities and for some it still is today. Although markets, restaurants, kitchens, shops and waste dumps have always constituted a backdrop to urban life, the question of how the food gets to our plates seems to be forgotten. Within the field of urban studies, the city's relationship with its hinterland, the non-city landscapes has been neglected, but in a contemporary condition of global urbanization it becomes essential and must be reconceptualized. Global hinterlands, which are oftentimes not tied to any

	particular metropolis made food production sector reliant on too many economic factors and logistic supply chains. Those chains are prone to disruptions, and supply shortages are expected, as recent events such as Brexit and global Covid-19 pandemic have proven. What is more, in the face of climate change, the issue of food resiliency and sustainable food production may become more important than ever before and we as architects and urbanists should strive for change.
research questions and	Main question: How can foodscapes be integrated into London's urban fabric to reduce unused spaces, improve material and immaterial flows, enhance social connections and strengthen food resilience of boroughs? 1. Where do flows of water, energy, people, nature and logistics intersect and which are the most relevant for contemporary food production? 2. What would be the spatial consequence of closing food-related cycles and optimizing flows? 3. What are the supplementary functions that growing sites and exchange nodes can utilize to reduce food waste and close material loops? 4. What actions need to be taken to integrate productive landscapes back into the city? What is the optimal location for them? What new role can they play in the urban environment? 5. Where are the urban sites that food production could utilize? 6. What would be the middle ground between large scale agricultural production and small-scale recreational farming?

	7. What would be the spatial consequence of introducing new types of infrastructure (e.g. drones, foodtubes) and new production and processing technologies (e.g. aquaponics, biofuels)? 8. How can communities benefit from engaging in food production?
design assignment in which these result.	Urban Food Hub

My planned design response is composed of two parts – brief urban strategy for food production in London and architectural design of Urban Food Hub within a foodscape network, which serves as a proof of concept.

The research focuses on analysing food supply chain in London – mainly farm sites (vertical farms, allotment gardens, farming fields etc.), exchange nodes (city farms, farmer's markets, wholesale markets) and waste facilities. Moreover current technological and consumer trends in food production are analysed – e.g. new superfoods, the use of aquaponics, aeroponics, energy harvesting techniques, food waste processing – in order to optimize current and future flows. The findings form a basis for identifying opportunity areas for future urban food production sites and exchange nodes. Intersecting material (water, energy, nature, food, people) and immaterial flows (knowledge, creativity) will form a Food Hub – a food production-to-waste facility. Such a typology would serve as a main nutrition centre for selected London borough, which initiates the change encouraging bottom up and top down initiatives – showcasing good practices in urban farming, healthy eating and meal preparation – at the same time educating future urban growers, that would contribute to the city's food network. In forming a program for the building, possible intersections with other disciplines, that may complement food production, will be studied such as craft, design, biotechnology and business. The Urban Food Hub would become a public condenser – serving communities, start-ups and universities - contributing to a circular future of resilient food production practices.

Process

Method description

Literature review provides a starting point for my research. First and foremost, the established theoretical literature becomes a filtering lens for further investigations. It will help me in positioning myself within a greater discourse concerning the changing relationship between humans and nature, between nature and technology and between the hinterland and the city.

As literature review progresses, different kinds of diagramming will be used simultaneously to categorize and evaluate usefulness of found data, to synthesize ideas and to establish relations between elements. In order to filter most relevant

information I will make lists and use mind map technique in order to establish strongest narrational flows. This way I will obtain a main focus point for further research. A systemic diagram (ANT) will also show a multi-scalar and cross-disciplinary perspective of the food production chain and help me create pictorial assemblage based on satellite images of physical spaces that appear in the network. After the site visit in London, the assemblage will be completed with personal site photographs.

A large part of my context research will focus on mapping. Cartographic representation, will serve both as a synthesis of information about the current conditions of the food production chain and the initial approximation of the foodscape territory. Using GIS data, current productive lands and exchange nodes, such as food markets, working wharves and train stations will be placed on the map to establish peculiar site conditions, study relationships and look for deviations with the network. Next, the cartographic act becomes a tool to project potential future intersections of material flows - first nodes that will have a potential to become hubs - the site of architectural intervention. In a later phase a section through the chosen site will be made to evaluate vertical potential of food production within a close proximity to the site. Cartographic map will inform an atlas of current food production sites in London e.g. farm fields in the Green Belt, city farms, community gardens and allotment gardens and assist in revealing main relationships according to selected location. Further analysis of site relationships will be presented in the form of a diagram.

Literature and general practical reference

Representation, methods of analysis, theory literature:

Angelil, M., Klingmann A., Hybrid morphologies, Daidalos, 1999

Brenner N., Katsikis N., Operational Landscapes: hinterlands of the capitalocene, 2020

Gandy M., Rethinking urban metabolism - water, space and the modern city, City, vol 8, 2004

Latour, B. 2005. "Introduction: How to Resume the Task of Tracing Associations." In Reassembling the Social: An Introduction to Actor-Network-Theory, 1–17. Oxford: Oxford University Press.

Sheppard L., "From site to Territory", Bracket 2 (Goes soft), 2013, 179-184

Thematic literature:

Braungart M., McDonough W., Cradle to Cradle: Remaking the way we make things, 2002. London: Vintage.

Steel C., "Hungry City - How Food Shapes Our Lives", Penguin Random House UK, London 2013

Steel C., "Sitopia. How Food Can Save the World", Penguin Random House UK, London 2020

Van der Sande B., "Food for the city: A future for the Metropolis", NAi Publishers/Stroom Den Haag, 2012

Architectural/practical references:

FOODMET, Brussels
PAKT, Antwerp
Agrotopia, Roeselare (Van Bergen Kolpa Architects)
Sprigs Farm, London
Growing Underground, London

Reflection

1. What is the relation between your graduation (project) topic, the studio topic (if applicable), your master track (A,U,BT,LA,MBE), and your master programme (MSc AUBS)?

Since foodscape issue is multi-scalar, it crosses over many disciplines, which is compatible with the main objective of the studio prepared by Architectural Design Crossovers chair. Dealing with food production in cities requires a holistic approach and analysis of the problem from social, political, economical, ecological and architectural perspective.

London, being a 'Heterogenous City', reflects the contemporary condition of the built environment of most large contemporary cities. My proposed foodscape urban strategy and Food Hub project also have an ambition to become a precedent for similar building typology and urban actions across Europe. Proposed project lays on the intersection of material and immaterial flows, which places it in a larger social, environmental and cultural context of

The scope of spatial implications of foodscape range from urban design, through architecture and interior design, to even product design. It influences every aspect of human life and can be materialized in the form of land use zones, urban patterns, architectural layout and design of various food-related home appliances and utensils. The issue is both global and local, public and private. Similarly, within cities productive landscape strategies have a potential to be implemented on different scales - from individual gardens, to large industrial urban vertical farms - being able to transform unused spaces into productive areas. How to produce, process and consume food in cities is related to building technology issues – such as ventilation, water management and energy harvesting. One of the focus points of my project is also on natural building materials from technological and aesthetical perspective. What is more sustainability and circularity on technological, architectural, urban and social level will play a major role in my design – which goes well together with the my master programme objective at TU Delft.

2. What is the relevance of your graduation work in the larger social, professional and scientific framework.

Our future will most likely be urban and may be prone to climate disruptions, therefore looking for alternative ways of shortening food supply chains and searching for circular food production technologies and sites to feed the growing population of cities seems essential.

Foodscape being at the intersection of diverse material and immaterial flows spans across many disciplines and involves various actors, therefore the broad reading of its complex territory implies that optimizations and improvements within foodscape will have an impact on many actors and networks. Due to its cross-disciplinarity, food production has potential to be supported with complementary functions to create complex hybrids - such as education or manufacturing - in order to assist in closing production cycles and material loops.

The research on foodscapes will hopefully also contribute to the current initiatives - like London's Food Strategy, Edible London, Capital Growth - undertaken by

communities, charities and local authorities in order to combat food poverty in London, strengthen community bonds through food sharing and enhance the quality of public space.