P4 Reflection

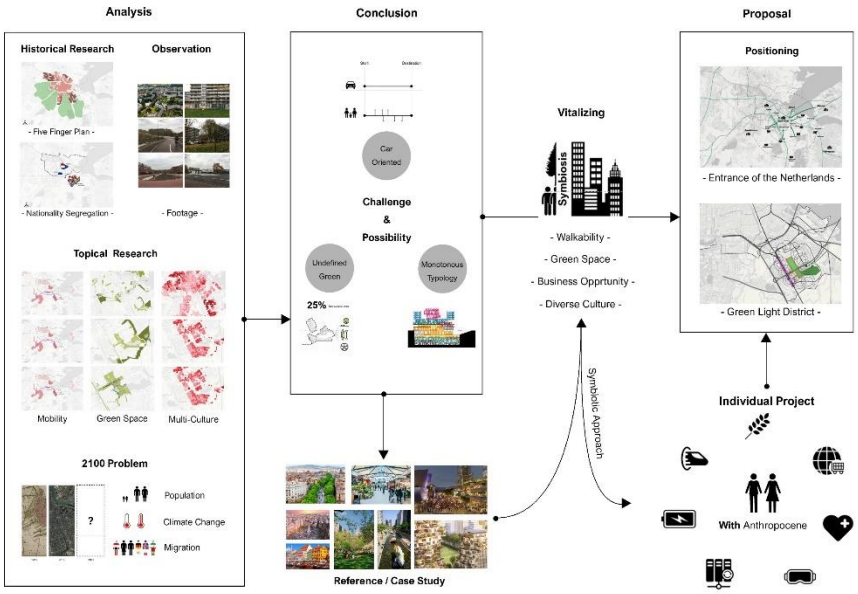
-Food Production and Consumption in 2100-

Studio | Complex Project
Student Number | 4718860
Name | Joon Hyung Park
Tutor | Stefan de Koning , Gilbert Koskamp

1. Relationship with research and design

Architectural design process can be specifically explained as the process of how buildings are planned and built. This industry is clearly not one-man field industry. There are multiple players and variants that are imposing tremendous influences on the practice including developer, urban planner, and construction company and architect and so on. Additionally, it is undisputable that the industry is one of the biggest industries that is leading the global economy. This sophisticating and pressuring environment usually locate architects on a critical position that has also various elements that need to be analysed. Therefore, these landscape of the industry and social duties of architectural profession requires clear ways of execution of research and establishing business model and design. Deep and thorough research gives clues and reasons for building mechanism, therefore it will grant legitimacy to design proposal which is highly influential in business vision and societal aspects.

As already mentioned above, since the field has multiple players in its game. So, individuals or groups of architectural profession should be able to deliver logical and well-refined visions to other players. Properly selected research methodologies and methods become determining points for successful projects which manage to achieve success in terms of economic and social value.



Methodological Diagram to Project and Master Plan

2. Relationship between Graduation Studio & Master Track & Research Topic

The goal of the studio is to deliver design proposal for Amsterdam in 2100 and the graduation topic is about food production in urban context in the future. The project is exploring various expecting results of urban food production using newly-discovered technology. Social influence of new mechanism in food production and following change of architectural experience which will support futuristic public movement and thinking on the theme, food.

The early stage of the project is to get a grasp of current situation of foodscape that we have built. From a farm to table, how do foods arrive to our city and table? Although we are living in the world where food are everywhere, we hardly know about what is happening, what we put into our mouth every day and how deadly it is to our body and how unsustainable it is and how superficial it is.

Food is one of the most critical problems that humanity has to solve it for its existence and survival. Current Industrialized food system is clearly being driven in wrong way. It is destructive to nature and make public ignorant of what they are eating every day and they have become insensitive to this topic. However, with the new technologies such as vertical farming, robotization and high speed internet technology will change the food scape from top to bottom. Those technical development will bring food to urban context where the most people will live together. Therefore, it is critical to reconsider architectural environments which will be induced by new technologies. There will be paradigm shift in the way of thinking in terms of foods, purchasing and consumption. In 2100, architecture and its related industry will be able to handle from food production and consumption. Those show clear relationship with future Amsterdam context, future food production and architectural proposal responding to that.

Future Vertical Farming in Urban Area

3. Elaboration of Research Method and approach chosen by the student in relation to methodical inquiry

In a praxeological perspective, human engages purposeful actions to fill scarcity of unsatisfied desired. People act having goals and choose methods to acquire their goals. All of this action should take place on definite time and in definite space. It is on this basic and evident axiom of human action[1]. This way of approaching makes us enable to see implications of certain action because basically praxeology is everywhere such as human's habit which is the fixation of certain praxis and when it occurs in societal or national class, it comes to become representations as culture or system which are being executed by human. When it comes to foodscape(from production to consumption), it is one of the biggest praxeological system because we can clearly see human is moving to solve the demand on food and it is being seen as food industrial chain. Especially in the future, the demand will be extreme because of tremendous increase of population and it is evident human will impose new force into the system.

[1] Murray N. Rothbard, *Economic Controversies*(Ludwig von Mises Institute, 2011)p997

In Ludwig von Mises' literature (1949), it explains the role of praxeology and history. Although praxeology is studying human in terms of action axiom so accidental actions are not concerned and those are in the realm of history[2]. While history is a representation of certain action or event, praxeology is concerning what happens in acting. Therefore, history is one of the biggest data pool for praxeology. History can tell us what happened in definite time and it can offer a room to think about possible results in definite time and even for the future. But intrinsically, praxeology has a problem that axiom or general actions of typical person are impossible to be measured and tested. Those are unpredictable and simply too many variables even in one problem.[3]

Therefore, based on the methodological approach, the research was exerted in different scale. First is public scale which can show the current how much we perceive the industry in daily life scale. Second is industrial scale that can be found in any other country such as production, processing, distribution, consumption and public level consumption. The last is to reconstruct alternative possible future scenario with accelerating current tendency or pattern in both industrial level and public level.

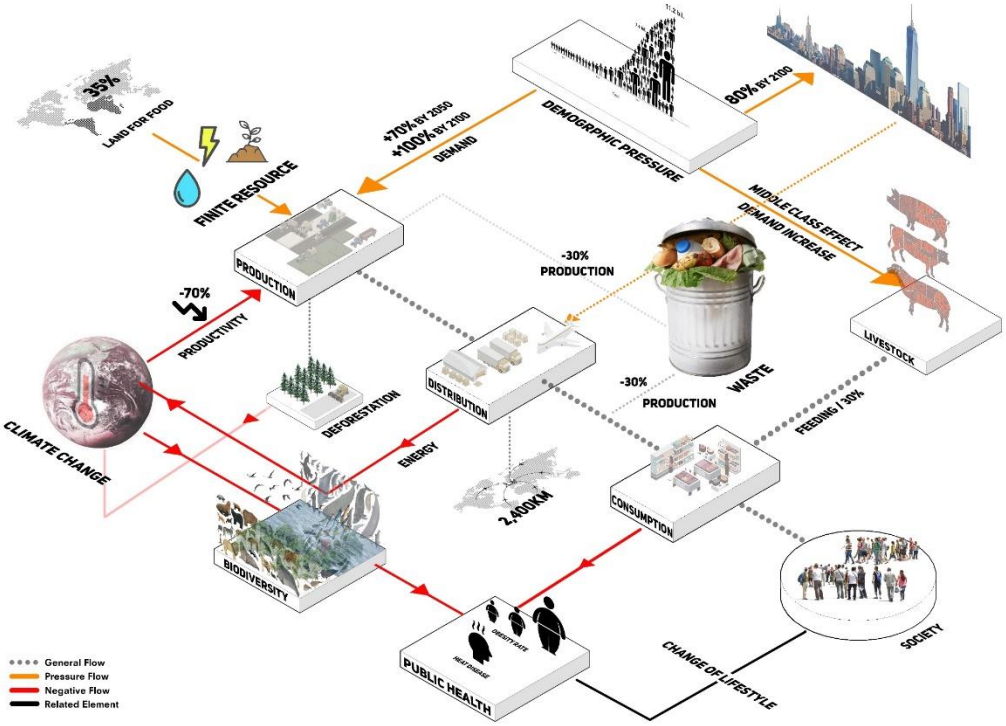


Diagram of General Food Industry Flow(Self Drawn)

[2] Ludwig von Mises, *Human Action*(Ludwig von Mises Institute, 1984)p47

[3]Leland B. Yeager,*"Measurement as Scientific Method in Economics,"* (American Journal of Economics and Sociology,1957)

Consumption environment in 1950's & Current

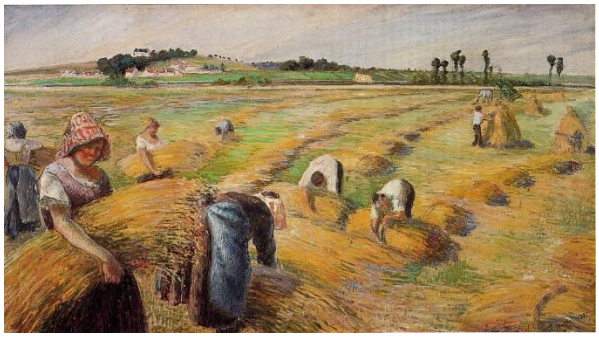
4. **Elaboration on the relationship between the graduation project and the wider social, professional and scientific framework, touching upon the transferability of the project results.**

The project's main idea is to explore how to harness new food producing technologies in vertical way while meeting food requirement for future. However, making building contain those technologies will not be enough because in future the way of the thinking toward food and consume will be changed as well. While architectural expression is showing new architectural foodscape in design proposal, the people inside of the future scenario will be also different from current public. This consideration includes perception of food, production, nutrition, life style. Therefore, the result of project will be informative to understand technological development in food industry and its requirement in terms of building technology and also in marketing and social study. This is because food is highly related to human behaviours and everyone has their own opinions for it and business is also using this aspect to make profit and new technology also requires different human resources. Such as in future, farmers wouldn't touch soil anymore. Robot scientist, civil engineer, computer scientist and urban planner will be new farmers. So, the result will be able to give guideline for building one of the future alternatives.

5. **Discuss the ethical issues and dilemmas you may have encountered in (i) doing the research, (ii, if applicable) elaborating the design and (iii) potential applications of the results in practice.**

The most intriguing discussion is about perception of relationship between food, nature and people. The project is totally opposite concept of usual perception towards food. How we will accept and consider the foods that will be produced in completely artificial way such as LED light, environment regulating and non-human elements. That is because in vertical farming technology it demands no soil, no sunlight and much less water and no contamination in

closed indoor ecology. However, it will provide the freshest and most natural food to public. So here is the dilemma, whether it is artificial food or not and how we would accept this in future. People want fresh food and the freshness is something should come from nature.



The Harvest, 1882

But the fact that vertical farming tech use is plant cannot take every sunlight and waster as much as we give to them. There are specific light spectrum they absorb and amount of water they can take. This is where new technology can save finite resources from the earth than conventional farming. The desire that people want to have fresh and clean food is natural. There is nothing to be wrong but the situation we made went wrong. So if we keep the conventional faming, it would be destructive to the planet and also for farmer who are doing the way of farming. However, this question will be controversial between people who do not think this food as a natural products. When it comes to unnatural food, it immediately remind us of GMO or junk food that are unhealthy or have consequences in our body. Even if the newly produced food is clean and healthy, there will be problem of perception. However, we will reach to future with technological development. The development is the future we imagine. That already means technology is another reflected image of human desire. Artificially produced food will be also the will and desire of the humanity and we need to embrace it somehow.

Human acts upon desires and finds tools and methods for that but we need good science and good industrialization to meet tremendous future demands and we want clean and fresh food for us. Therefore, technology responds to our desire and represent it. Now, technology which use to be cold representation produce the most clean and fresh food and it will shape our life and while human and technology will interact each other, the border between two, not only physical difference but also abstract conception will be blurred. This project is to explore how human can be living relying on machine or together.