FOOD NETWORK

Design for a New Territorial Logic

by Agustina Gonzalez Cid
Architect
Universidad Nacional de Rosario, Argentina, 2008

SUBMITTED TO THE DEPARTMENT OF ARCHITECTURE IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF SCIENCE IN ARCHITECTURE STUDIES AT THE MASSACHUSETTS INSTITUTE OF TECHNOLOGY JUNE 2015

© 2015 Agustina Gonzalez Cid. All rights reserved.

The author hereby grants to MIT permission to reproduce and to distribute publicly paper and electronic copies of this document in whole or in part in any medium now known or hereafter created.

Signature redacted

Signature of Author: __________________________

Department of Architecture
May 21, 2015

Signature redacted

Certified by: _________________________________

Miho Mazereeuw
Assistant Professor of Architecture and Urbanism
Thesis Supervisor

Signature redacted

Certified by: _________________________________

Rafi Segal
Associate Professor of Architecture and Urbanism
Thesis Supervisor

Signature redacted

Accepted by: _________________________________

Takihiko Nagakura
Associate Professor of Design and Computation
Chair of the Department Committee on Graduate Students
Food shapes territory. While only 3% of the world’s surface is occupied by cities, 38% is used for agriculture. Most of this land is used to harvest the 7,605 tons of food that are produced per minute worldwide. Of this, almost one third will be wasted, while only two thirds will be consumed, most probably, miles away from its origin. Although humans have historically eaten food coming from lands far away, the size of the world’s current population makes the scale of the logistical endeavor astronomical. As a consequence of this, some countries are transformed into global hinterlands, dedicating huge percentages of their land to produce what other countries are demanding for their consumption. But how do these global hinterlands work? The thesis studies food production and its rural urbanity in the Argentina’s Pampas, an area which was once considered the world’s granary and is still capable of feeding a population ten times the country’s current size. Extremely flat, with mild weather, and fertile soil, the pampean region was the perfect place to fulfill the role of an agricultural hinterland at a global scale. The resources were always so vast for its own small population that the territory was shaped focusing on the external market without considering the internal needs. Crops in productive regions were chosen to please stronger economies in different corners of the world, making whatever is more demanded in the global market the one and only crop for that moment, forgetting that this monoculture strategy cannot feed Argentineans. In the selected site, a pre-existing grid of 30 towns is now “floating” in a “sea of soy production”, while they are forced to “import” the food they consume from other regions of the country. The thesis creates a set of strips that host the production of the food required to feed the area while, at the same time, connect the towns, enabling them to work as a network. When the strips approach the towns, they open up possibilities to intervene in their urban structure, creating new ways of inhabiting rurality.
Biography
Agustina González Cid

Agustina González Cid is an architect and researcher from Argentina. In 2008 she graduated with honors from the School of Architecture and Planning of the National University of Rosario, where she is currently an assistant professor. She also studied in Torcuatto Di Tella University, obtaining her degree on Architecture and Technology in 2011. Since 2008 González Cid has a practicing office, IGC [ar], where she develops projects, competitions and built work. In 2012, she was awarded with the Fulbright Master Program scholarship by the US Department State. She is currently enrolled in the SMArchS program in the Massachusetts Institute of Technology. She has done research in India, Argentina and Chile working on different scales of built environment, ranging from large regional areas to small buildings. For her thesis she proposes a Food Network that overlaps with the existing monoculture in the Argentinean pampas.
Acknowledgements

I will always be grateful to everyone who was part of these two years that concluded in this thesis. It was an amazing journey of which I enjoyed every minute.

I am deeply grateful to the team from Fulbright Argentina for being the first who believed in me and for making this experience a reality through their generous funding.

Thanks to the SA+P, its faculty and staff, for giving me the opportunity to be part of MIT and for working so hard to make this place what it is. Special thanks to everyone working at Headquarters and CRON (specially Cynthia and Duncan) for their daily support. Thank you for keeping us happy and calm.

Thanks to the School of Architecture of National University of Rosario for introducing me to the world of design and for giving me a space among its faculty.

To be able to prepare this thesis, I have shared great conversations with many people which voices I still listen to while trying to wrap up a yearlong work. This thesis would not be the same without their helpful inputs.

I am very thankful to my committee, Arindam Dutta, Miho Mazereeuw and Rafi Segal, for guiding me through this process, helping me frame the key points of the thesis and discussing the resolution of its architecture. Thank you for every meeting that encouraged me to continue working and made me love what I was doing.

I am also grateful to Michael Dennis for guiding us through the first steps of this long process and pushing me to define what my thesis was from an early stage. You were a great professor as well as friend.

For their precious time, I would also like to thank everyone I met over these two semesters that helped me enter the world of food production in Argentina. From INTA, thanks to Alejandro Longo, Cristina Mondino and Eduardo Vita for giving me accelerated courses on agronomy while patiently answering all of my naïve questions. I am thankful to Gustavo Grobocopatel for sharing his vision of the future rural Argentina. Thanks to Julieta Abad for explaining me the logistics of food transportation, Juan Pablo Estrella for his insights on the world of grain exchange in the global market and Luis Valenzuela for our conversations about landscapes of production. Thank you for the priceless information.

Special Thanks to Marilyn Levine for enthusiastically listen to my ideas and helping me translate them into words while making me feel confident about my thesis.

I am also thankful to everyone who took the time to be present during my final presentation; especially those who helped me set up everything before the review, took pictures and record the presen-
tation. Thank you all for making sure I knew I could count on you on that day.

The most heartfelt thanks to my friends at MIT, they were the ones who kept me running through these two very intense years. Thanks to my Spanish speaking friends, Ana, Ines and Paloma for the shared moments, for always being around and letting me express in my native language. Thanks to my friends from the urbanism group, who survived this adventure with me, from beginning to end. Thank you Ariel, Difei, Kairav, Manos, Naichun and Wenji; I have memories with you that I will keep with me forever. Special thanks to the four people that shared with me the most, who know how the last months were like, the effort we put into this and how much we “enjoyed the process”; thank you Chae, David, Gabriel and George for being my family in Cambridge and making this place my home (almost literally). Thanks for working next to me every day and every night, listening to my endless talks (sound pollution) and making sure I was fine, to push me to work and, most importantly, sending me to sleep. “WE DID IT.”

Thanks to my friends in Rosario, for always letting me know they are thinking of me and wishing me the best.

Thanks to my family, for supporting me from the distance and making me part of their daily lives in every possible way.

To Matias, for always believing in me and being on “my team”; for understanding times, pressures, and distance; and, most importantly, for always encouraging me to be brave.
Unless otherwise indicated, images, diagrams and drawings included in this thesis have been created by the author.
FOOD NETWORK

Design for a New Territorial Logic
This book has been adapted from its original format (6 by 9 inches) to fit the SA+P MIT thesis requirements.
## Thesis Content

**Biography**  
7

**Acknowledgements**  
9

**Global Means Local**  
24  
*Introduction to the Territorial Impacts of Food*

**A Unique Landscape**  
36  
*Characteristics of La Pampa*

**Manufacturing the Territory**  
46  
*La Pampa as a Global Hinterland*

**Food Logistics**  
66  
*Understanding the Apparatus*

**Grasping the Horizon**  
118  
*The Traveler’s Point of View*

**Food network**  
176  
*The Proposal*

**Conclusion**  
260  
*Future Work*

**Bibliography and Figure Credit**  
264
“The countryside is now the frontline of transformation. A world formerly dictated by the seasons and the organisation of agriculture is now a toxic mix of genetic experiment, science, industrial nostalgia, seasonal immigration, territorial buying sprees, massive subsidies, incidental inhabitation, tax incentives, investment, political turmoil, in other words more volatile than the most accelerated city.”

Rem Koolhaas for Icon Magazine
"The countryside is an amalgamation of tendencies that are outside our overview and outside our awareness. Our current obsession with only the city is highly irresponsible because you cannot understand the city without understanding the countryside."

Rem Koolhaas for Icon Magazine
GLOBAL MEANS LOCAL

Introduction to the Territorial Impact of Food
Global Means Local

Introduction to the Territorial Impacts of Food

Food shapes territory. While only 3% of the world’s surface is occupied by cities, 38% is used for agriculture. Most of this land is used to harvest the 7,605 tons of food that are produced per minute worldwide. Of this, 2,472 tons will be wasted, while only 5,133 will be consumed, most probably, miles away from its origin. Although humans have historically eaten food coming from lands far away, the size of the world’s current population makes the scale of the logistical endeavor astronomical. As a consequence of this, some countries are transformed into global hinterlands, dedicating huge percentages of their land to produce what other countries are demanding for their consumption.

But how do these global hinterlands work?

What are the logistics and the infrastructures that shape these territories?

This 38% of the world’s surface is understood as a productive machine with the only purpose of yielding large amounts of “natural” products to feed our hungry world. These places for big scale “green” production have a specific urbanity, unique to their kind. It is then fundamental to analyze the physicality of the “rural” and the way in which it is inhabited.

The thesis studies food production and its rural urbanity in the Argentina’s Pampas, an area which was once considered the world’s granary and it is still capable of feeding a population ten times the country’s current size. Extremely flat, with mild weather, and fertile soil, the pampean region was the perfect place to fulfill the role of an agricultural hinterland at a global scale. The resources were always so vast for its own small population that the territory was shaped focusing on the external market without considering the internal needs. However, now the disconnection with the internal demands is such that the system is not responding to the needs of their inhabitants for food. Instead, crops in productive regions are chosen to please stronger economies in different corners of the world, making whatever is more demanded in the global market the one and only crop for that moment, forgetting that this monoculture strategy cannot feed Argentineans. In the selected site, a pre-existing grid of 30 towns is now floating in a “sea of soy production”, while they are forced to “import” the food they consume from other regions of the country. The thesis proposes a set of strips that host the production of the food required to feed the area while, at the same time, connect the towns, enabling them to work as a network. When the strips approach the towns, they open possibilities to intervene their urban structure, creating new ways of inhabiting rurality.

These 30 towns cover a 9,800 km2 area between the provinces of Santa Fe and Cordoba, where soy is the main crop. Argentina is the third world producer of soy and most of that production is coming from this region. It is for this reason that, even if soy production results in unnecessary food travels with economic, logistic and environmental consequences, it will continue. Soy is fundamental for both
the Argentinean economy and the hungry world’s population.

According to the Food and Agriculture Organization of the United Nations (FAO), by 2050 the world’s population will increase by one third. This means that the production of food will have to increase 70% and the world’s agriculture will have to adapt to meet this demand. This extra pressure on the world’s production may seem challenging. Nevertheless, for those countries which economy is mostly based on agriculture, the increase in food demand could potentially mean an opportunity. With a current 60% of its exports coming from grain, Argentina is one of those countries which could benefit from this global change.

The global demand for quantity and quality is so high that in order to fulfil it, these landscapes of production have been totally transformed by the use of technology. From engineered seeds to highly computerized tractors, the rural environment has changed so much from the time when these towns were created that they are now following a territorial logic that does not exist anymore.

*What is the current territorial logic of these landscapes of production?*

*How was the Argentinean territory manufactured into its current state?*

There were three moments in the history of the country that changed its territorial logic. These moments explain the origin of the grid of towns, the tendency for monocultures and the virtual distance between communities and production. The first moment is 1880’s when Argentina changed its economic model to transform itself into a grain exporter. The country’s fertile and almost empty land attracted European immigrants that were welcomed by the state as labor to work the land and make the country grow. The second moment is 1940’s. During the Second World War Argentina remained neutral, which allowed the country to export grain to feed Europe, strengthening its economy. The government, trying to benefit from this opportunity as much as possible, created policies to monopolize the commerce of grain and keep most of the revenues. The third and last moment is beginning of the 21st century, when the so called “soy fever” began. A large percentage of the land use for agriculture shifted from diverse crops to soy only because of its possibilities on the international market.

This recent history of agriculture in Argentina left as a result the current logistics, where soy is the main actor invading the international market and bringing back revenues to the national arcs, keeping the food for daily diet of the country’s population away from them. At the same time other regions of the country are consolidated as fruit and vegetable producers, selling them all around the country while they lose freshness and increase their prices. This productive loop is hard to escape.

*What happens then to the towns in the heart of this monoculture production?*
These rural towns that were created because of agriculture, to host labor and store grain, are now disconnected from the production. More mechanized methods of harvesting and the decentralization of grain storage have broken the connection between the towns and the adjoining environment, resulting in an almost total disconnection of the rural communities and the food industry that put them there in the same place. This “Harvesting Urbanism” became purposeless as such and it could potentially disappear without affecting the production in the area. These towns are both disconnected from the food they produce and with the food they consume. Ironically, having the possibility of feeding themselves from the land they inhabit, these people end up buying food from other regions that can offer more variety than the surrounding monoculture.

**How can a new territorial logic based on food production benefit them?**

**Is it possible to create a secondary productive layer that overlaps with the existing mega soy empire but focusing on local needs?**

**What social and physical consequences could this bring?**

People are abandoning these towns in search of better job opportunities but the reverse migration is also happening. These are people moving to the countryside because of the lifestyle it can offer. In a conversation with Gustavo Grobocopatel, CEO of the leader grain company in Argentina he said that a new kind of worker have entered the rural “arena” and is now in charge of handling grain. Everything is more automatized and the rural work is more similar to working in an office. Grobocopatel says that some of these new professionals, mostly accountants and engineers, are now deciding to live in these towns. They become a “new public” that will demand new infrastructure and leisure activities, creating a new way of inhabiting rurality.

This is a process that is not only taking place in Argentina. Rem Koolhass in his article from September 2014 for ICON magazine says that no one has paid enough attention to the countryside. He discusses the case of the Suize countryside and how it has changed over the past 20 years. He mentions two phenomena happening in parallel: diversifying farmers and “urbanites wanting to sample life in the countryside, attracted by the aura of authenticity.” He argues that this creates the “landscape of the intermediate.” Then Koolhaas continues “In architecture books we are bombarded with statistics confirming the ubiquity of the urban condition, while the symmetrical question is ignored – what are those moving to the city leaving behind?” And he finishes by saying that “The countryside is now the frontline of transformation.”

The thesis proposes one such transformation. It proposes a new territorial logic by the introduction of a system of productive strips that serve as connectors for the food network where the existing towns are the nodes of the system. By doing so, the thesis addresses three problems: The physical disconnection between food production and consumption; the weak North-South connectivity among towns; and the need for new ways of inhabiting rurality. These strips are big connecting devices that also serve as a large scale productive infrastructure. At the same time, when the strips approach the towns, they
work as catalysts, modifying the towns exiting structure and giving space for a richer urban experience. The thesis presents three different strategies on how to intervene the towns creating “landscapes of the intermediate”: the new center, the filter and the pockets.

The food produced in these strips will be enough to feed the area. Each town will have a greenhouse for year-round fresh vegetables. However, more elaborate products will be concentrated in the different nodes of the network. These products are distributed across the territory in a way that the source of food production is always less than 40 km away from the point of consumption. Logistics are also reorganized into a more cohesive order, keeping distances as short as possible.

The project works at four different scales: The region, the towns, the neighborhood and the building. In each scale the architectural device brings production closer to the consumer, combining two steps of the production chain and transforming the living experience.

After this introduction, the thesis is structured around five chapters and a conclusion. The first chapter “A Unique Landscape, Characteristics of La Pampa” describes the unique condition of this area of South America; its native Flora and Fauna, its mild weather, its winds and its flat surface without any geological “accidents”. The second Chapter, “Manufacturing the Territory, La Pampa as a Global Hinterland” expands on the history of the place and the moments that contributed to its current territorial logic. The third chapter, “Food Logistics, Understanding the Apparatus” describes the processes between food production and consumption in Argentina. The Fourth Chapter “Grasping the Horizon, The Traveler’s Point of View” narrates the impressions that the first time travel might experience while visiting La Pampa. Finally, the fifth chapter “Food Network, The Proposal” explains the project for the new territorial logic based on the introduction of the productive strips.
A Unique Landscape

Characteristics of La Pampa
[...] hasta que al fin al Sur triunfa la pampa y ostenta su lisa y velluda frente, infinita, sin límite conocido, sin accidente notable; es la imagen del mar en la tierra, la tierra como en el mapa; la tierra aguardando todavía que se le mande producir las plantas y toda clase de simiente.

Facundo. Domingo Faustino Sarmiento
[...] until finally in the south La Pampa triumphs and holds her smooth and hairy forehead, infinite, without any known limit, no significant accident; It is the image of the sea on earth, the earth as on the map; the earth still awaiting to be commanded to produce plants and all kinds of seeds.

Facundo, Domingo Faustino Sarmiento
Allí la inmensidad por todas partes: inmensa la llanura, inmensos los bosques, inmensos los ríos, el horizonte siempre incierto, siempre confundiéndose con la tierra entre celajes y vapores tenues que no dejan en la lejana perspectiva señalar el punto en que el mundo acaba y principia el cielo.

Facundo. Domingo Faustino Sarmiento
There immensity everywhere: immense plain, immense forests, immense rivers, the horizon always uncertain, always mixing with the light clouds and the soft steam that, from a far away perspective, do not allow the viewer to mark the point where the world ends and the sky begins.

Facundo. Domingo Faustino Sarmiento
South America
The word Pampa comes from quechua and means “plain.” It was the Spaniards coming from Potosi who first named “pampa” this un-forested area. The pampean region is located in the Center – East of Argentina and Uruguay and in the South of Brazil. It presents some sectors of Sabana with high levels of humidity and some dunes to the south. Moving west, in the province of Cordoba, the topography steps up, increasing its altitude. To the East, in Uruguay and Rio Grande it presents a more undulating landscape. It is one of the most fertile regions of the world. The weather is temperate and humid, with rain diminishing to the South. In Argentina, the pampean region is located in the provinces of Entre Rios, Santa Fe, part of Cordoba, part of San Luis, Buenos Aires and La Pampa.
MANUFACTURING THE TERRITORY

La Pampa as an Agricultural Hinterland
Manufacturing the Territory
*Argentina as an Agricultural Hinterland*

The Argentinean Pampas are an extremely flat territory with detached urbanizations almost completely surrounded by grain production. The monoculture was a direct result of years of local and international pressures that resulted in towns totally disconnected from the land surrounding them. To be able to intervene in this current territorial logic, it is fundamental to understand how the area was manufactured into the productive machine that it is today. This second chapter describes three moments in the history of the Pampas: the 1880's when the new economic model as an agro exporter country started; the 1940's when the whole grain market was taken into the hands of the government and treated as a monopoly; and the beginning of the 21st century, when the so called “soy fever” started. Before these moments, the land was just used to raise cattle and the area was still disputed between indigenous tribes and the Spaniards. Over the years, the built environment of the Pampas started being modified, incorporating infrastructures, population, logistics and especial crops. These are the elements that the thesis deals with, and, from a true understanding of these elements, a new territorial logic can be designed.

The New Economic Model
*Setting the Productive Landscape*

The 1880's were marked by the changed in the Argentine economic model, transforming the country into an agro exporter power. This period made the country’s economy strong, positioning it as the most advanced nation in South America. It was Argentina’s Golden Era: production, technology and flows of European immigration contributed to a unique condition that resulted on the current territory. At this moment, every political and economic move was done to set the territorial logics for this expansive production mode. However, for this young country, the scale of the needed investments was out of its reach; the infrastructure required for transforming the production and transportation of agricultural products demanded creating partnerships with foreign companies. The business of investing in Argentina was very profitable and the government extremely “generous” with those willing to do it. It did not take long for international companies to start competing and speculating over the South American Country.

The almost newborn Nation, which had just declared its independence from Spain in July 1816, had to work in order to transform the land that once belonged to the Virreynato del Rio de la Plata into a landscape of production. Apart from this, the establishment of new rural towns was, at this moment, fundamental to ensure the sovereignty of the land. Until 1870, native tribes were preventing new
towns from being settled in the region. However, the transformation of the country’s economic model and the strong desire to expand the arable land pushed the government into taking stronger actions. In 1877, after becoming War Minister, Julio Argentino Roca proposed the project called “The Conquer of the Desert.” Its name pretended to give the idea of emptiness of the land while its intention was to push the Amerindios tribes, mostly Araucanos and Tehuelches, from the Pampean Region, which they dominated. The plan was to attack the natives by using the military force together with the help of allied tribes. The boundary had been continuously pushed to the South and the West since 1862, ending with the Argentinean State taking over the entire region in 1885.

This newly conquered territory desperately needed to grow the population to work the land. However, in order to convince people of investing and moving in, it was essential to clean up the image of the Pampas as a place of violence. After the “Conquer of the Desert” the image of the pampas was associated with native tribes violently fighting the military. However, private investors had a very clear idea of how they wanted to depict the pampas: They made use of local newspapers and special photographic albums to show possible buyers what the pampas had become. These private investors were selling an abstract idea of the pampas’ future by cleaning up its past; the landscape was portrayed as an empty desert and the idea of native tribes occupying the land had already been left behind.

Apart from the need to reinforce the sovereignty over the territory, the government needed to adapt the territory to the different mode of production. Before 1880’s Argentina’s main export products were raw materials for textiles. From this moment on, the global demand for food became superior to that of textiles and the territory was adjusted to perform in a different way. Argentina, taking advantage of its fertile land, started focusing its market on two main products: meat and grain. However, in order to meet the expectations for large scale exports, Argentina needed to connect the western parts of the pampas, in Cordoba Province, with the main ports in the provinces of Santa Fe and Buenos Aires.

In 1854 the president for Argentinean Confederation Justo José de Urquiza requested the North American Engineer Allan Campbell a comprehensive analyzes to set a new railway system. However, in 1862, and after some political pressure coming from the UK, the construction was assigned to a British Company in hands of William Wheelwright, even with a budget twice as high as the one estimated by Campbell. The new company was called Argentine Central Railway (from Spanish FCCA). In order to conquer its own vast territory, the Argentinean government accepted almost any demand posted by international investors; on February 14th, 1863, William Wheelwright arrived to Buenos Aires, complaining because the lands on the border of the railway would not belong to the company developing the railway anymore. The government then decided to agree on the petitions Wheelwright was making and, in March 1863, the Argentinean government accorded William Wheelwright the construction of the railway between the cities of Rosario and Cordoba. The first section of the railway was opened in 1866, and covered from Rosario to Canada de Gomez, 71 kilometers away. On April 13th 1870, the President at that moment Domingo Faustino Sarmiento officially inaugurated the railway that reached Cordoba. The British railways were designed as a funnel, taking raw material from the west of the pampas to the ports in the east. The whole system fed into an economic loop that the UK had settled in Argentina only caring for its own interests. Raw materials were transported by the British company into the UK, where they would be transformed into added value products that would later return to Argentina for their popular consumption.
Connectivity was not the only goal that the railway needed to achieve. After the pampa’s “cleansing” during “Conquer of the Desert” the government was ready to populate the area with rural workers coming from Europe. The government wanted the region to be organized in small towns and it made sense to have them in connection to the railway to carry infrastructures. Each train stop would become a town, forming a linear constant grid. As part of the contract to create the railway system and, as Wheelwright had strongly demanded, the Company FCCA received one league (five kilometers) of land on each side of the railway. Although this land mostly belonged to the state, parts of it belonged to private owners who were not willing to lose it, especially after considering the increment in its price after the construction of the railway. After long trials, the provinces involved had to pay for the land the FCCA received. This land was “donated” to the FCCA under the only condition that they would create rural towns to host immigrants. However, after one year of the inauguration of the line, there were only two stations Belle Ville and Villa Maria. The place remained mostly empty for several years until the company decided to actively contribute to the process of immigration so its revenues could increase even more. The company sent a representative to Europe to convince people to move to Argentina and populate the towns. These immigrants first moved to Roldan, then to San Lorenzo, Carcarana, Canada de Gomez and Tortugas.

The pampean region could be considered a direct result of speculative moves by the British company during those years. Leones, like many of the other towns, started with the railway line passing by for the first time in 1866. The first trip was from Tortugas to Fraile Muerto. In 1881, the Central Argentine Railway Land Company asked the provincial government of Cordoba permission to establish a new town in the Leones stop. There were already a few houses around the station but the company wanted to start selling the land in an organized way. As an exchange for permission to develop the new town of Leones, the company offered the provincial government the land to locate the cemetery, public buildings and a square. On September 24th 1881, the plans were accepted and the land was parceled and commercialized; Leones was officially inaugurated.

Apart from selling the ideas of “Las Pampas” as a newly developed, ex desert, full of possibilities, “marketing” was also used to embellish the idea of moving to Argentina. The need for people to populate the country was so strong that the government created a place to host immigrants on their first nights in the country. The name of this “container” required careful thought since it was expected to symbolize the future that the country offered. At the end of the XIX century, the secretary of the Central Commission for Immigration, Guillermo Wilcken, explained that the name “asylum” was not appropriate for this place because it denoted a depressing idea. In Wilcken words, the project was about “building an establishment destined to attract, model, prepare and deliver to the country the people that are waiting to rise to the level of the most flourishing nations.” Finally, the name chosen was “Immigrants’ Hotel” and was expected to work as an attractive marketing icon in the pamphlets distributed across Europe. 4 The Buenos Aires hotel opened its doors in 1912, after seven years from its initial design. Although immigrants were allowed, by law, to stay for free in the hotel for five nights, this time was often extended until the person could find a job. This hotel could host up to 4000 people every night and serve four daily meals (breakfast, lunch, tea and dinner) in shifts of 1000 people. Everyone would wake up early and while women were doing laundry and taking care of the children, men would go to the employment’s office to find a job. The hotel also offered reading rooms, maps of Argentina and learning sessions on how to operate agricultural machinery. Differently to what
was happening almost at the same time in the United States’ Ellis Island, where officers would decide the fate of immigrants either letting them in or sending them back to Europe, in Argentina receiving immigrants became a state priority.

The arrival of European immigrants to Argentina was highly welcomed by the government as the needed labor that would occupy the pampas. For the newcomers, the work was salaried and the amounts were high enough to put Argentina in a much better position compared to the “old continent.” Some of them would find a job in the big cities, but some others would choose to move to the countryside to work the land. There were thirteen immigrant’s hotels in Argentina at that moment, some of them in rural towns like Bell Ville. Immigrants multiplied the amount of labor, enabling the country to diversify from only cattle to grain. However, the way the land was distributed did not seem appropriate for the country at that time. Some of the most influential politicians defended the small farm model against the large plantations. These two models differed in that the small farm was thought for a new social class, mostly composed by immigrants, which would live and work in their own land, becoming independent workers. On the other hand, since the large plantations were mostly based on rent, the wealth concentrated on a handful of owners. In the Province of Santa Fe, the small farm model was successful until the plantation system took over, thanks to political and economic pressures, pushing the immigrants without access to land, to the city.

Towns were created to host labor and grain. Silos were part of these gridded logic in which the distances between towns were very constant, depending on the railway stops. Silos were situated next to
the railway to be able to exit the countryside as fast as possible into the city port. The silos were, most of the times, centrally located, concentrating large part of the logistics around them. Silos were, for that period, a symbol of everything that was happening in the country at the economic, social, political and territorial levels; their presence today still speaks of that golden past.

Just as the birth of these towns was connected to the creation of the railway system, so was their decay. Argentina had, at one point, the seventh best railway system in the world. However, political and economic decisions led to its decay, reinforcing the use of roadways and creating disconnected towns. In 1946, Juan Domingo Peron assumed the presidency of Argentina. One of the most significant things he did during his the first years of his presidency was the purchase, with public funds, of the whole railway system and the towns surrounding them. Although this was announced in 1946, the actual purchased took placed in 1948, just months before the cancellation of the contract. The railway was not the only nationalization that Peron undertook; the central Bank and the Gas Company suffered the same fate. Looking backwards, it is possible to say that nationalizing the railway system may not have been the best alternative for the Argentinean State since the railway stopped being competitive in the 1930’s; however, it was a method that Peron’s party frequently used to gather votes from the working classes. This tendency to nationalize private property and companies will be further discuss to explain the 1940’s. The lack of planning in the nationalization of the railway brought terrible consequences to the country’s economy and the system itself. By 1960, the railway accounted for 80% of the total federal deficit. In order to reduce the acquired debts, and to prevent major problems in the future, in 1961, President Arturo Frondizi started dismantling and selling the company back to private
The last strike for the system was in the 1990’s when President Carlos Saul Menem, pushed by labor unions, especially by truck drivers, said “ramal que para, ramal que cierra” meaning “a rail line that stops will be a rail line that closes.” The towns that suffered the most from these closures were those who only counted on the railway as the main connection. Furthermore, these towns never received any type of compensation to pay for roadways or reactivate the economy, creating a situation of ghost towns that was impossible to revert.

In current times, the same silos that were once symbol of progress are now trying to survive demolition. As towns have grown around them, these silos cannot be used to store grain anymore; the logistics behind grain storage are not appropriate for the center of a city, causing many difficulties from health to transportation problems. Apart from this, as it is studied later in this paper, the preferred way of storing grain nowadays is the use of silo bags. In relation to these problems, and in acknowledgment of the change in the territorial configuration, some towns are now reconsidering what to do with these symbolic structures. Some politicians argue for the preservation of the buildings as a historical heritage of the town. However, less nostalgic ones are considering demolishing the structures to open free centrally located land to boost the economy of the rural towns. In 2012, councilmen for the city of Firmat, Franco and Sergio Stampone proposed declaring Historical and Cultural Heritage the silos belonging to Argentinean Affiliated Farmers (from Spanish AFA). The explanation behind such proposal was that these silos were fundamental to reconstruct the past and as a symbol of the dispute between different social classes in the region. Most importantly, they said that the silos also symbolized the beginning of the town and the evolution of its producers. In Leones, the silos are still working...
in the middle of the city; and, although neighbors complain about the noise and the dust, the city tries
to do small improvements to keep them running. Even if the town government signed an intention to
buy 42 hectares to create a grain park further away from the city, nothing has happened yet due to the
price of moving. These are only two towns, serving as example of what every town is going through
as the result of this decayed model.

The technology used to produce, harvest, store and transport grain completely changed over the past
years, resulting in the disconnection of these “rural towns” with the surrounding productive landscape.
The productive chain does not need these municipalities anymore, neither to host the labor nor to store
the grain. However, this gridded rhythm of towns that the railway left behind has the possibility of
working as a network and, by doing so, transforming the territorial logic.

The Grain Monopoly

Centralizing the Agricultural Infrastructure

The 1940’s in Argentina are characterized by a strong presence of the state in the commercialization of
grain. While the Second World War was consuming the countries involved, those that remained neu-
tral tried to take advantage of the situation. This is the case of Argentina, which transformed itself into
a major grain exporter by feeding Europe during this time of unrest. During this period, the economy
grew and the country seemed unstoppable. Apart from this, during these years, agriculture and indus-
try were directly connected in an attempt from those countries producing raw materials to industrial-
ize. In Argentina this bond gets materialized in the creation of the Argentinean Institute for Promotion
and Exchange (from Spanish IAPI) that worked controlling grain as a monopoly in order to subsidize
production of added value products. In connection to this, the government created a five-year program
called “Plan Quinquenal” that tried to re-distribute the revenues coming from the grain exports by
paying industrial subsidies.

It all started a few years earlier, in 1933, during the presidency of Agustín P. Justo, when the National
Board of Grain was created. The Board’s main objective was to advocate for fair prices for national
producers. In order to do this, the board would buy the wheat, corn and flax from the producers at
standard prices and then re-sell it in the global market. The idea was that, in case of a fall in the prices
of grain, the board would cover for the differences and the producers would not suffer the loss. This
board worked for thirteen years, making plans on how to restructure the productive network of the
country. However, after the changes in the global economy, the government thought that the benefits
gained by the General Board of Grain were not enough; something needed to be done to concentrate
more power in the hands of the state.

During the 40’s Argentina became a great grain provider while most European countries and the
United States were still recovering from the war. This is why the government at the time, thinking
that this situation would last forever, decided that the whole country should profit from it. The idea
was to create an organism that could work as a monopoly, redistributing the high revenues derived
from the war. On May 28th, 1946, the IAPI was created. It was signed by the President at that moment Edelmiro Farrel but it was part of the projects that the elected President Juan Domingo Peron had already announced as part of his project for his future presidency. The IAPI worked under the Argentinean Central Bank (from Spanish BCA) centralizing the international commerce and redistributing the incomes among the different sectors of the economy. The result of the IAPI was the state setting both the buying and the selling price, transforming the whole grain production into one big monopoly. This had consequences at a global scale too; because Argentina as a monopoly was the major seller in the world, the IAPI was setting the price of grain for the whole international market. The revenues from the difference between buying and selling price were redirected to subsidize the national industry as part of the Quinquenal Plan, which tried to industrialize the country’s economy by highly subsidizing the national industry.

The idea of IAPI was to create the necessary infrastructure to diversify industry and introduce new productive areas. However, rural producers were the ones suffering the most the consequences of these policies. The revenues for their work were almost entirely kept by the government, leading to long periods of rural disinvestment. Apart from this, the government would only take the grain but not the responsibilities of bad crops, which were always absorbed by producers. According to the book La Nacion Argentina, Justa Libre y Soberana (The Argentinean Nation, Just, Free and Sovereign), published by the government in 1950, what IAPI was trying to avoid is to have many producers dealing prices with one big international buyer. According to them, with only one seller, the prices could be set in a more fair way. However, producers were not happy because their work was subsidizing, not only the industry, but also ridiculously high public expenditures. The IAPI transformed itself in the exact opposite of the National Board of Grain, as it pretended not to subsidize agriculture but to benefit from it.

The most visible and distinctive aspect of this period was the type of infrastructure used to store grain. Between 1934 and 1935 the National Commission of Grain Elevators was created, having as main purpose the design of grain elevators across the country. In 1937, four years after the creation of the National Board of Grain, the board presented a plan to build a network of grain elevators across the territory. After only two years, the first structures were under construction. Some grain elevators and silos were designed and built as part of the master plan to connect the inland provinces with the exporting ports. In 1945 the National Commission of Grain Elevators became part of the State Architecture department. The switch from engineer to architecture represented the desire of the government to transform these structures into symbols to communicate a clear message. There were two types of elevators, the ones in the ports, called terminal elevators, and the ones in the towns, called field elevator. Apart from their location, they differed in their size. The terminal grain elevators usually host different types of cereal, offices and high end technology. However, between 1939 and 1945 the consequences of the Second World War were felt in Argentina. The plan to build the network of grain elevators started failing because of the lack of imported material needed for the construction. The international companies involved in the fabrication of these machineries were either out of business or working for the war. This global situation affected Argentina and the plan to build elevators and silos was cancelled. Nevertheless, the government still wanted to concentrate the commercialization of grain in its hands. Because the construction was not possible anymore, it was decided to expropriate private silos to become property of the state. The period of expropriations started in 1944 and,
Con la argentinización del sistema bancario y la creación del I.A.P.I. la Argentina afirmará su potencialidad sobre pilares de oro, y alcanzará la plena manifestación de su grandeza.

Fig. 06
VALOR DE LA EXPORTACIÓN ARGENTINA
DE CEREALES OLEAGINOSOS Y SUBPRODUCTOS.

1943
$451.000.000

1947
$3.039.000.000
in only five months, the so desired network was built with these "ready-made" structures.

Then, in 1945, a period of concentration started. The government decided that grain elevators were only going to be placed in those locations where the capacity of exports was superior to 10,000 tons a year. Apart from this, it was also decided that the ports were to be located every 120 km, closing all the ports in the middle. The result of this concentration effort was a reduction to six terminal grain elevators, located in the ports, 14 field elevators of 5200 tons and 88 of 2700 tons. 16

The decline of the IAPI could have been anticipated with a more realistic understanding of the world's economy. Argentina counted on providing the world with grain forever. However, as soon as it was ready, the United States entered the European Market offering grain at cheaper prices. Since the whole plan for the national economy depended on the assumptions that grain exports were going to continue at the same level, the country's economy started failing, bringing as a result a period of crisis.

After the international market started giving its back to the South American seller, the government faced the problems of monopolizing the country's main products. Since the price of grain was still fixed, the Argentina Central Bank was obliged to subsidize the IAPI and, after some years, in 1963, the subsidies were such that President Jose Maria Guido decided it made no sense to continue with the Institute. It was then reorganized as part of the General Board of Grain which functioned until 1991, when the President Carlos Saul Menem dissolved it. This marked the beginning of a new liberal period for agriculture in Argentina. However, every time the government and the producers have an argument over prices and taxes, some people will appear talking about the re-implementation of the IAPI as a phantom showing what the government could do. 17
As it was possible to observe from this period, monopolization and centralization turned out to be a bad solution for food production. Large infrastructures are highly dependent on external factors and, in case of failure, the consequences are much more catastrophic. As discussed in the following sections of this chapter ("Soy Fever") the current logic of the territory shows that smaller, cheaper and more flexible infrastructures are more successful in leading with change. More decentralized ways of production and storage empower local producers, making the system more resilient to constant changes.

**Soy Fever**

*Decentralizing the Logistics of Grain*

The 2000's in Argentina came as a moment of super power for the rural producers. After the economic crisis of 2001 followed by the devaluation of the currency, the country started receiving the benefits of the international exports. This devaluation, together with the high price of soy in the global market gave as a result a moment of controlled prosperity.

Soy started being used in Argentina 30 years ago, growing from nothing to becoming the main crop in the region and transforming Argentina into the third world producer of soy beans and the first world exporter of oil and cakes. The local growth of soy production was a direct result of the global demand, after it became extremely attractive as a consequence of the change in the Asian diet. In Asia, the increased preference for meat has created a whole market for grain to feed animals. Even if Chinese are only eating 120 pounds of meat per person per year, compared to the 235 pounds consumed by Americans, with 1.35 billion people in China, their consumption modifies the world logics on food production. To put the animal consumption in numbers, a pig increases one pound of weight for every three pounds of soy that it is fed. Since pork is China's favorite meat, gigantic amounts of grain will have to be produced in countries like Argentina. Soybeans are so effective to fatten hog that China is now buying 60 percent of the worldwide soy production, creating extended monoculture landscapes. Soy occupies large percentages of arable land in the country, making the highly depending economy very vulnerable to fluctuations in its price.

The other factor that influenced the beginning of the 21st century is the reduction in the need for labor since working the land has never been so mechanized. Apart from this, tractors used for harvesting soy are so expensive that most farmers outsource the job, paying third parties to perform the work. This results in one person taking care of the crop of large regions, almost cancelling the need for employees. Furthermore, land owners can be far away from their crop and control everything from a laptop. The rural towns that were created in the 1880's to host rural workers are now purposelessly seating there, in the middle of a landscape that does not need them anymore.

Another radical change of this period is the decentralization of grain storage and commercialization. Silo bags were introduced as a new way of storing grain. Producers started storing grain in their property and independently controlling the process of commercialization. Silo bags allowed producers to
preserve grain for periods of up to a year and sell when it is more convenient for them. The fact that today the grain is stored in silo bags and moved by trucks directly to the port, avoiding any contact with the local towns, has reshaped the territory and the logistics behind the country’s main product.

These towns, which used to symbolize the opportunities that the country had to offer for those fleeing Europe, could now disappear, having almost no effect on the production surrounding them. Silo bags acted as war machines, changing the territory and complicating even more the eternal frictions between the state and the producers. This system of grain storage offers, on the other hand, levels of flexibility and precision unimaginable with previous methods; resulting in a fantastic acceptance among farmers.

Although the use of similar bags was born in Germany in the ‘70s, developed in the United States in the ‘80s and introduced in Latin America in the ‘90s, the Silo Bag, as it is used today, is considered to be an Argentinean invention. It was born out of necessity for more storage capacity for the growing amount of grain in the country. The availability of storage was limiting the crops, forcing producers to keep the constraint production. This situation pushed the company Ipesa-Rio Chico S.A (company dedicated to the production of plastic bags) and the National Institute of Agricultural Technology (from Spanish INTA) to run some tests to understand how grain would work if, after being harvested, it was stored inside one of these plastic bags. The research was slow and required patience to see the results. Ipesa produced twenty bags which were used by the agricultural producer Gonzalez Chavez. After one year of waiting, the bags were opened and the crop was in the same condition, proving the potentialities of the system. Ipesa continued growing its production ever since; going from 1,500

200 tons bags in 2000 to 420,000 200 tons bags in 2010. INTA is still working towards the better understanding of the system. The institute’s main purpose is to prepare the country’s agriculture to be at the level of the future demand. However, researchers and farmers are far from knowing everything about this technology. This is why, in October 2014, the first silo bag Congress took place in Mar del Plata, Argentina, organized by the same INTA. The Congress received more than 470 people coming from over 30 countries clearly showing what the technology represents for the agricultural business and the future of food production at a global scale. The silo bags that are commercialized in Argentina come in different sizes from 4 to 10 feet diameter a 60 or 70 meters of length, offering the possibility of storing the grain at the same farm for long periods of time. Part of its success is due to its affordable prices. Each bag costs around US$600 providing flexibility and time to sell. Thanks to this technology, producers do not need to wait to start harvesting its crop because of lack of transport or storage capacity, everything is solved in the same farm until it gets sold.

As mentioned before, this technology did not only affect the way grain is stored but the whole logistics behind grain transportation. Even if the railway system had been losing power over the years, silo bags may have been its last straw. In order for the railway to be able to compete in prices with those of trucks, the train needs to be fully charged, going from one town directly to one port. The possibility of storing grain for longer periods has spaced transportation across the whole year. Apart from not having one specific moment to move the load to the port, this load is distributed all over the region, making it difficult to concentrate in one point to get the train. As a result, 91% of the country’s grain is transported by trucks from the farm directly to the ports. Apart from this, vehicular transportation produces an almost total saturation of the national roads and port areas in detriment of the general population.
Apart from the “hard logistics”, “soft logistics” are also involved. In the past, people who owned land used to be more in contact with it. They would usually live in the same farm or in the closest town. They were organizing employees and controlling that everything was properly done. Nowadays, the whole production has become more virtual; with silo bags, a needle is introduced inside plastic bag, in contact with the grain, showing real time results of the state of it. The needle offers information about the humidity and temperature of the grain inside the bag and it can be visualized from a laptop, kilometers away. Producers can be in constant connection with the crop while living in big cities.

The change in the working modes has also created a wave of reverse migration. Since managing grain is similar to working in an office, young professionals, mostly accountant and engineers, start to choose these towns for the possibilities they offer for calmer lifestyles. This new kind of worker entered the rural arena and is now changing the “rural urbanity” and the way of inhabiting these towns.

The possibility of deciding when to offer the grain in the market, although beneficial for producers, has become a major problem for the national economy. While silo bags offer the flexibility of storing grain for longer periods of time and in the same place of production; the government would like producers to have a little less flexibility so they would sell the grain as soon as possible in order to get the dollars from the international buyers. The other problem with silo bags is that they are easy to hide. Differently from other storage models, this system enables producers to keep production and commercialization of grain under the table. Since the government cannot afford losing tax revenues, they are now trying every possible strategy to control and gain transparency.
On August 2012, it was said that the Government was studying alternatives to end with the silo bag effect and force producers to sell the grain. At that moment, there was ten million tons of soy stored in silo bags, which represented two thousand million dollars. However, that kind of policies would have been unique in the Argentinean context. There were rumors about the government augmenting taxes or suspending the permits of those grain operators who were not selling. Two years after this, on September 2014, the Federal Administration of Public Incomes (from Spanish AFIP) said that, as an annex of the General Resolution number 2750 from 2010, grain stored in silo bags for the 2014-2015 campaign will need to be geo referenced. This means marking the exact position of the grain in the property. According to Sebastian Robles Teran, from the Rural Association of Tucuman, producers are worried that the government will want to enter the private properties and take the grain away. Apart from this, producers will be asked to declare the silo bags bought for the 2013-2014 campaign. These constant changes in policies, requiring producers to do different things for every campaign, show how hard it is for the government to control grain production after the appearance of silo bags. After the last few years of “war” between the government and the producers, every new disposition is regarded with fear from the rural side. The Rural Argentinean Confederation (from Spanish CRA) immediately expressed their objections to geo-locating silo bags saying that the farmers cannot stand more pressure coming from the government. The situation is complicated and, for now, the government is trying to use different mechanisms without enforcing the sale law.

An alternative route that the government has taken to increase the pressure on producers is trying to convince the general public that producers are speculating with the price of soy, bringing economic consequences to the whole country. As result of this, some silo bags have been violently cut, generating total loss of the production. These attacks are believed to be coming from people paid by the government to generate fear among farmers. In relation to this, on October 2014, the Argentinean Agrarian Federation (from Spanish FAA) commented on the attacks and defended the producer’s decision of waiting for a better price in the international market or for a tax reduction from the government. Also Jorge Solmi, Secretary of Coordination for the FAA, said that the attacks are not new and are the result of the campaign the national government is carrying out to impose the idea that silo bags are used only for speculative reasons. In relation to this topic, and trying to be on the producer’s side, the current leader of Frente Renovador (political party against the presidency) Sergio Massa, ironically said that having a silo bag is now considered worse than having marihuana. He was referring to the way the national government was reacting to producers for not selling their crops right after harvesting. He added that the attacks were a consequence of the idea the government introduced in the public opinion that silo bags are used for speculation while they are only used as a method to store grain.

While production seems totally decentralized, there are groups and organizations bringing the rural producers together. They are now embarked in what seems as a war against the National Government because of export retentions and taxes. The Argentinean Agrarian Federation and the Argentinean Rural Society (from Spanish SRA) are the main actors fighting the battle. The SRA was formed in 1866. Its slogan is “To farm the land is to serve the country.” They work together to benefit the rural producers. They say that agriculture could take the country to another level. That food demand is growing and the country could potentially feed a population 40 times its size. According to the Food and Agriculture Organization (FAO) the world’s population will grow from 6,900 to 9,200 in 2050 and this will require an increase of 70% in food production. Ricardo Bartosik, from INTA said that special
grains with higher quality standard will be needed to meet these demands for food. Silo bags will then be fundamental to achieve this high goal because of its low costs, easy implementation methods and low grain lost after harvest. 27

For the first time in history, Silo bags have achieved the total decentralization of grain storage. As previously discussed, this generates tension and a sense of powerlessness from the state’s side. However, technology can also be used to counterattack the war machine. From September 2014, the government decided on the use of satellite images and drones to control crops and hidden silo bags. 28 Aerial images had already been used in the country to check on unauthorized constructions in urban and rural areas. However, this method to control crops will revolutionize the commercialization of grain, forcing it into becoming more transparent. The system composed by aerial images and drones is able to check, from week to week, the differences in the length and volume of silo bags; the information is then cross checked with the registered sales for that period and unlawful activity gets discovered. 29 Apart from checking volumes, the system can be used to quantify the quality of crops. The so called “green index” can capture crops even underneath two meters of soil and measure the chlorophyll to know the quality of the production. Producers are now saying that the information may not be precise enough and further inspections might be necessary to really being able to draw conclusions. 30 The discussion will remain open and add to the historical tension between the two parties.
This leaves the territory in its current state: the vast pampean region almost totally covered by soy; towns immersed in this green mat but totally disconnected to it because their population does not work the land any longer; and European descendants that still live in these towns, even when the younger generations are looking for other horizons with better offers.

What is worst, these islands of urbanization in the middle of a sea of soy require food to meet their daily needs; the disconnection with the territory is such that vegetables, meat and dairy are coming from metropolitan areas round main cities instead of from the very fertile land that surround the towns. In the next chapter “Food Logistics: Understanding the Apparatus” I explain how the logistics behind three of the main edible products work in Argentina. For this I analyze soy, meat and vegetables.

As a lesson from this period to the thesis proposal, it is possible to understand how the use of cheap, flexible infrastructures can reshape the logic, redistributing production and storage across the monocultural territory. This period also shows the success behind decentralizing production and giving power to small local producers, making the system fairer and more efficient.
3- Ibid.
5- Ibid.
6- Monk, “The Trains Don’t Stop Here Anymore.”
7- Ibid.
8- Ibid.
9- Ibid.
12- La Nacion Argentina, Justa, Libre Y Soberana.
13- Horacio Torrent Schneider, “Signos Modernos y Territorio: El Elevador de Granos y el Paisaje del Cereal” (Magister en Arquitectura, Escuela de Arquitectura, Pontificia Universidad Catolica de Chile, 2001), (Escuela de Arquitectura, Pontificia Universidad de Chile).
14- Ibid.
15- Ibid.
16- Ibid.
21- “Memorias Del Primer Congreso Internacional de Almacenamiento En Silo Bolsa - 2014.”
24- Ibid.
29- Ibid.
30- Ibid.
FOOD LOGISTICS

Understanding the Apparatus
Which Countries are buying food from Argentina?

**Corn**
1. Iran
2. Colombia
3. Azadlia
4. Malaisia
5. Egypt
Total Share: 53%

**Soy**
1. China
2. Egypt
3. Iran
4. Thailand
5. Colombia
Total Share: 95%

**Wheat**
1. Brazil
2. Colombia
3. South Africa
4. Peru
5. Tanzania
Total Share: 96%

**Soy Pellets**
1. Netherland
2. Italy
3. Spain
4. Indonesia
5. Iran
Total Share: 39%

**Soy Oil**
1. India
2. Iran
3. Bangladesh
4. Egypt
5. Peru
Total Share: 51%

**Sunflower Oil**
1. China
2. South Africa
3. Iran
4. Egypt
5. United Arab Emirates
Total Share: 59%
The Importance of Rosario

Bolsa de Comercio de Rosario. Stock Nv

Data Source:
Argentina como Productor y Exportador de Granos.
Importancia del Gran Rosario
Argentina as a Grain Producer and Exporter.
The Importance of Rosario's Metropolitan Area
Bolsa de Comercio de Rosario. Stock Market Rosario
In Numbers

Argentina is one of the main food producers in the world.

Argentina is one of the main three world suppliers of grain.

Argentina is the first world exporter of soy flour and soy oil.

Argentina is the second world exporter of sunflower flour and sunflower oil.

Argentina is the third world exporter of soy beans (after the US and Brazil)

Argentina is the second world exporter of corn.

Argentina is the fifth world exporter of wheat.

Argentina is, according to FAO, the eighth world food producer.

Argentina is, according to the WTO, the seventh world food exporter. Most of this food is produced in the central region of the country, in the provinces of Córdoba, Entre Rios and Santa Fe.

Argentina exports around 75 million tons of grain and their derived products. (15% of the total volume of the world trade)

98 million tons of grain
(Production Campaign 2010-2011)

48.5 million tons of Soy
14.7 million tons of Wheat
3.5 million tons of Sunflower
21 million tons of corn
4.5 million tons of sorghum
5.5 million tons of other grains

Data Source:
Argentina como Productor y Exportador de Granos, Importancia del Gran Rosario
Argentina as a Grain Producer and Exporter
The Importance of Rosario’s Metropolitan Area
Bolsa de Comercio de Rosario. Stock Market Rosario
From the thirteen ports in the Rosario Metropolitan Area leaves

68% of the total grain exports
92% of the total grain subproducts exports
88% of the total oil exports
Approximately 75.4 million tons of grain, oil and derived products are exported by Argentina each year. 57 million tons leave the country through Rosario.

Data Source:
Argentina como Productor y Exportador de Granos.
Importancia del Gran Rosario
Argentina as a Grain Producer and Exporter.
The Importance of Rosario's Metropolitan Area
Bolsa de Comercio de Rosario. Stock Market Rosario
Data Source:
Argentina como Productor y Exportador de Granos.
Importancia del Gran Rosario
Argentina as a Grain Producer and Exporter.
The Importance of Rosario's Metropolitan Area
Bolsa de Comercio de Rosario. Stock Market Rosario
In 2003, Syngenta advertised its rural products on two of Argentina’s main newspapers. The ad said, “Soy knows no frontiers” and included a map of South America with a large area colored in green and with the title “United Republic of Soy.” The ad made reference to the areas of Argentina, Uruguay, Brazil, Paraguay and Bolivia that were now completely dedicated to the production of soybeans. This concept became very famous and was used as the company’s branding campaign.

Source www.grain.org
Soy Production in Argentina
In Argentina, the total surface of cultivated field increased from 23 million hectares to 32 million hectares between 1996 and 2007. Today 18 million hectares are used to produce soy.
Possible Grains

Enlarging the Offer

Corn

Sunflower

Soy

Flax

Green Bean

Rye
While soy is the main crop, there are in the Argentina other products that, in the case of a new territorial logic, could become stronger.
While the center of the country is occupied by an extensive monoculture, there are other areas in the country that focus on the production of fruits and vegetables. These areas are located in the metropolitan areas around Argentina's main cities. From there the “fresh” products travel around the country until finally arriving at the consumer's table.
Because of the lack of greenhouses, which could allow for yearlong vegetable production, these "green belts" areas alternate according to seasons. The cycle starts in the north of the country where is warmer in the winter and moves south in the summer in search for cool breezes.

<table>
<thead>
<tr>
<th>January</th>
<th>February</th>
<th>March</th>
<th>April</th>
<th>May</th>
<th>June</th>
<th>July</th>
<th>August</th>
<th>September</th>
<th>October</th>
<th>November</th>
<th>December</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mar del Plata</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
The thesis proposes to create smaller centers of production closer to the consumers. These centers will produce on greenhouses, extending the production to the twelve months of the year and avoiding the need to "import" from other regions. This change in the territorial logic will drastically reduce food miles and will give as a result fresher products.
90 INTA Recommended Greenhouse
Fruits and Vegetables
Greenhouse Production
Fruits and Vegetables

Greenhouse Production

Parsley
Artichoke
Letuce

Chard
Celery
Tarragon

Pea
Green Bean
Spinach

Onion
Sweet Corn
Coriander
Tomato 
Mint 
Arugula 
Melon 
Potato 
cabbage 
Pepper 
Beet 
Globe Zucchini 
Broccoli 
Brussels Sprouts 
Zucchini 

Data Source:
Buenas Prácticas Agrícolas para la Agricultura Familiar
Cadena de las principales hortalizas de hojas en Argentina
Editores: Jorge A. Ferratto, Marcos Rodríguez Fazzone
INTA
Diagram done by the Author.
Concentration Market. Rosario, Santa Fe
Fruits and Vegetables travel around the country before arriving at their final destination. On every step of their way, these products lose freshness while, at the same time, their prices get higher.
Cows
From the Breeding Field to the Slaughterhouse

Birth

Breeding Fields
Cows are usually separated from their mothers on their second day of life. Milking cows are expected to have one baby a year in order to keep producing milk. However, once the baby is born, the cow's milk is extracted for human consumption and the baby starts feeding on something else. When they are strong enough, baby cows are sent to the breeding field, where they will spend eighteen months of their life. In the breeding field the cow is fed on grass requiring one hectare of land per three cows, per year. After those initial months, cows are moved to the feedlot to be fattened. For the next six months cows will be fed on grain until the moment comes to be taken to the slaughterhouse. Each of these moments involve cows been moved in trucks. This stresses the animals and add miles to the final product.
Cattle Leader  Cattle Lifter  Head and Fett  Cutting  Rail Changing  Chest Open  Splitting  Examination

Cattle Pusher  Board Overturned  Box Unconscious with Shock  Killing and Hydraulic Skin Bleeding  Puller  Viscera Separation  Elevator  Wash-Trim- Weight - Storage
Pork Cuts

Beef Cuts
GRASPING THE HORIZON

The Traveler’s Point of View
L’univers de nos yeux repose
sur un plateau bordé d’horizon
La face tournée vers le ciel
Considérons l’espace inconcevable
jusqu’ici insaisi.
Reposer s’étendre dormir
- mourir
Le dos au sol...
Mais je me suis mis debout!
Puisque tu es droit
te voilà propre aux actes.
Droit sur le plateau terrestre
des choses saisissables tu
contractes avec la nature un
pacte de solidarité : c’est l’angle droit
Debout devant la mer vertical
te voilà sur tes jambes.

Le Corbusier
Le poème de l'angle droit
Le Corbusier

Fig. 11
La Pampa is simple and complex, flat and layered. In order to give the reader the sense of visiting the place and understanding its reality, I will describe it as from the point of view of a traveler, explaining the possible feelings and sensations that a person observing the area for the first time might come across. In this case, the imaginary traveler visits the Argentinean Pampas in the provinces of Santa Fe and Cordoba, where the design project will be located. As the last chapter preceding the proposal, this piece tries to describe the site from a personal and introverted point of view. The design will then respond to the factual understanding of the first chapters as well as to this more subjective description of the site’s physicality.
The pampean landscape can be perceived as an extremely flat, almost abstract surface from where it is possible to appreciate the materialization of immensity. The lack of topographical “accidents” offers the amazing opportunity to contemplate the horizon as a perfect straight line. The first time traveler may be invaded by a painful feeling of the sublime landscape, as if the environment’s lack of limits makes him uncomfortable because his mind cannot rationalize what his eyes see. However, after some time in the area, he gets used to the lack of boundaries and starts grasping the immensity. In the entire territory there are no surprises; even water is subtle, as if rivers do not want to disturb the governing abstraction.
Only by looking on an aerial view, the traveler can understand that the immensity of the place gets
controlled by a grid. The infinite surface suddenly becomes easy to measure, easy to work, easy to
quantify. Here, the perfect orthogonal grid is not strictly oriented North but follows the railway con-
necting the cities of Rosario and Cordoba. This superimposed grid pays no attention to the way water
moves around the territory, it does not even react to it whenever they collide.
For the traveler, the landscape looks as if it was born to produce, as if becoming a food factory was part of its very nature. The vast endless sea of grain production is the first thing the traveler sees when immersing himself in the Pampa and, it is also the image he will take with him once he is gone. Depending when the traveler visits the area, the productive carpet will have a different color and crop, ranging from green soy in the summer to golden wheat in the winter. Despite what he gets to see, the traveler cannot help but thinking how generous the land is this region. It is easy for him to forget the chemical additives hidden behind the green sea of soy; there is no need in reminding himself the artificiality of agricultural production. This landscape is as beautiful as it is unique.
For the traveler, the real understanding comes when he moves around. If he takes one of the routes that pierces the landscape from East to West, he enters what could be considered a town necklace where the routes are the string tying together a set of municipalities, each 20 kilometers apart. An eighteen-minute distance by car that, after going through a few towns, transforms itself into a physical rhythm that the body learns to expect. The distance is at the same time short and long, connecting and disconnecting, giving the traveler the needed space to forget and to wait.
Berabevu, Santa Fe

Leones, Córdoba
Moving perpendicular to the main routes, in a North South direction, it is common to find unpaved paths. These are usually less frequented and the visitor would be lucky if he found a person or two in his way. This is especially true during siesta hours in hot summer afternoons, when everyone is expected to be napping at home. These secondary connections take much longer than the paved ones; it is important to reduce the speed, avoid breaking cars and raising clouds of dust.
Berabevu, Santa Fe

Corral de Bustos, Córdoba
When approaching the towns, the first thing that the traveler sees is the gate announcing the arrival at a new municipality. These gates represent the towns' need to differentiate themselves from the rest; it is in a way recognizing that the overwhelming amount of shared characteristics among the different towns make the area hard to navigate; the traveler needs instructions. It is as if the new town was trying to say, "This is not a Déjà vu," "you are not in the last town again," "You are here and we are welcoming you." Apart from this, many of the gates offer a comment pointing out the differences between them and the rest; announcing themselves full of pride for what they can offer. The gates come in different shapes, materials and styles and, after seeing a few, the traveler eagerly expects the novelty of the next design; as if each gate could surpass the previous one.
introspection

Berabevu, Santa Fe
Once the traveler enters the towns, the landscape that accompanied him throughout the trip is left behind. Nothing in the interior of the towns talks about the surrounding reality. The town could now be located anywhere; there is no connection between the two worlds of living and production. This same urban structure repeats itself town after town, in an almost identical way; like coming from a cookie cutter for towns, the Spanish grid gets repeated in every one of them. The 100 by 100 meter block that solved the urban structure of every towns and city in Argentina, now proves to adapt to this “rural environment.” It proves once more to be flexible enough not to be altered by anything. Most of the buildings are one-storey-height basic constructions with small windows and unpretentious architectural designs. At this scale, once again, simplicity wins the battle.
One Grid
100 by 100 meters

Los Surgentes
Monte Buey
Escalante

Inriville
General Roca
Leones

Tortugas
Bell Ville
Isla Verde

Justiniano Pose
Chañar Ladeado
Cruz Alta

Armstrong
San Marcos Sud
Marcos Juarez
The traveler is right in thinking that these towns have more things in common than differences. They share the same history: they were all created over a railway line that connected the most productive area of the country with the closest port. These municipalities are also tightly connected to the history of the country since most of them became the place where many European immigrants established to become part of the South American Nation. This shared history is still present everywhere: in the names of the towns, in the sculptures portraying immigrants, in the Spanish and Italian last names, in the blood of their inhabitants.
binarism

Production

Living
After ten or twenty blocks, the visitor encounters the end of the grid. Here there are no more in-betweens, there is no space in the borders, no way to inhabit the duality of being in both sides at the same time. There is only a binary situation in which the visitor is either inside or outside the town; either in the “urban” or in the “rural”. Even the buildings in the perimeter are closed and introverted, like if the people living there were trying to negate what is happening outside. From the border out, the logistics behind grain production become present; warehouses, machinery and trucks make their way into a picture that keeps no correlation with what the traveler was living minutes ago.
Justiniano Pose, Cordoba
Corral de Bustos, Cordoba
The only place in which town, production and logistics meet is in the space left behind by the railway. This linear green space appears as a scar in the middle of the town, showing a past where the railway had an extremely active role. These strips always have the same elements: the train station, the railway lines and the silos.
Cruz Alta, Córdoba

Armstrong, Santa Fe
These silos are the icons of production; mostly located in the center of the towns, they were mostly used when the most of the grain was being transported by train. Now, most of these majestic structures are standing monuments representing a past that does not exist anymore. Both the logistics of grain and the towns have changed, making the location of the silos very inconvenient. These structures, capable of calling the attention of great European architects like Erich Mendelson and Le Corbusier because of the majestic size and simplicity are still present in the landscape as volumes under the light. These silos are the highest elements in the flat landscape, representing “the vertical” in a place where everything is horizontal. These silos are simple volumes materialized in metal or concrete which only functions are to stand and store.
The sun in la pampa is strong. The lack of trees gives as a result a homogeneous light from which is difficult to escape. On calm days, the dust stays still, suspended in the air, to later deposit itself over every available surface. However, on windy days, the traveler will not find a refuge from the “sudestada”; the wind blows strongly, happy to find a place to move at ease.
Understanding the succession of towns as small individualities may be challenging. However, the traveler might find it easier to consider the place as one big site, an agricultural metropolis with distinct neighborhoods interconnected by corridors. The idea that these towns could work together as a whole sounds compelling to him. Now the traveler leaves the place in peace; the anxiety of the first moments is not there anymore.
Cruz Alta, Cordoba, Argentina
In order to move from the analyses of the place to a design proposal, it is important to set the premises behind the decisions. Here there is a set of five verbs that guided the project into its architectural definition.
The main objective of the project is to connect the towns, making them work as a network. Although there are some weak connections in the North-South direction, the most prominent ones are in the East-West direction. The thesis proposes to connect the towns with a set of productive strips that balance the territory. Apart from this, it incorporates one specific product and one main activity per town and, allowing the area to become almost self-sufficient.
Embrace the Landscape

In the area, there seems to be no boundaries. The horizon is everywhere, surrounding every view. The project creates a set of six strips that transverses and embraces the territory, creating a sense of contention. At the same time, the thickness of these strips becomes a present element that orients the visitor through the vast flat plane.
Running Fence. Christo and Jeanne-Claude

Fig. 13
Create the In-betweens

The project creates places where different situations meet and coexist. Different activities and urban structures are overlapped creating new ways of inhabiting rurality. The project is all about creating these moments of encounter and the gradients that gently guide the visitor from one to the other.
Penetrable Azul. Jesús Soto, 1969

Fig. 14
La Pampa is material and real. However, its immensity and flatness transforms itself into an abstract landscape, like a flat gridded surface. The project proposes a way to be part of that abstraction by creating “urbanity” outside the towns. The strips become a unique space that enters the gridded void of the monoculture fields, allowing people to inhabit it.
Italy: The New Domestic Landscape. Super Studio

Fig. 15
Accompany the Horizon

The horizon is present everywhere on the site, so present that it can disappear. With its thickness, the project accompanies the horizon, highlighting it, in an ethereal way.
Parrish Art Museum. Herzog and de Meuron

Fig. 16
Fig. 17

Garden Cities of Tomorrow
Ebenezer Howard
Broadacre City
Frank Lloyd Wright
Central Place Theory
Walter Christaller
One Village, One Product
Japan

Fig. 20
The Thesis identifies the cities with the largest population and tries to balance the territory by increasing the population in other areas. As can be seen on this diagram, the largest cities are located on the North part of the site, over National Route N9. To balance this situation and to give every town access to a larger city in a 20 km radius, some main infrastructures are located in every other city to attract population and serve as centers for that small sector of the site.
The thesis analyzes the existence of the area’s industrial parks to use their infrastructure to process the food that requires a stronger set-up. It is in these towns that the slaughterhouse, flour and oil factories are located, leaving those activities that do not demand a high initial investment for the rest of the towns.
188 Territory as an Archipelago
Territory as a Network
The towns are strongly connected in the East-West direction. However, the North-South lacks the same connectivity. The thesis proposes to reinforce the North-South creating a set of productive strips that will allow the towns to work as a network.
The Territorial Timeline

The setting of the current territorial logic started with the creation of the railway lines that connected the western part of La Pampa in the Province of Cordoba with the ports on the east, in Rosario and Buenos Aires.

The existing nodes are the towns that were mostly created by the end of the 19th and the beginning of the 20th century. These towns' main purpose was to populate the area and to host the immigrant workers, mostly from Italy and Spain. These towns were created in connection with the railway lines, becoming the needed train stops.
The Thesis proposes a set of six productive strips that are perpendicular to the main connectors, creating a regular network of towns. This new connectivity gives as a result a richer region, bringing food closer to consumers and transforming the urban structure.

New Connectors

New Nodes

The thesis does not propose the creation of new towns but rather the reinforcement of the existing ones. However, there are certain activities that cannot be close to towns because of their smell. It is for these activities that the new nodes are created, away from any residential area. The new nodes host NIMBY (Not In My Back Yard) activities, far away from residential areas but still connected to the main nodes for the postproduction and consumption.
Uncombined Strips
Greenhouses

Grain Storage

Residential

Grain Production

Cows
Four Scales of Intervention

Region
logistics

Town
urban structure
Neighborhood
social life and experiences

Building
production and consumption
Food Network
The thesis proposes a set of strips that host the production of the food required to feed the area while, at the same time, connect the towns, enabling them to work as a network. When the strips approach the towns, they open possibilities to intervene their urban structure, creating new ways of inhabiting rurality. This new territorial logic changes not only the way food is produced but also the way in which these towns interact with each other. The project distributes the products in a way that they only travel 40 km from their origin to the consumer’s table. The products and activities are located following pre-existing elements in the area like industrial parks and water streams. After this first round, the rest follows the general logic of the network so they are evenly allocated in the towns.
"because the Aboriginals were wanderers they... could not imagine territory as a block of land hemmed in by frontiers: but rather an interlocking network of 'lines' or 'ways to go through'"
Production is a linear process and the strips work perfectly to accommodate the different moments of food production. From raw materials, directly extracted from the soil, to a finalized ready to eat product, food moves closer and closer to consumers. This productive linearity could also be transformed into a loop by composting, creating the connection between the last and first link of the chain.
Fruits and Vegetables
This strip combines residential neighborhoods with greenhouse and vegetable growth. Because these activities are easily put together, this strip becomes an "in between" neighborhood with spaces for recreation, public squares, pedestrian paths, greenhouse and houses. The idea of this strip is to create a place for people to live in contact with this specific type of productive nature while enabling the closest relationship between food production and consumption to happen.
This strip combines every step of the food chain involving cows. Currently meat and milk are separated in the territory, acting as two very independent activities. However, this is not necessary. These two activities could be easily combined sharing facilities and making the process more natural. Once a year, a calf is born to force milking cows to continue producing their regular daily doses. Of these calves, a minor percentage is kept in reserve for future replacement as milking cows while most of them are sent to a breeding field to later become meat. In this strip, the calf for milk and the calf for meat could grow up together and later be separated by the future use. Apart from this, other resources could be shared like the veterinarians and the bulls.

The meat industry involves many steps. This is why the strip is organized according to the life of the cows, from the first months in the breeding field to the final moment at the slaughterhouse. After they are born, cows spend eighteen months in the breeding field. After that period, they are sent to the feedlot where they are fed with grain for six months. From there they are taken to the meat market where they are sold, still alive, to the slaughterhouses and later transformed into meat. Currently these steps are distributed across the region, involving long trips that stress the animals and add miles to the food before reaching the consumer.

The cow’s strip proposes the combination of every step allowing cows to be walked from one place to the other. As a result, food miles are avoided and the logistics of the transportation simplified. Apart from this, the process becomes more evident for the public, helping reconstruct the relation between food production and consumption.
NIMBY (not in my back yard) Animals
This thesis calls NIMBY animals those animals that are desired for human consumption but that no-one wants closer by. These animals are mostly repelled because of their strong smell. In this group, the two most common ones are pigs and chickens. There are also other animals that, because of their size, they cannot be close to “urban” areas. This is the case of sheep, goat, rabbits and other farm animals that run the risk of being stolen or eaten by a dog.

This strip is designed to allocate NIMBY animals far away enough from towns so they do not affect them but close enough from slaughterhouse to avoid long trips. For this reason, NIMBY animals are locates close to the cow strips, to use the same slaughter house but in between two towns, creating a new node for production only.
Grain
This strip combines extensive agriculture of grain with its storage in silos and the industrial building to post-process them. The idea is that since new technologies for harvesting involve very little labor, the production of added value products could offer job opportunities while increasing the tax revenues for the town. As every other strip, this one also reduces food miles and makes the process physical and visible.
Education

Tourism

Industry
The project takes as a “pilot” site an area with 30 pre-existing towns. However, the pampean region is fully covered by the same typology of small municipalities with similar characteristics. The project could then be expanded to occupy larger areas of the country, creating an ever-growing network of 221 towns based on food production. The products should remain evenly distributed across the territory so the food always travels less than 40 kilometers from its origin to the consumer. This limit controls the expansion of the network, avoiding “sprawl” while creating multiple centralities.
Armstrong, Santa Fe

For Armstrong, the chosen strategy is the creation of a new center. This new center concentrates public activities, productive buildings and the streets connecting to other towns.

The pre-existing structure of Armstrong is divided in two parts. On one side is the residential area and on the other is the industrial park; between them, there is a gap where no activities take place. When the strip approaches the town, it lands between these two sectors, creating the new center that joins them together. This center is created in contact with the existing green strip that was left behind by the railway. In the intersection of the strip, with the North-South street and the railway, a triangle is formed. There the main building of the town is located. In the case of Armstrong, because of the existing industrial park and the addition of cows as the main product, the main building becomes a slaughterhouse. This slaughterhouse is the culmination of a set of steps in the life of cows. These steps are the breeding field, the milking yard, the feedlots and, finally, the slaughterhouse with butcher shops and restaurants closer to the residential areas. From the south, the animals walk into Armstrong through the strip making the pilgrimage visible for people in the town.

To the north, the gap between the residential area and the industrial park is filled with two typologies of housing: one multifamily typology with shared courtyards and one single-family typology with private gardens where people can also grow their own food.

To the south, between the productive strip and the residential area, a heavily forested park is created to bring green leisure places to the town. The trees provide the area with spaces of shadows, so needed in the current landscape.
Cruz Alta, Córdoba

For the Town of Cruz Alta, the selected strategy is the filter. The strip becomes the space in between the totally “urban” and the totally “rural” creating moments of subtle differences when moving perpendicular to the strip.

Cruz Alta has the special characteristic of being located close to the Carcarañá river and still being totally disconnected from it. The perfectly gridded town is not affected by the proximity to the richer ecosystem that the river offers, missing endless opportunities. The project reverts this situation. When the strip approaches Cruz Alta it accommodates itself parallel to the town. From there, to the interior, the project becomes a thick filter that creates an in-between space. This layer of the filter includes productive parcels dedicated to the production of fruits and vegetables, greenhouses, residential buildings, and public spaces. To the opposite side of the strip, until meeting the river, the strip becomes a public park, with sport amenities, green lawns and an amphitheater. On the other side of the river and until meeting an existing route, the place becomes a natural reserve, with tourist activities, sports, hotels and camping areas. This natural reserve could help bring back all the species that abandoned the area once it became the productive machine that it is today.

The strip, or filter, invades the interior of the town with productive branches that go from the strip to the main square in center of the town, creating a new connecting axis. This axis pretends to re-direct the public, orienting it to the strip and the park. This brings pedestrian life to the open public spaces.
Chañar Ladeado, Córdoba

In the town of Chañar Ladeado the strip disintegrates itself creating productive pockets inside the town. However, the main purpose of these pockets is not to produce but to make production visible and present, to make people feel pride behind the town’s main products.

Of all the towns in the area, Chañar Ladeado is the one with the most pristine grid. There is nothing in its surroundings that affect it. When the strip approaches the town, it accommodates itself parallel to the grid, creating a thick border between the residential area and the productive monoculture landscape. The addition of this area, allows for some of the less utilized blocks in town to be converted into productive pockets. Some of these pockets are the continuation of the strip. Others are immersed in the middle of the “urban” structure.

Some public spaces are created right in the border between the strip and the productive monoculture strip. These spaces are designed to allow people to appreciate the immense landscape that surrounds the town, to have the feeling of inhabiting the abstraction.
TYPOLOGY: Fresh(er) Market

The fresher market combines a greenhouse with an on-site market. The idea of this building is to eliminate the food miles by allowing consumers to buy their food directly from where it is produced. The experience involves entering the atmosphere of the greenhouse and feeling the smell and the mist of the place. The combined typology also enables the dialog between producers and consumers transforming a simple grocery shopping into an educational moment.

TYPOLOGY: Immigrant’s Hotel

The immigrant’s hotel reinterprets the famous typology that used to host the European immigrants on their first nights in Argentina at the beginning of the 20th century. Currently, a second wave of immigration is happening with people moving from neighboring countries, mostly Bolivia, to Argentina. Many of these people end up working on greenhouses where the salary is too low for the Argentinean population. When they first arrive to the country, they usually live under a very precarious situation. After a few years, those who continue in the activity, have the chance to go up in the so called “bolivian stair” and buy a plot of land, car and house. This building typology is created to host this new wave of immigrants during the first years in the country.
Life Journey,
From the Breeding Field to the Slaughterhouse
This typology becomes the last stop in the cow’s lives. After spending 18 months in the breeding field, they are fatten in the feedlot and finally killed in the slaughterhouse. The last hours of the animal’s life are always stressful, travelling under very extreme conditions and waiting for their final moment in poor environments. The thesis proposes for the animals to be walked on their own feet to the slaughterhouse, making this process as natural as possible. Once inside the slaughterhouse, all the animals are allocated by race in the different open air “containers” where they wait under the trees until they are “called.” The building contains two wings, the west wing hosts smaller animals like pigs, chickens and sheep, while the east wing is exclusively dedicated to cows. On the Northern sector of the building, meat enters in contact with the consumers: butcher shops and a restaurant create an urban façade that connects this industry with the town.
Last Stop, Slaughterhouse
TYPOLOGY: Factory + Hotel

This typology creates opportunities for a new type of tourist to visit the area. The whole site becomes interesting for a tourist that is cares about productive landscapes and food tasting. In this case, the building combines a beer factory with a small museum on beer production and a hotel. The place would be both for tourists and locals in need for higher end food and a different experience.

Apart from this, the buildings would be the highest points in the region and the view from the upper levels enables visitors to understand la pampa differently.
Ground Floor ±0 m

+4.5 m
Beer Factory, Museum and Hotel
Beer Factory, Museum and Hotel

+31.5 m

+34.5 m
+43.5 m

Beer Factory, Museum and Hotel
Beer Factory, Museum and Hotel
The project is about the region and the logistics of food production but it is also about how spaces are perceived; it is about a large rural landscape and new ways of inhabiting that rurality. The strips create spaces of contact, places between production and residential areas, between rural and urban. They change the way in which food production and consumption relate to each other, creating a space where both collide.
The boards for the final presentation pretended to show disconnected images that represented different moments of the strip. The pinup exhibited the project as images from a travelogue so the viewer could connect them mentally while imagining what was happening in between.
Final Presentation
CONCLUSIONS

Future Work
Conclusions and Future Work

This thesis transverses different scales in the search for the creation of a closer relationship between food production and consumption. At every scale, the project makes these two activities collide in different manners, always focusing on external objectives that define the way in which this collision is materialized. Even if the project’s main principles are set, there are still some questions that will help the further development of the design strategy. These questions could guide future design decisions in order to strengthen the synergies created by the project. After the thesis public presentation, an interesting conversation took place with the guest reviewers. While many of these questions are based on ideas that, because of time limits, I could not explore further, many others were generously suggested by the reviewers on that day. For the sake of organization, I have divided final thoughts and questions according to scale, from region to building, from largest to smallest.

In the territorial scale, while the main groups of products are set, more research could be done to understand how these products could benefit from each other. These are some important questions to take into consideration for the next steps of the project.

How can the design reinforce the synergy among products?
What facilities could be shared among different products?
What role do seasons play?
What products can work in the same space but on different times of the year?
What role is water playing in this productive network?
How can water be reused?
What kind of energy is the industry using?
Is it possible to create in the area sources of renewable energy?
How is waste treated?
How and where does compost take place?

At the town scale, even if the focus was set on the urban structure, it is important to also concentrate more on people and how these urban changes affect them. These towns will be transformed from very introverted structures, from were the productive landscape cannot be appreciated, to open entities that embrace the productive strips while being affected by them. These changes will create a sense of consciousness and pride for the town’s product. Apart from this, the strips will also transform the extremely regular grids by unbalancing them, creating new urban spaces and new ways to move around.

The towns develop further the spaces of the in-betweeness, focusing on the social life of the town’s inhabitants and the new way in which they inhabit rurality. People living in these towns will be constantly reminded of the role that particular node plays in the bigger network. On the way to their daily activities, they will come across the different products of the town. Food production becomes more tactile, more real.

The proposed buildings are meant to show moments inside these productive strips. They are the closest connection between food production and consumption and their richness lies on the synergy
between the two. They are also the new social spaces, where producers and consumers meet, talk and learn.

The project does not pretend to be a master plan for the region but a general strategy of how to set the new territorial logic. The project is a set of principles suggesting design interventions at different scales, leaving the doors opened for architectural and urban flexibility. The project was not meant to be built as one unique intervention but as a continual addition of productive and built layers, transforming the existing monoculture into a richer environment.
Bibliography


Chatwin, Bruce. “Songlines” 1987


Sarmiento, Domingo Faustino. “Facundo: Civilizacion y Barbarie.” 1845


“Soja: Las Medidas Que Estudia el Gobierno Para Terminar Con El 'efecto Silobolsa' - La Política Online.” Ac-


Figure Credit

Unless otherwise indicated, images, diagrams and drawings included in this thesis have been created by the author.

Fig. 01: Idaho, United States. Google Maps. www.map.google.com
(Accessed May 21st, 2015)

Fig. 02: Almeria, Spain. Google Maps. www.map.google.com
(Accessed May 21st, 2015)

Fig. 03: Pampean Region, Google Maps. www.map.google.com
(Accessed May 21st, 2015)

Fig. 04: Plan of the Colonies Amistad and Chañar Ladeado.
(Accessed May 21st, 2015)

Fig. 05: Central argentine Railway Advertisement.
todotrenesarg.com.ar
(Accessed May 21st, 2015)

Fig. 06: Patria Justa y Soberana.
ruinasdigitales.com
http://www.ruinasdigitales.com/blog/la-nacion-argentina-justa-libre-soberana/
(Accessed May 21st, 2015)

Fig. 07: Patria Justa y Soberana.
ruinasdigitales.com
http://www.ruinasdigitales.com/blog/la-nacion-argentina-justa-libre-soberana/
(Accessed May 21st, 2015)

Fig. 08: Camioneros en el Puerto de Rosario
rosarioplus.com
(Accessed May 21st, 2015)

Fig. 09: Silo Bags.
yo.com
http://www.yo.com/noticia/147982/comprobantes-electronicos-fabricantes-y-proveedores-silobolsa
(Accessed May 21st, 2015)

Fig. 10: United Republic of Soy.
www.grain.org
http://www.grain.org/es/article/entries/4739-la-republica-unida-de-la-soja-recargada
(Accessed May 21st, 2015)

Fig. 11: Le Corbusier. Poem of the Right Angle
solarhousehistory.com
(Accessed May 21st, 2015)

Fig. 13: Use of Intermediate Switching Stations
rand.org
http://www.rand.org/pubs/research_memoranda/RM3097/RM3097.chapter2.html
Fig. 14: Christo and Jeanne Claude. Running Fence
christojeanneclaude.net
http://www.christojeanneclaude.net/projects/running-fence#.VQMB3_lDWSo
(Accessed May 21st, 2015)

Fig. 15: Jesus Soto, Penetrable Azul. 1969, rebuilt in 1999
revista.escaner.cl
http://revista.escaner.cl/node/7068
(Accessed May 21st, 2015)

Fig. 16: Super Studio
flickr.com
https://www.flickr.com/photos/jennifergeometry/38446596/
(Accessed May 21st, 2015)

Fig. 17: Herzog & De Meuron. Parrish Museum.
architecturaldigest.com
http://www.architecturaldigest.com/architecture/2012-01/best-architectural-projects-slideshow_slideshow_item9_12
(Accessed May 21st, 2015)

Fig. 18: Ebenezer Howard. Garden City of Tomorrow
wikipedia.com
(Accessed May 21st, 2015)

Fig. 19: Frank Lloyd Wright. Broadacre City.
doyoucity.com
http://doyoucity.com/proyectos/entrada/678
(Accessed May 21st, 2015)

Fig. 20: Central Place Theory.
geowiki.com
http://geowiki.tistory.com/19
(Accessed May 21st, 2015)

Fig. 21: One Village, One Product.
slideshare.net
http://www.slideshare.net/budikawi/kb-ovop01
(Accessed May 21st, 2015)