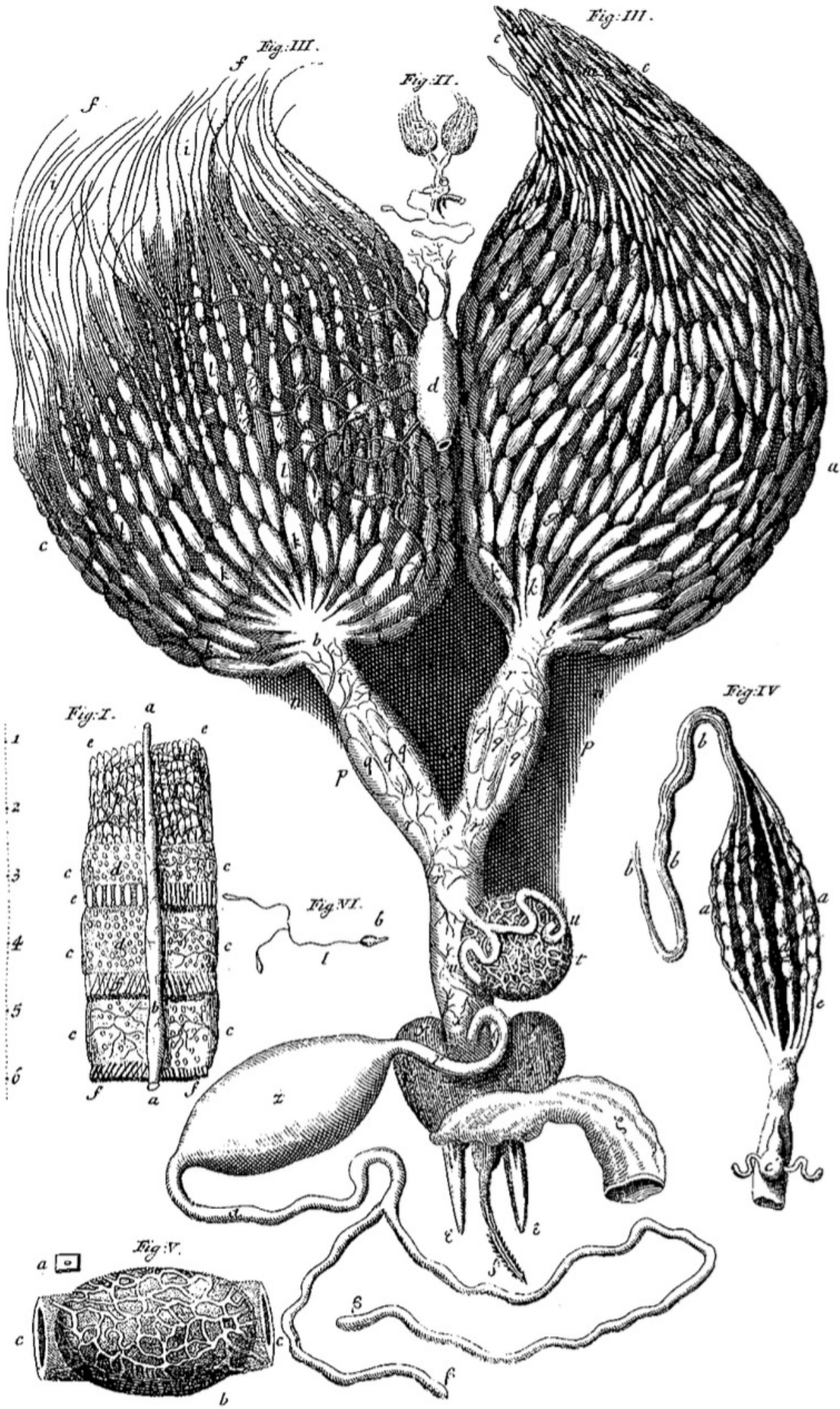


SUBTRACTING VACANCY

NINE STORIES FROM LA CHAUX-DE-FONDS



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Free Diploma Project
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FS 2022





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INTRODUCTION

"An invincible power menaces her tranquillity; she will soon be forced to quit this city of hers, where she has reigned. But this city is her work, it is she, herself."

Maeterlink
THE LIFE OF THE BEE

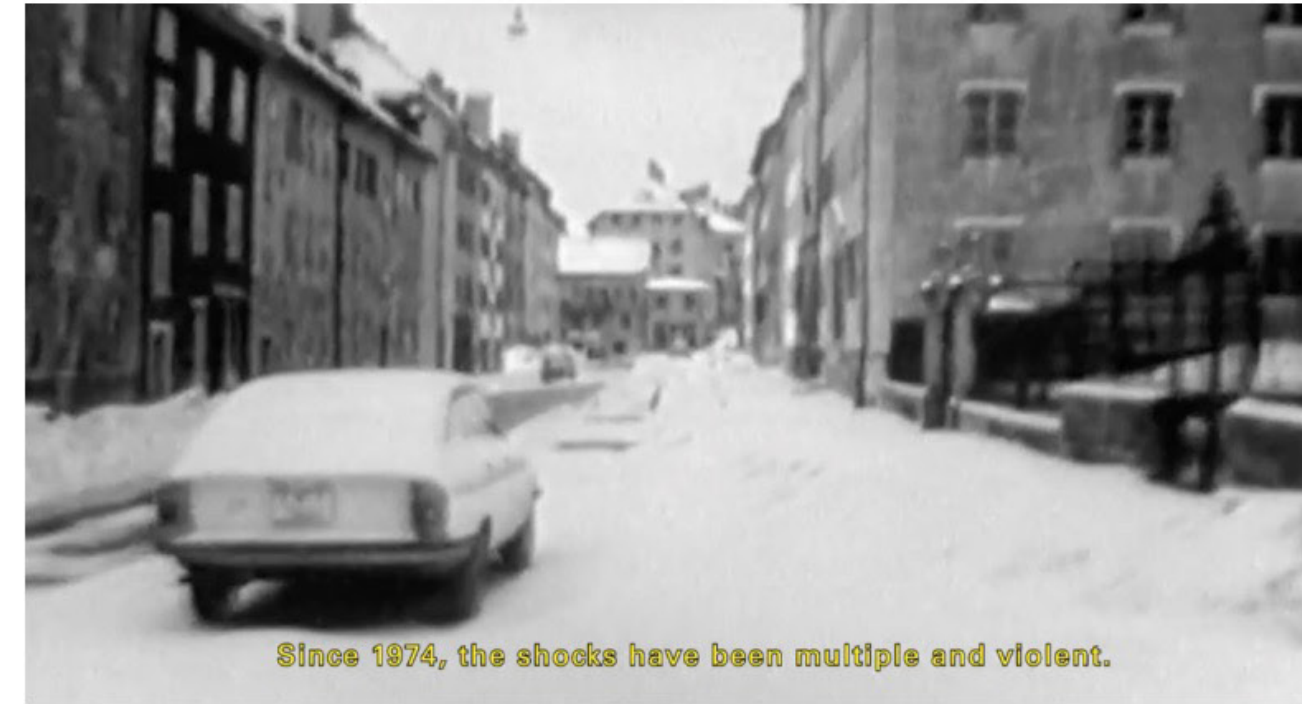


INTRODUCTION

La Chaux-de-Fonds was the biggest watchmaking metropolis in the world. Located at 1000m in the Jura mountains, it has been a UNESCO World Heritage Site since 2009 for its unique watchmaking urbanism. The whole city fabric was conceived by and for watchmaking, and it ranked amongst the biggest and wealthiest cities in Switzerland. But since the Quartz crisis of the 1970's, many people have left the city and watchmaking itself moved out of the center to bigger factories in order to compete with the world.

Today, la Chaux-de-Fonds suffers from one of the worst population decline in Switzerland. 16% of all apartments are left vacant and this percentage increases to 50% in the Damier zone, heart of the city. Because of its strict protection, no building within it can be demolished to make way for new attractive housing to be built and cost too much to renovate. There is currently an exodus to the periphery of the city, where change is allowed to happen, and condemns the center to become a museum of its own past.

VACANCY IN A PROTECTED CITY



Since 1974, the shocks have been multiple and violent.



A deep sleep has taken over some neighborhoods.



everyone has worryingly asked themselves how to stop the harm.

In 2016, a new law passed in Switzerland that would limit the number of secondary homes in every municipality to 20%. The idea behind this Lex Weber initiative was to limit the increasing construction of holiday chalets in mountain villages to preserve the scenery and promote the hotel industry. Although targeted at smaller villages, this law could potentially have an unexpected consequence for La Chaux-de-Fonds.

Currently at 36'699 inhabitants, the city has been losing its population since the quartz crisis of 1970, leaving many apartments empty. Unable to attract new residents, the overall percentage of vacancy is currently at 16%. The Lex Weber law, although beneficial for the smaller villages would have devastating consequences for a city whose vacancy is a result of depopulation: not only does it forbid the construction of new buildings, it also forbids any transformation, which essentially is a death sentence to an already struggling city.

art.1 - SUBJECT MATTER:

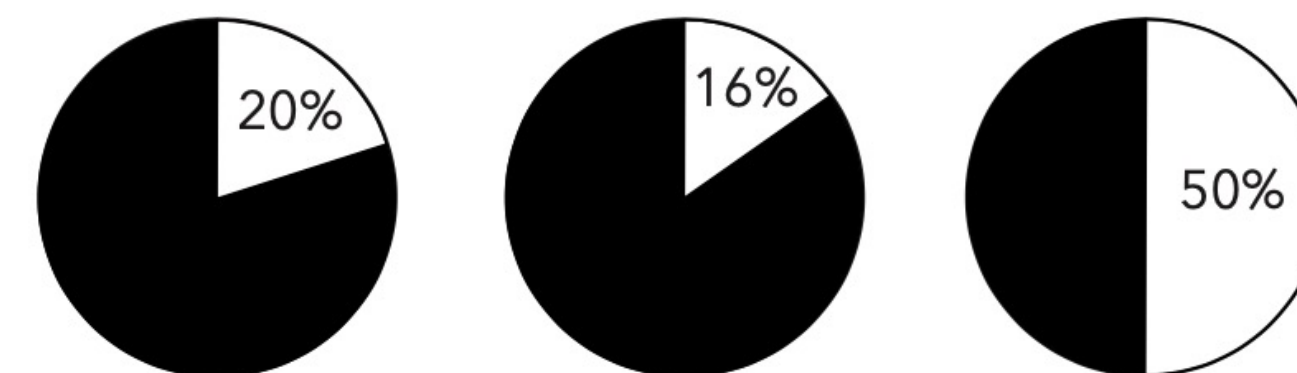
"This Act regulates the permissibility of building new homes together with changes to the structure and use of existing homes in communes with a proportion of second homes exceeding 20 per cent."

art.2 - DEFINITIONS:

3. The following homes are deemed equivalent to principal homes:

d. homes that have been unoccupied for no more than two years, are habitable, and are advertised for long-term rent or for sale (empty homes);

4. In this Act, «second home» means a home that is neither a principal home nor equivalent to a principal home.



Lex Weber

la Chaux-de-Fonds

Damier Zone

The facade photographs were taken on Sunday 27th of February 2022, in the center of la Chaux-de-Fonds, between 19h00 and 22h00, when the chance of residents being home was highest.

INTRODUCTION

CAPTURING VACANCY



INTRODUCTION



CAPTURING VACANCY



INTRODUCTION

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INTRODUCTION



CAPTURING VACANCY



INTRODUCTION



CAPTURING VACANCY



INTRODUCTION



CAPTURING VACANCY





CONTEXT

“What villages, these villages of La Chaux-de-Fond and Le Locle: what a spectacle for the friend of humanity! An infertile soil, wild, without culture, without fruit trees, without water, doomed by Nature to depopulation and indigence, making up for the fertility of the earth by industry, has populated the first of these communities with two thousand five hundred inhabitants, and has gathered three thousand in the second!”

Robert

VOYAGE DANS LES 13 CANTONS SUISSES



Logically, la Chaux-de-Fonds shouldn't exist.

At 1'000 meters above sea level, it's the highest city of Europe. It is part of the Jura Arc, which forms a large part of the Swiss-French border and comes with a specific terrain, climate and vegetation. Where one would expect to find nothing but chalets and farms, a large industrial city unfolds. Its radical grid and watchmaking urbanism make it an exceptional example of an ensemble adapted to social, industrial and technological needs of the time. More than a city, it was a great manufacture thought entirely by and for watchmaking; a large open-air factory lost in the mountains.

The city is in the canton of Neuchâtel, yet the two cities are separated by 15 kilometers and two mountains. Their interaction is limited due to their geographic positions. Neuchâtel benefits from its lake, views and proximity to surrounding cities, all of which aren't found in the mountains. The mountain region, on the other hand, offers fresh air, low summer temperatures, and snow in the winter. This snow covers the land for half of the year, and has played a major role in the becoming of la Chaux-de-Fonds.

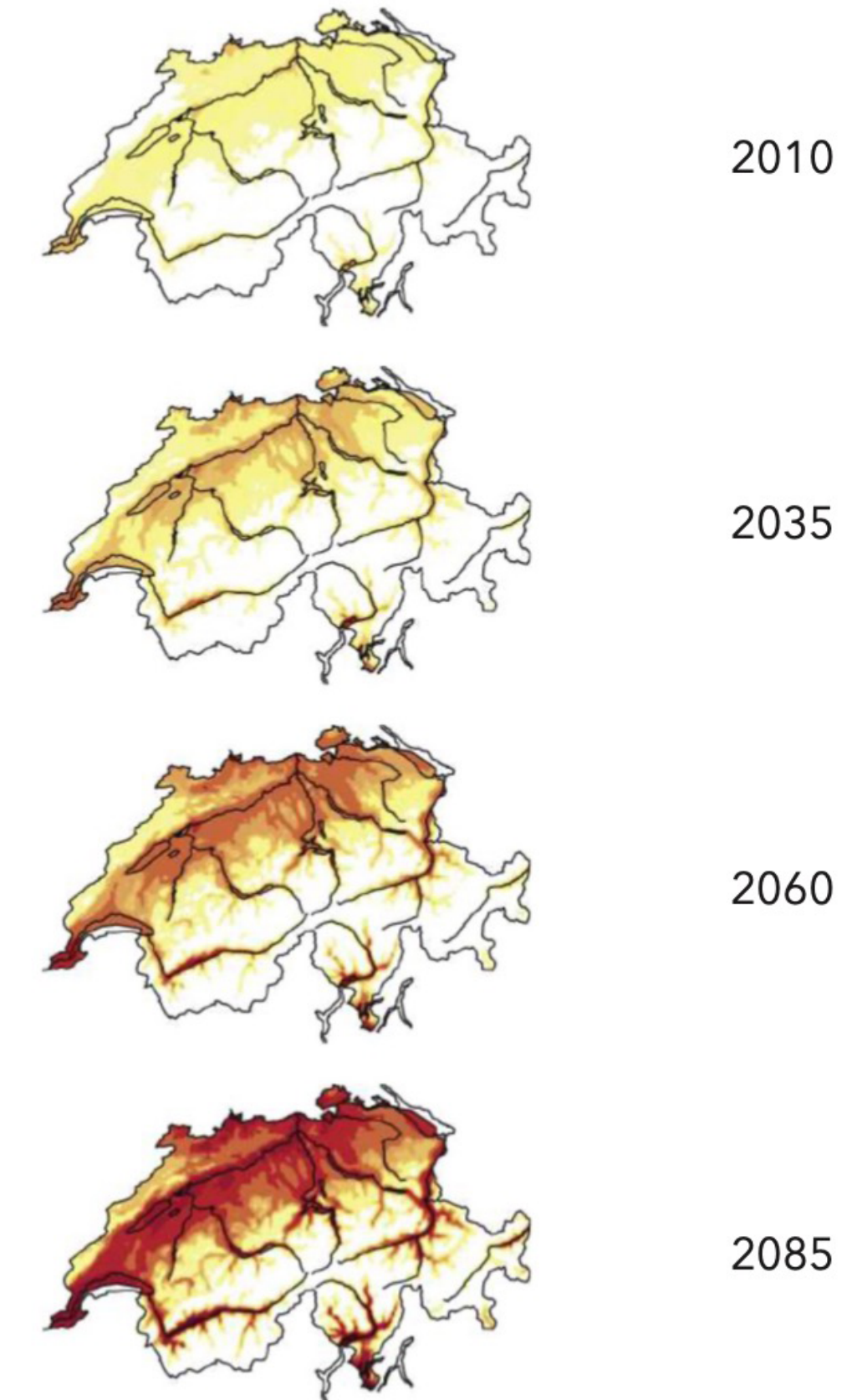


CONTEXT

The Jura mountains are relatively humid but benefit from a lot of sun, especially in the winter. During this period, a strong contrast emerges between the low-land areas and the mountains; Neuchâtel and its surroundings receive up to half the amount of sunlight as La Chaux-de-Fonds. However, during the summer, the trend is inverted and the clouds tend to be much more present in the mountains. This has an influence on the overall temperature which is cooler by 5°C in average during the summer.

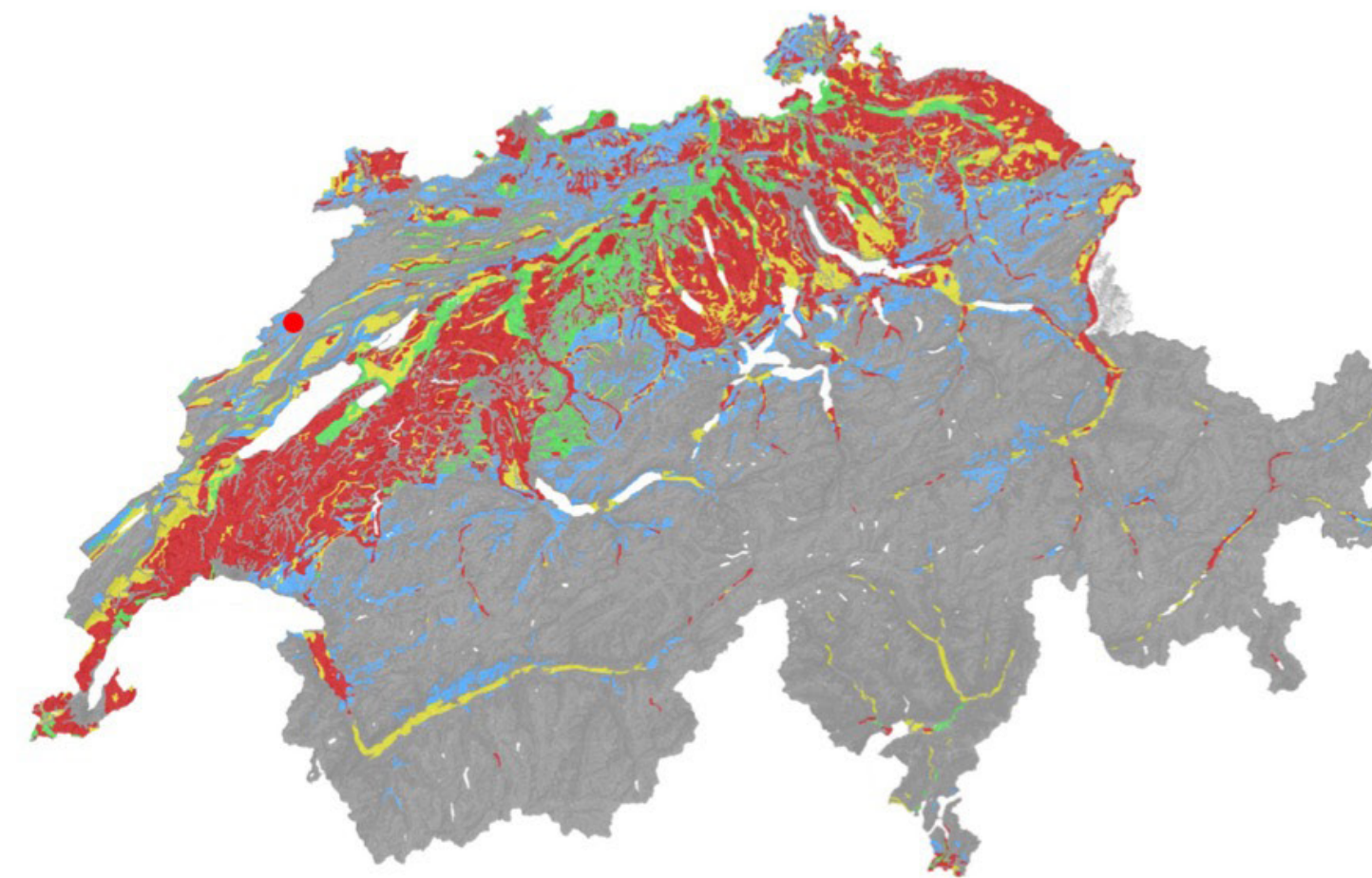
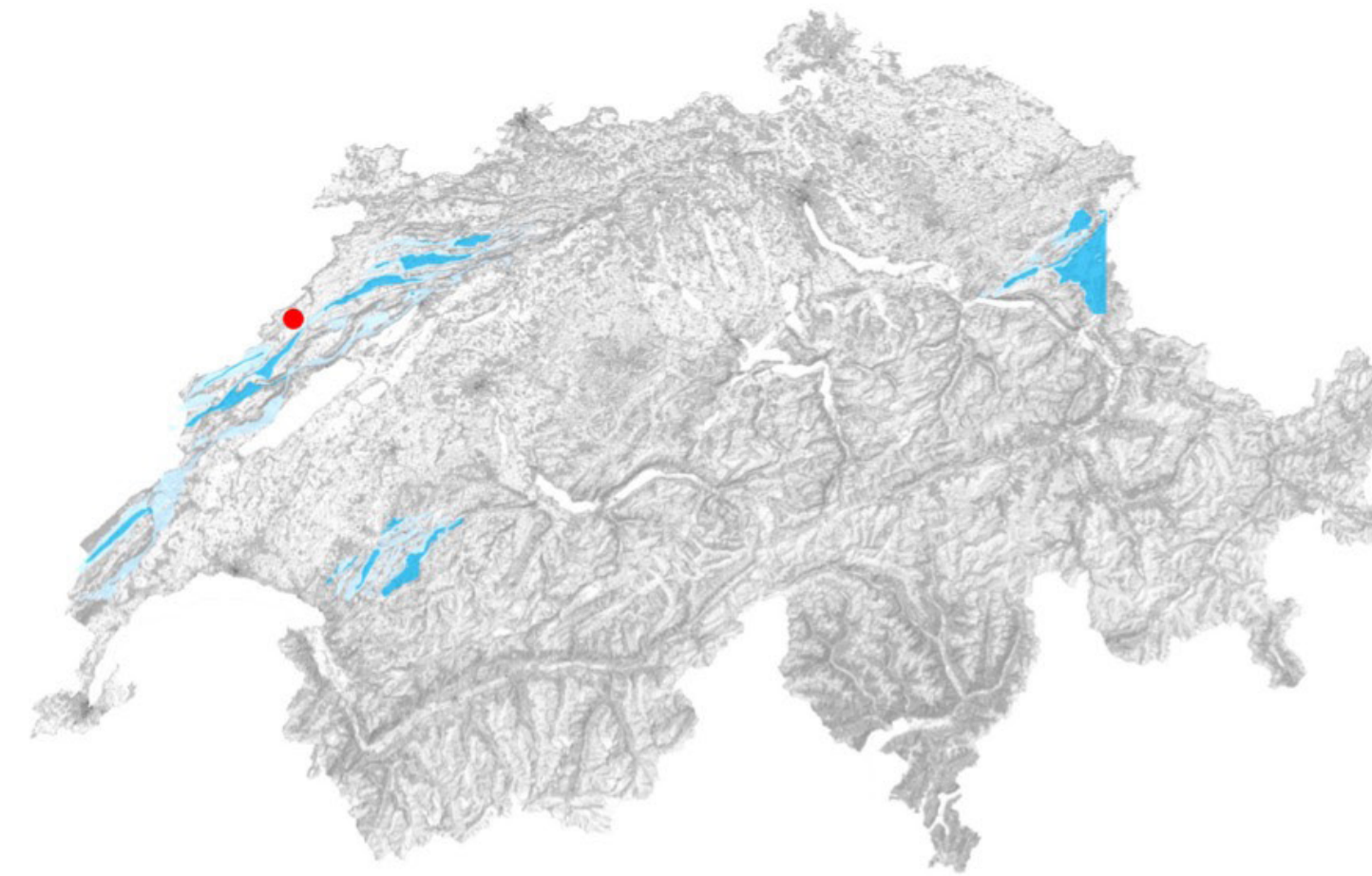
Although seen as an inconvenience currently, the micro-climate of the Jura mountains may become increasingly attractive in the years to come. When looking at the projected temperature increase caused by global warming in the coming decades, the contrast between the mountain regions and low-land areas is set to grow stronger. Rainfall is also set to increase almost everywhere in Switzerland in the years to come, causing more frequent flooding and land-slides. Interestingly, La Chaux-de-Fonds is the only place where both frequency and intensity of rainfall isn't projected to increase.

CLIMATE



The subsoil of the Jura mountains has karst within it, causing water to penetrate deeply and preventing the formation of ponds or small lakes. For this reason, and in addition to the snow which covers the fields for half of the year, the land is infertile and large-scale agriculture is impossible. The soil, composed mainly of clay, takes a long time to heat and snow sometimes remains there until May.

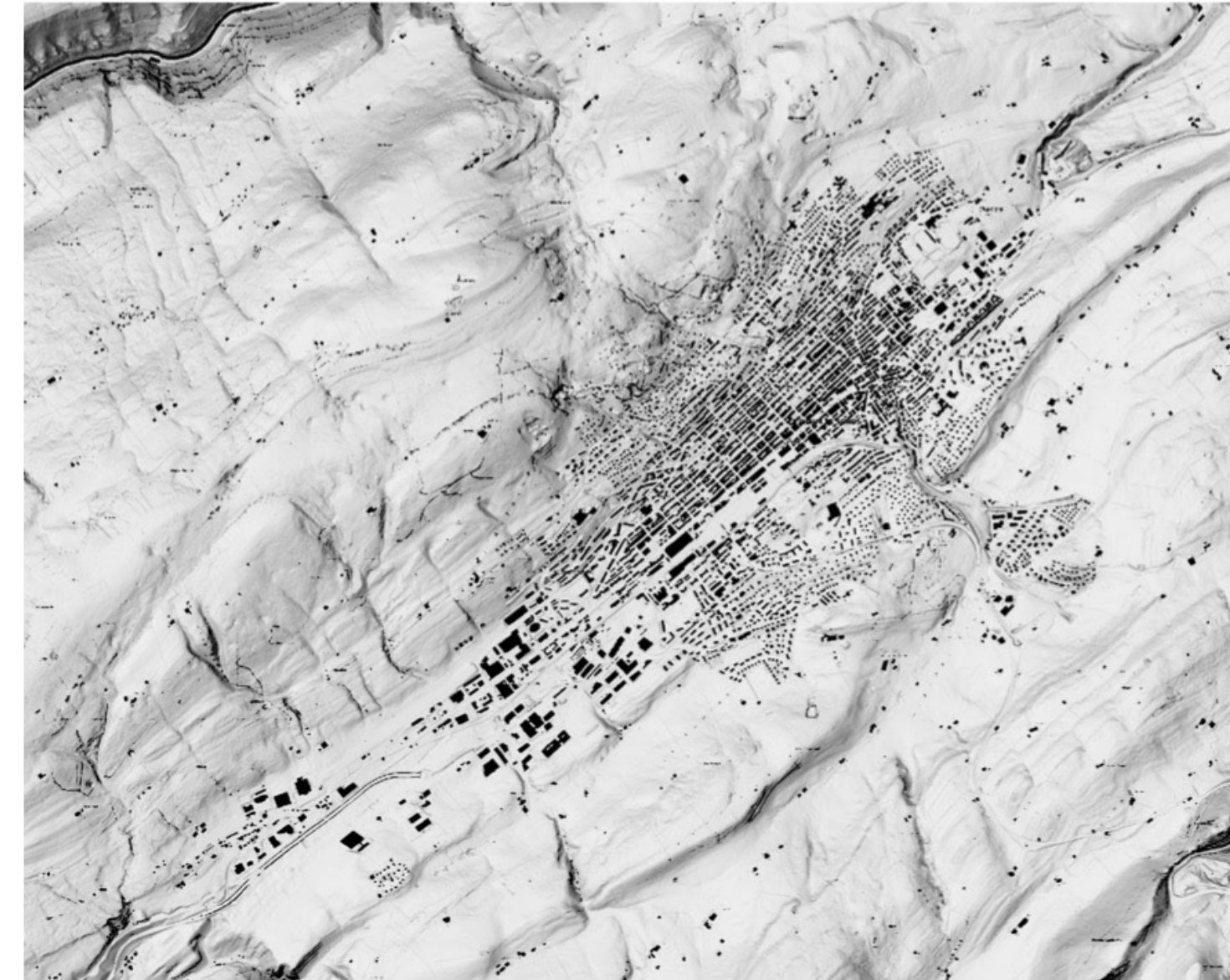
For these reasons, the few peasants who lived in the region had to find a secondary occupation. As a remedy to boredom, and since they could not sell their produce and therefore not have much money, the peasants would spend their winters crafting all their belongings. And because they didn't work in the fields for half a year, their hands weren't as rough as typical peasants, giving them greater dexterity. It isn't hard to imagine why watchmaking, when introduced at the end of the 17th century, became very popular in the region.



geo.admin.ch, AREAS WITH KARST (top), AGRICULTURE POTENTIAL (bottom)

After a fire destroyed most of La Chaux-de-Fonds in 1794, a grid plan was adopted in order to build efficiently and respond to the social and hygienic concerns of the time. Unlike the American grid, it follows the topography and embraces it instead of trying to be dominant. It doesn't follow the classic North-South axis, but rather is tilted in order to follow the valley and the sun. The grid, combined with the valley situation, allows for air to flow and maximal sun exposure. In the past, the watchmaking ateliers were scattered throughout the city and required as much light as possible. In addition, each watch part was manufactured separately and the grid facilitated their transportation, especially in winter, where it was necessary to clear the snow in the streets.

The grid became a watchmaking tool in itself; built by and for watchmaking. However in the second part of the 19th century, with the change of production methods, the watchmaking manufactures were pushed out of the city and the grid as a tool became somewhat obsolete. This phenomena was a consequence of the site's morphology combined with the rigidity of the grid; bigger factories could only be built outside of the city.

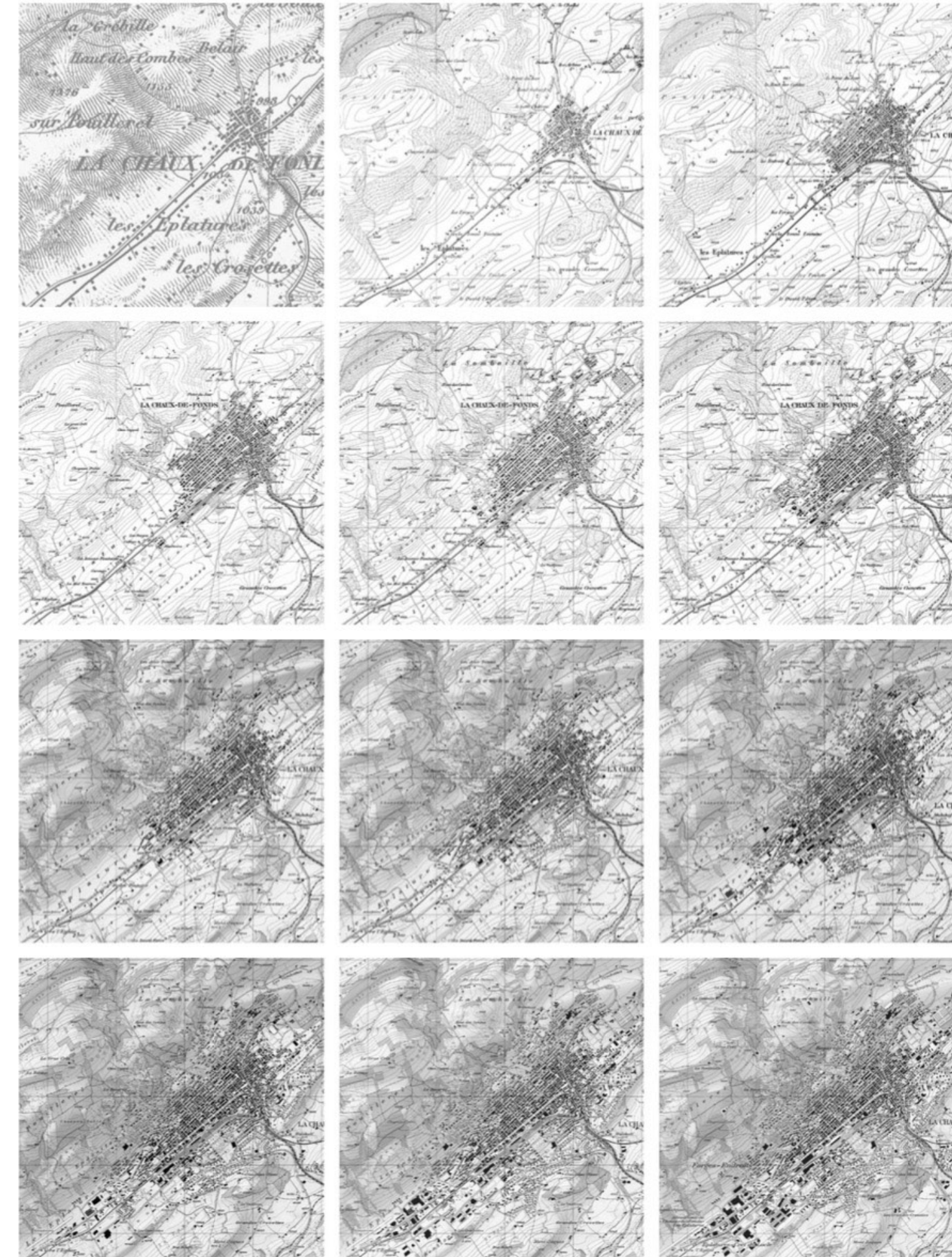


CONTEXT

As a mono-industrial city, la Chaux-de-Fonds quickly grew in response to the increasing demand and high reputation of its watches on an international scale. In 1880, more than half of the Chaux-de-Fonniers were engaged in watch production, and every apartment was equipped with at least one atelier. With the industrial revolution and the pressure to produce more and with higher quality, the individual watchmaking ateliers morphed into bigger manufactures. At first they were small annexes attached to the company owner's house, but soon became detached and isolated factories.

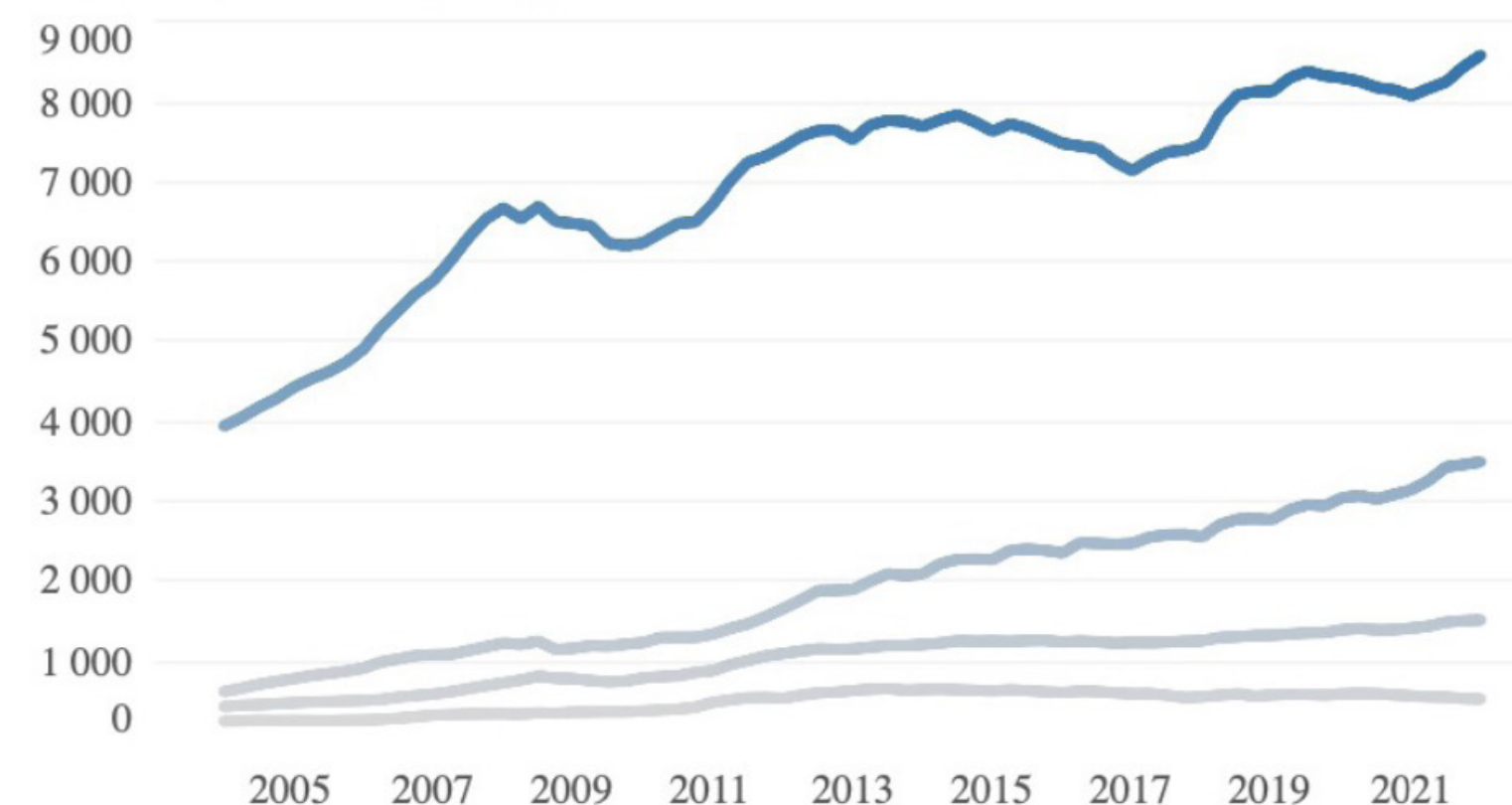
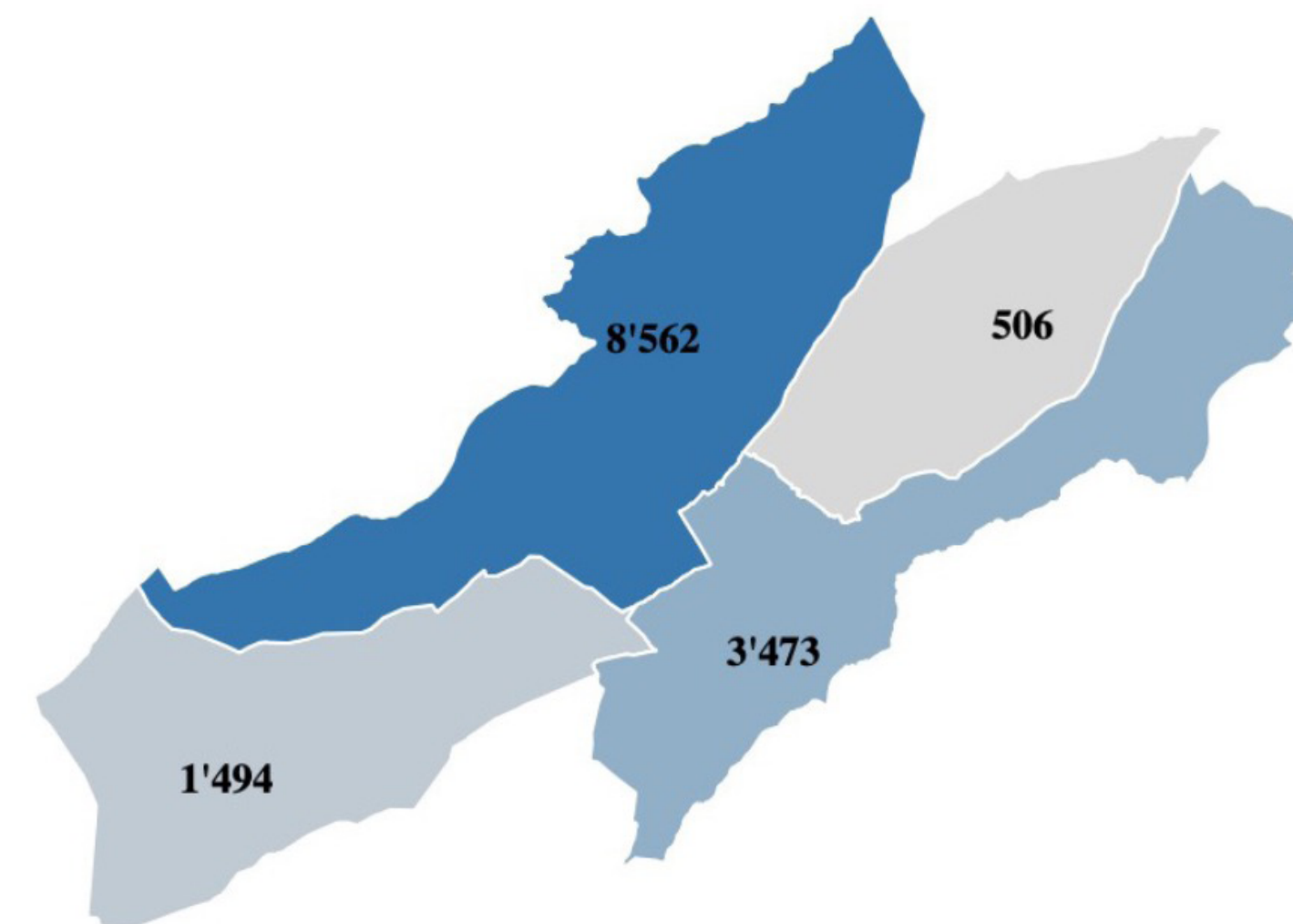
The beginning of the 20th century marked the biggest population increase, with the World Wars bringing many more people to the city. Alongside the uninterrupted production of watches, la Chaux-de-Fonds also produced ammunition, and many people came to work there, creating a housing crisis. The response of the city was to build affordable housing units, allowing its population to grow to 42'000 by the second half of the century.

GROWTH



Being next to the French border, la Chaux-de-Fonds has always had a close relationship with France: at the end of the 17th century, they welcomed Huguenots refugees who were persecuted for their beliefs; when the fire of 1794 destroyed the city, France helped reconstruct the city by granting them access to their sawmills; throughout the 19th and 20th centuries, the watchmaking industries would attract workers; and today, many of them commute between the two cities. In fact, half of the working population of the neighboring communes of Morteau and Villers-le-Lac work in la Chaux-de-Fonds and le Locle.

Essential to the economic development of the city, the border situation also comes with its downsides. As the French workers don't pay their taxes in la Chaux-de-Fonds, it raises them for the people living there. In addition, the temptation to buy goods in France makes it harder for commerces to survive within the city. There's also a big impact on the main artery of la Chaux-de-Fonds, Avenue Léopold-Robert, which is traversed by an average of 15'000 cars daily.



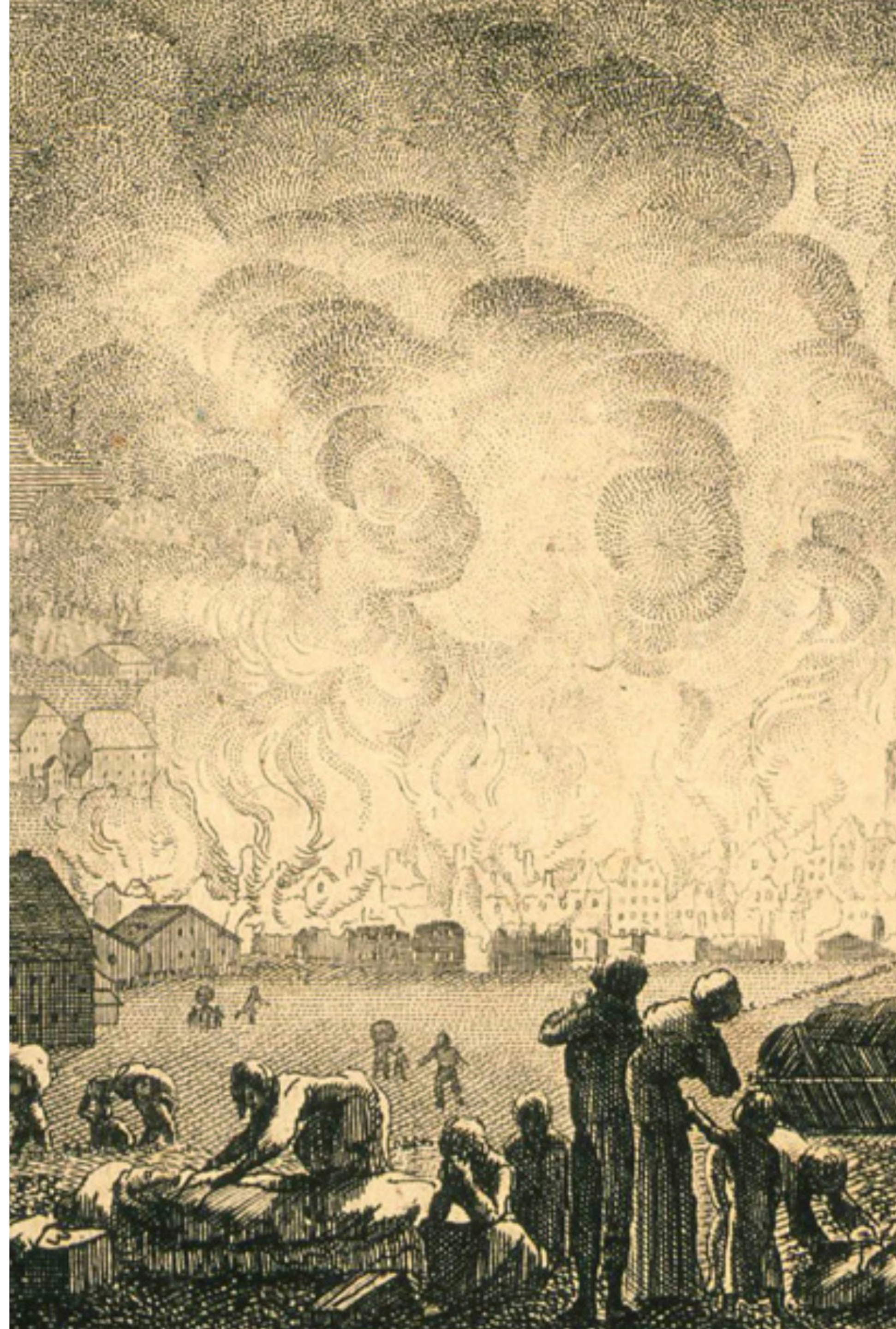
CURRENT PROBLEMATICS

"It's official, there's nothing to do in La Chaux-de-Fonds anymore, the city is finished... so sad."

"Stores are closing one after the other... Look at the Pod, it's scary to see. The city should make sure that people find something attractive here."

"Soon a ghost town, what sadness."

Chaux-de-Fonniers
SERIES OF INTERVIEWS

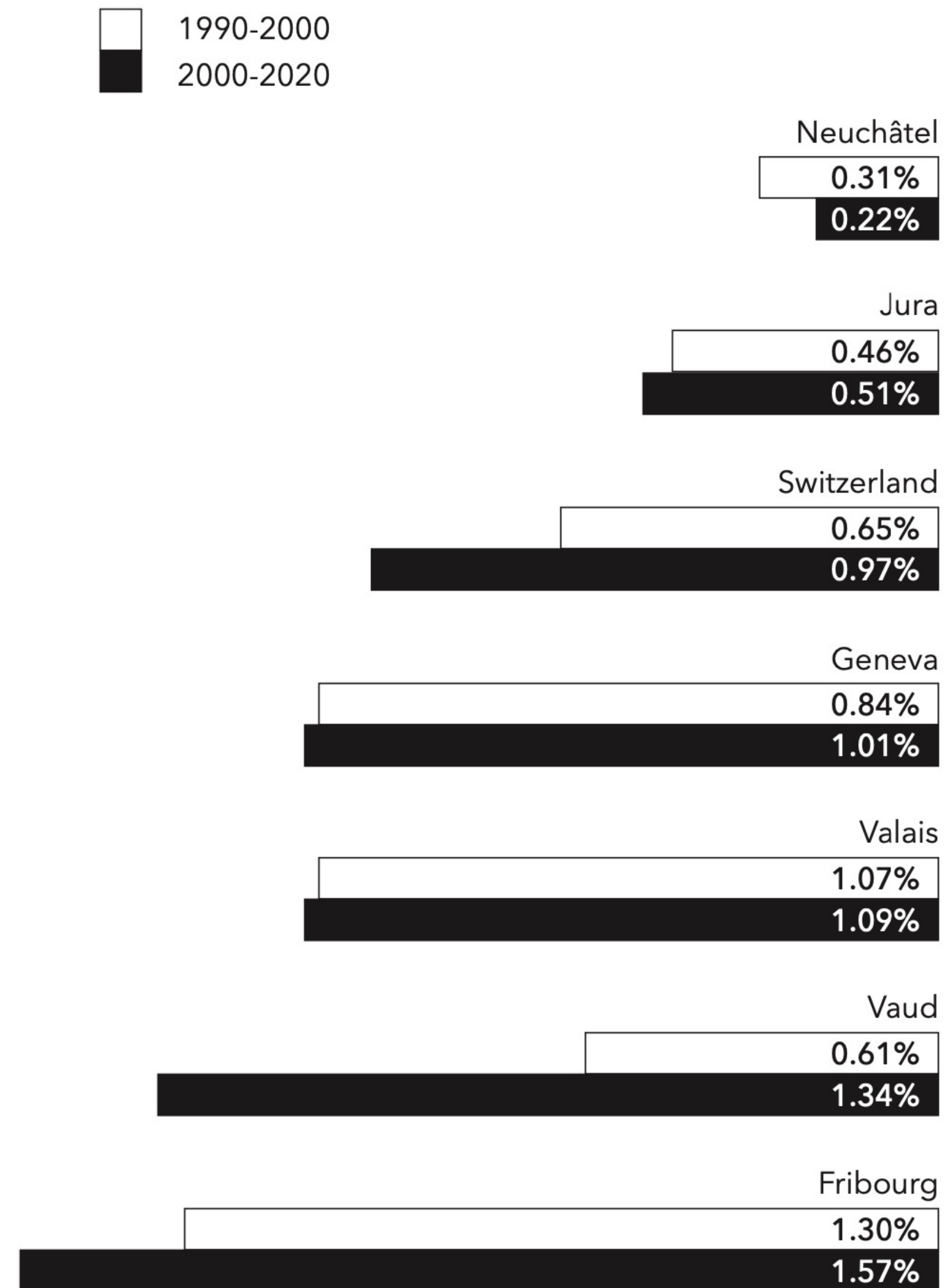


CURRENT PROBLEMATICS

The current depopulation of la Chaux-de-Fonds comes from many factors. Some leave the city because of its remoteness, some because of its monotone streets and lack of water, others because of its high tax rates. Whatever the reasons, there are many sub-problematics which all contribute to the city's current demographic situation.

Over the past decades, the depopulation of la Chaux-de-Fonds and its sister city Le Locle have contributed to the overall population decrease in the canton of Neuchâtel. It has become the only canton in the french-speaking part of Switzerland to shrink since 1990.

SHRINKING CANTON

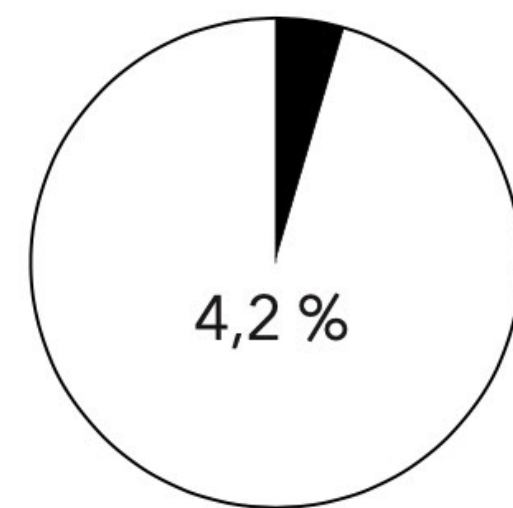


POPULATION VARIATION PERCENTAGE OF FRENCH-SPEAKING CANTONS

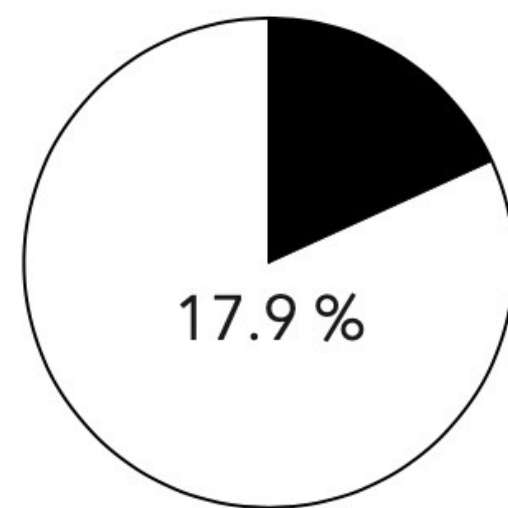
CURRENT PROBLEMATICS

The published vacancy rate for the la Chaux-de-Fonds is currently 4,2%, which already places it high above the Swiss average of 1,66%. Officially there are 915 vacant apartments, for 21'776 total. But those statistics only take into account vacant apartments which are ready to be occupied. It leaves out a considerable number of apartments which need first to be renovated to be rented out.

In reality, there are 3'898 vacant apartments in total in la Chaux-de-Fonds, or 17.9%. Despite this incredibly high rate, the city continues to build new housing on the periphery which encourages people living in the center to move out. Over half of the apartments in the center are estimated to be vacant.



Published Vacancy



Actual Vacancy

La Chaux-de-Fonds



Neuchâtel



Oerlikon



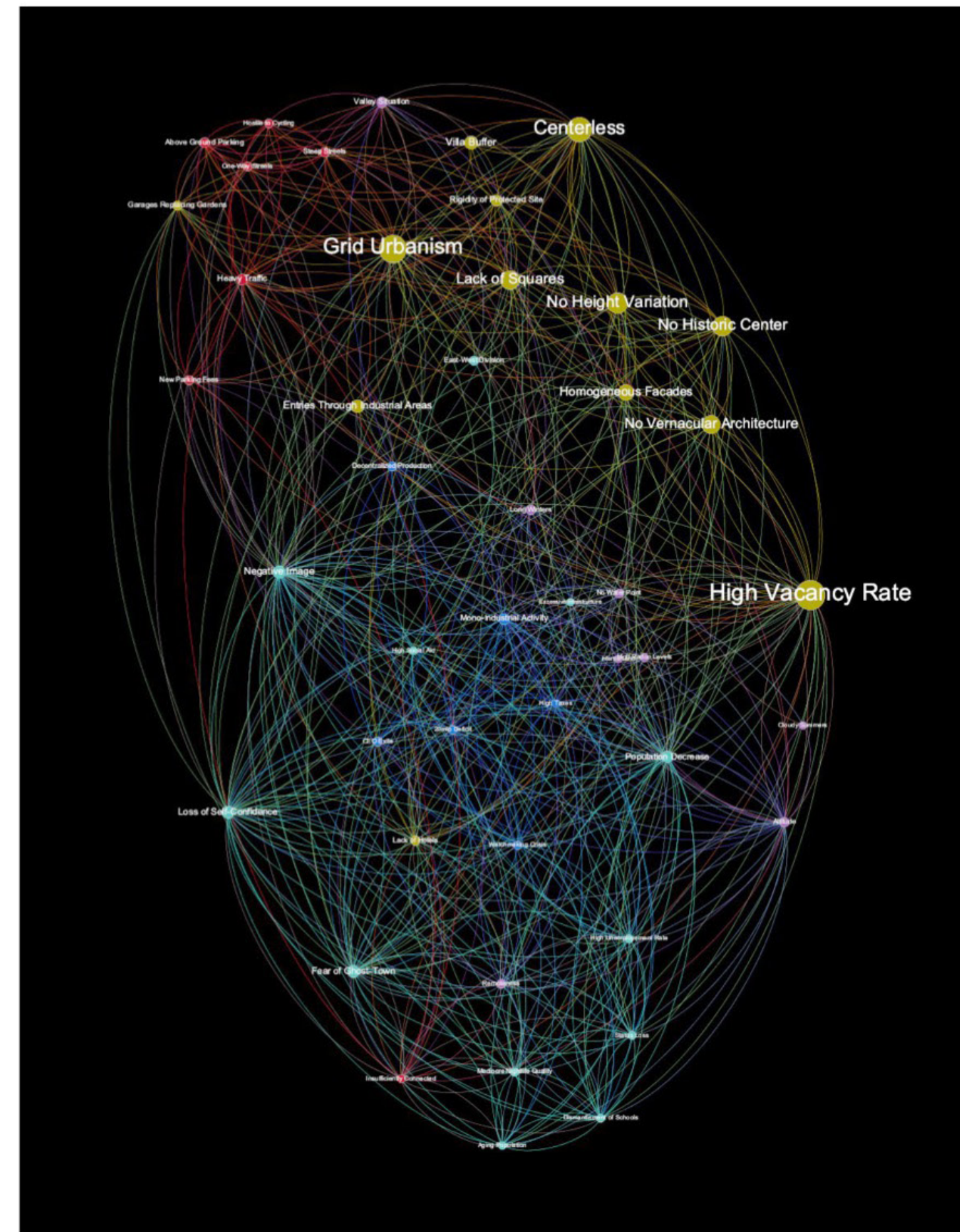
CURRENT PROBLEMATIC

In order to better understand the roles every problematic plays in la Chaux-de-Fonds, it is necessary to identify them. Groups start to appear, and each problematic can be classified into one of the following categories:

- Situation
- Economy
- Architecture
- Mobility
- Social

Every problematic also has a relation with the next, and through their analysis, a complex network of problematics is created. Through looking at these problematics as an actor network, and by drawing every relation that one has with another, a hierarchy emerges.

NETWORK OF PROBLEMATIC



CURRENT PROBLEMATIC

La Chaux-de-Fonds is a city full of contradictions, yet it is coherent as a whole. Its geographic location and specificities were hostile to settlers, yet one of the most important watchmaking town in history was built there. A fire destroyed everything, yet a spectacular growth came from it. When considering the different problematics that the city faces today, having a similar approach as la Chaux-de-Fonds has had throughout history may help finding new solutions. Rather than trying to find a direct solution to every problematic, because they are so specific, one might benefit from looking at their potentials.

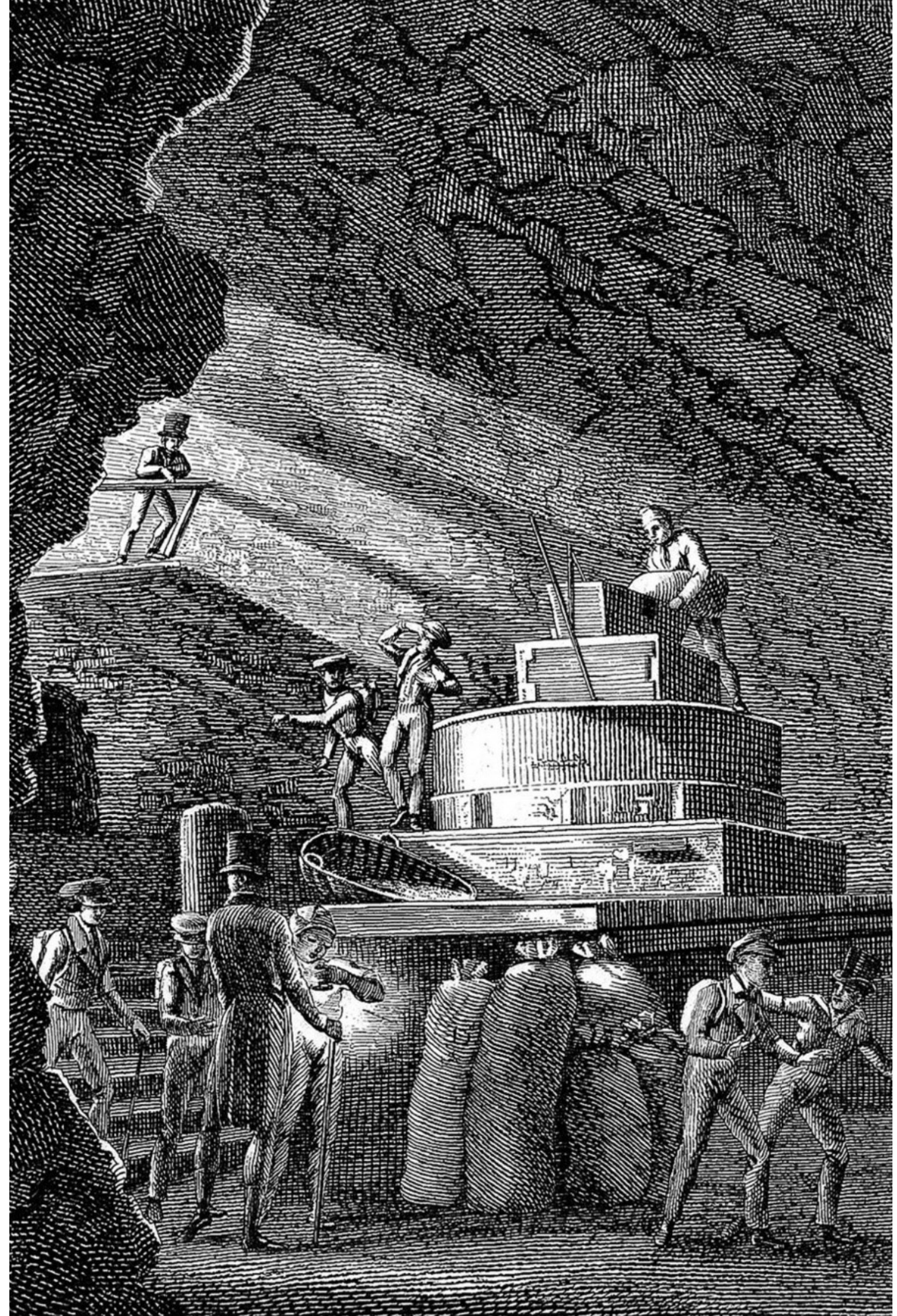
POTENTIALS OF PROBLEMATIC

Population Decrease	New Arrivals
High Vacancy Rate	Low Rents
Mono-Industrial Activity	Strong Identity
Watchmaking Crisis	Open to Ideas
High Taxes	Sense of Community
Remoteness	Independence
Long Winters	Otherworldliness
Heavy Traffic	Regular Visitors
Grid Urbanism	Proximity
Valley Situation	Sun Exposure
Steep Streets	One Way Effort
Hostile to Cycling	Public Transport Use
Infertile Land	Horizontal Growth
No Height Variation	Undisturbed Views
Homogeneous Facades	Unified Character
Lack of Squares	Adaptability
Centerless	Spread Usage
No Water Point	Discovery of the Doubs
Entries Through Industrial Areas	Instant Character Setting
One-Way Streets	Pedestrian Friendly
Above Ground Parking	Extra Space
Excessive Infrastructure	Room for Growth
No Vernacular Architecture	Modern Living Conditions
No Historic Center	Accessibility
Villa Buffer	Even Development
High Social Aid	Inclusiveness
Garages Replacing Gardens	Pavilions
20mio Deficit	Alternative Thinking
Negative Image	Niche
Insufficiently Connected	Local Consumption
Aging Population	Lower Carbon Footprint
Decentralized Production	Conservation of City
Rigidity of Protected Site	Absence of Aberrations
High Unemployment Rate	Demand for New Businesses
CEO Exile	International Airport
Cloudy Summers	Lower Temperature
High Radon Levels	High Sanitary Standard
Status Loss	Less Pressure
Fear of Ghost-Town	Open for Change
Altitude	Sun in Winter
Loss of Self-Confidence	Higher Appreciation
East-West Division	Variety
Lack of Hotels	Effort in Quality
Dismantlement of Schools	Different Experiences
Mediocre Nightlife Quality	Quiet Town
New Parking Fees	Discourages Car Use

NEW LINKS

"They produce only by working together in a specified manner and reciprocally exchanging their activities. In order to produce, they enter into definite connections and relations to one another, and only within these social connections and relations does their influence upon nature operate i.e., does production take place."

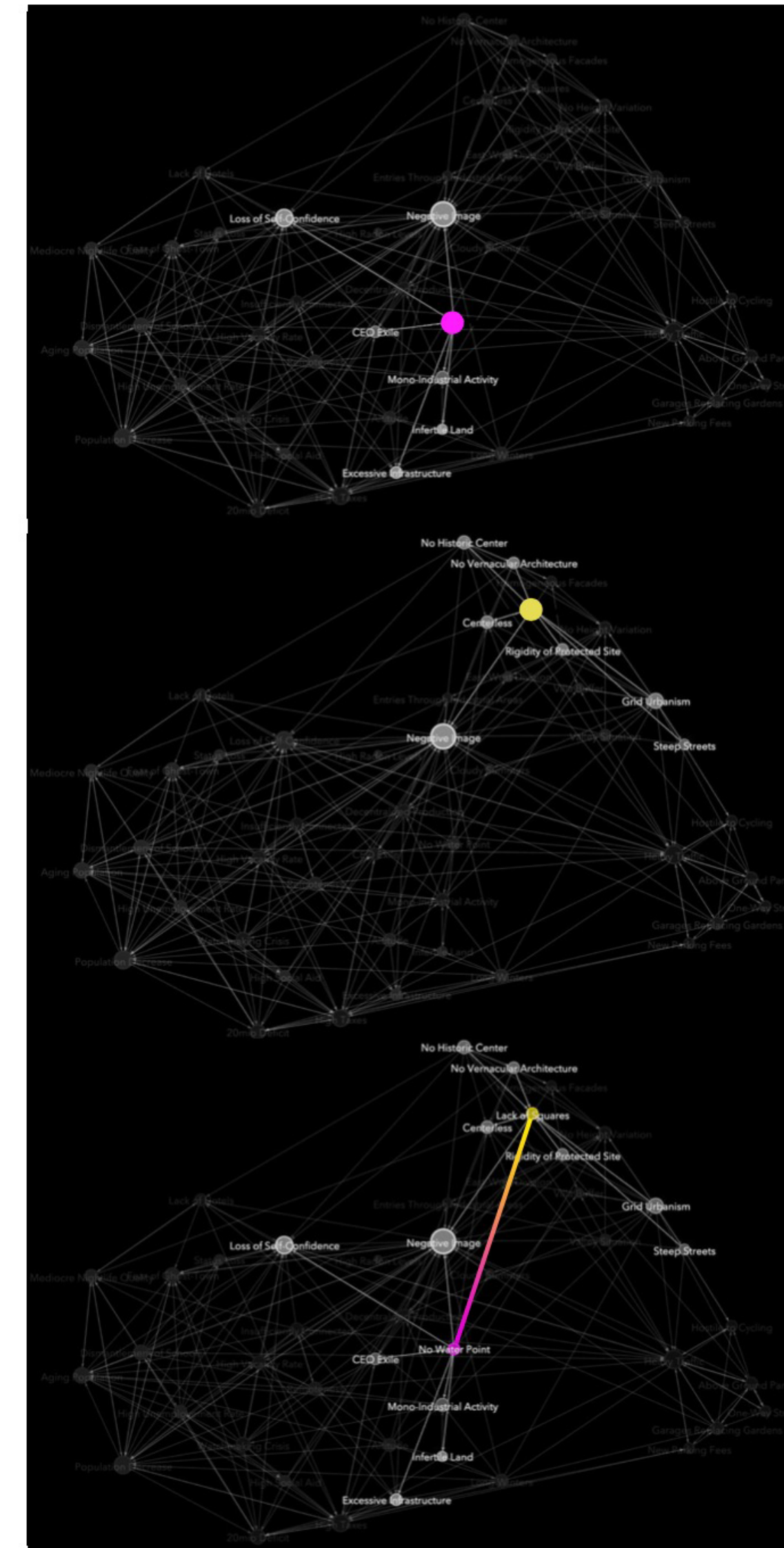
Marx
COLLECTED WORKS



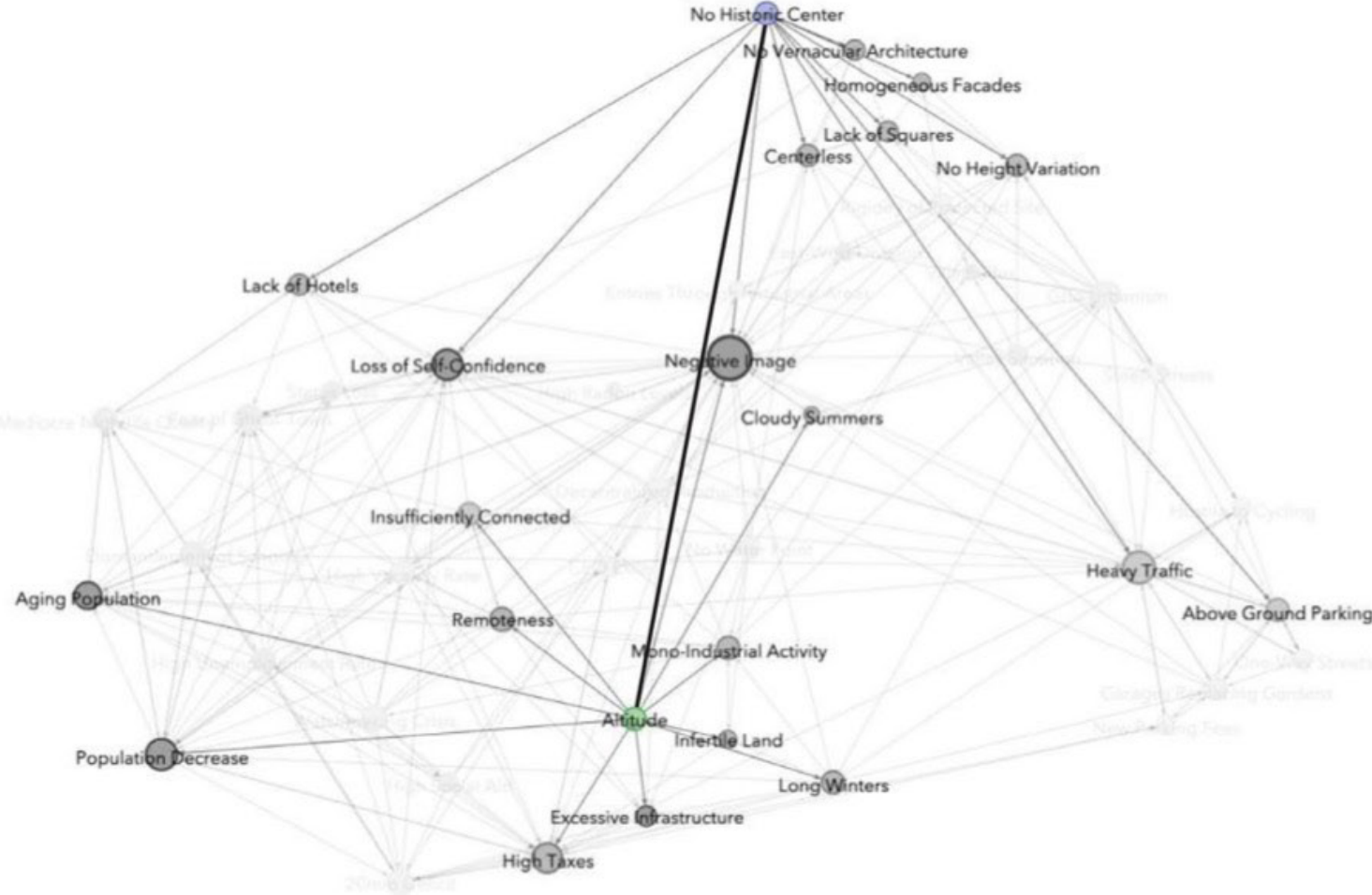
NEW LINKS

Because of the relationship between rationality and irrationality present throughout la Chaux-de-Fonds, addressing its various and specific problematics may require new connexions to be created between them. By doing so, the trap of falling into the generic city as a solution to the specific problems of la Chaux-de-Fonds can be avoided, preserving its heritage. The following pages contain a collection of spontaneous visual collages merging two problematics that don't have a direct causality between them. This experiment connects two unrelated issues and creates new solutions that are specific to the city.

PLAYING WITH PROBLEMATICS



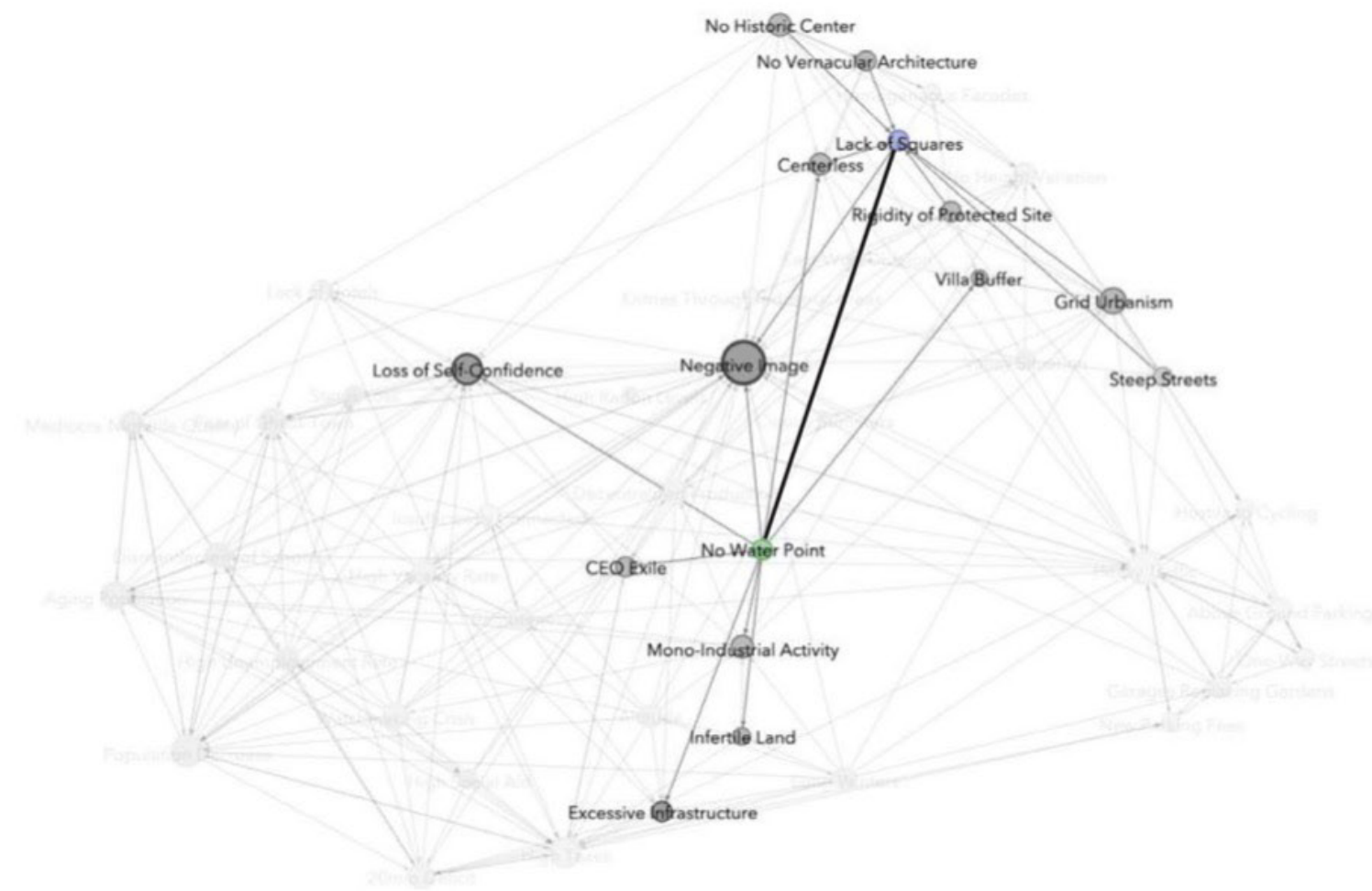
No Historic Center



Altitude

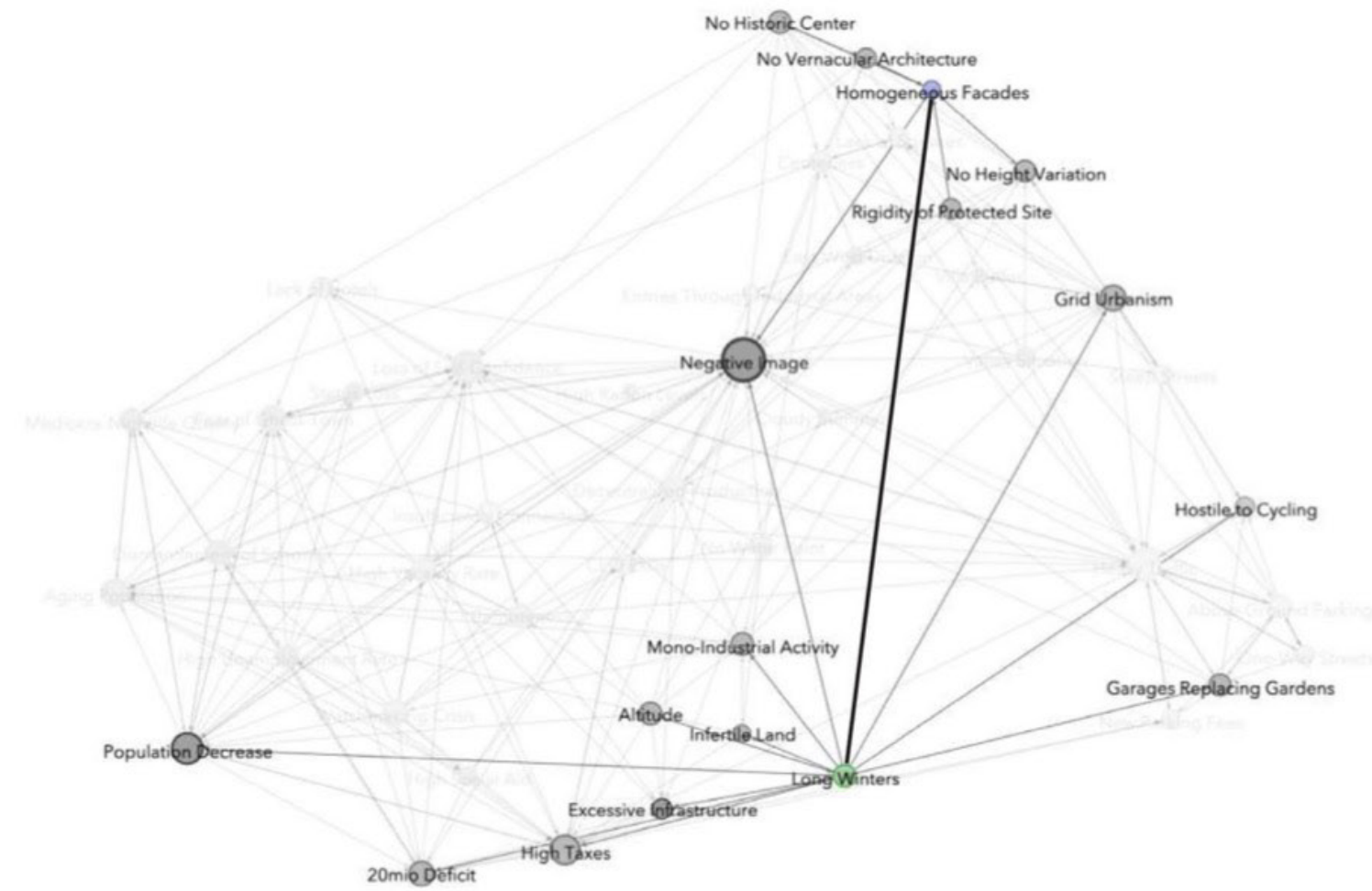


Lack of Squares



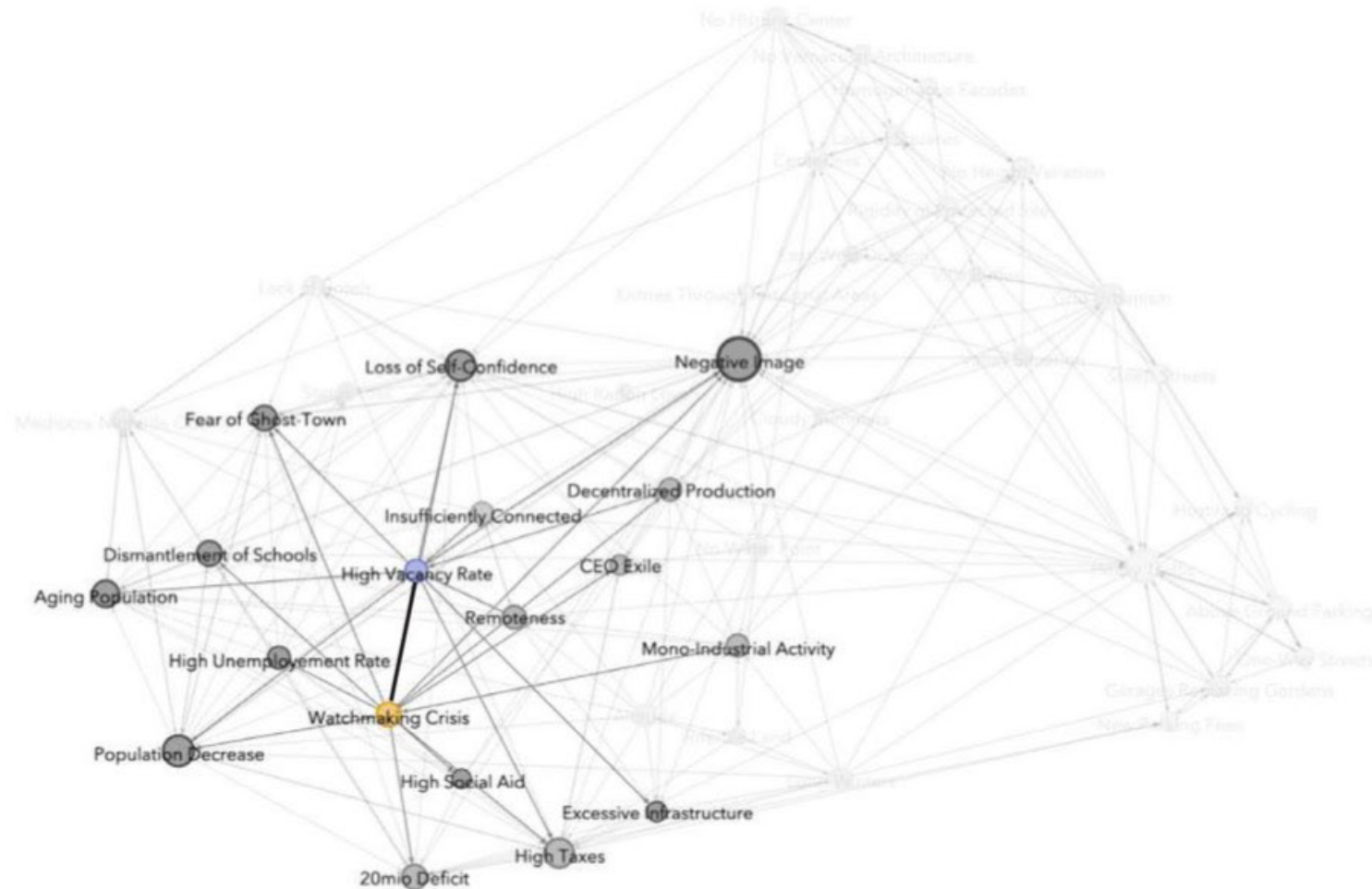
No Water Point

Homogeneous Facades



Long Winters

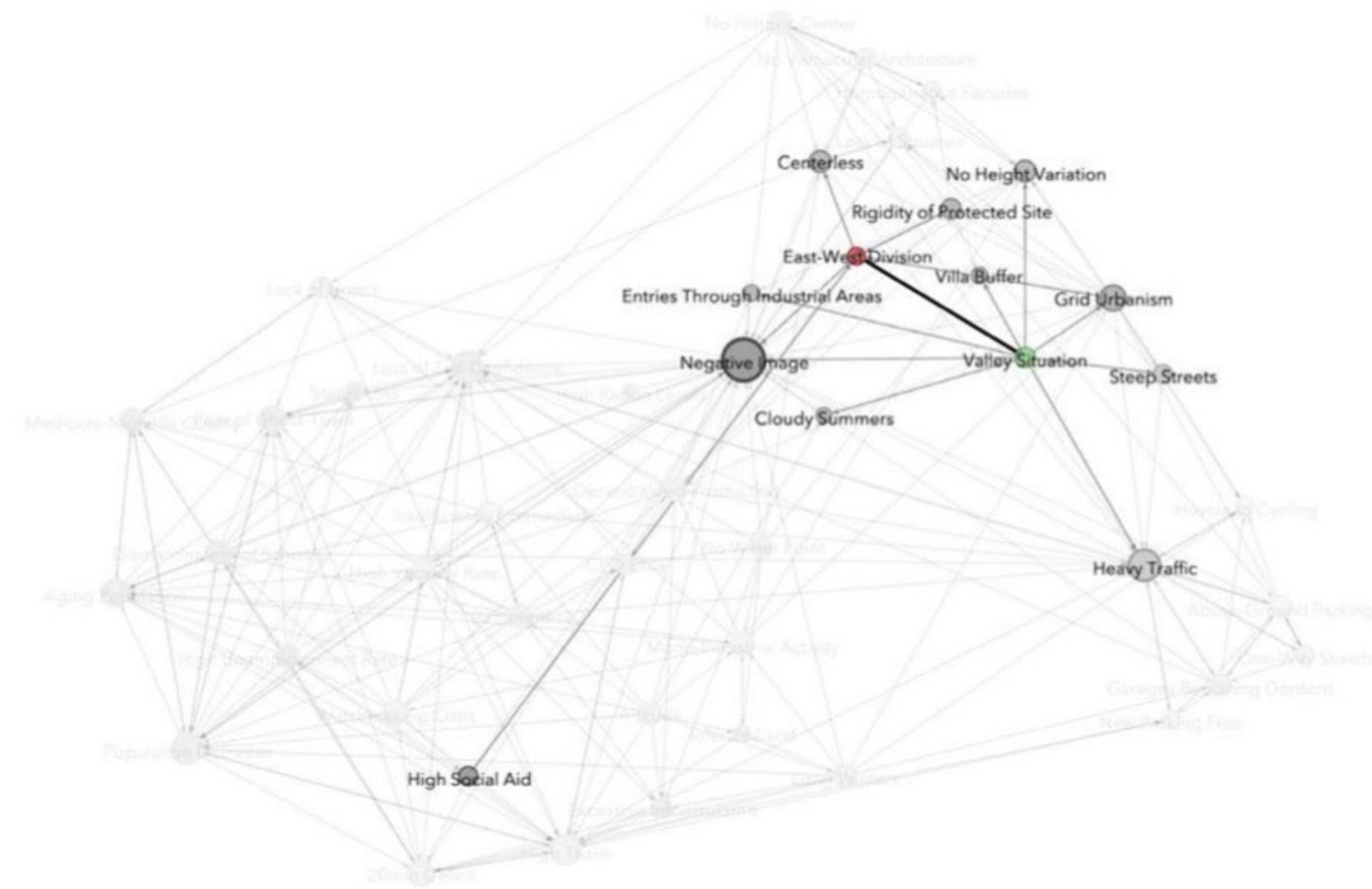
High Vacancy Rate



Watchmaking Crisis



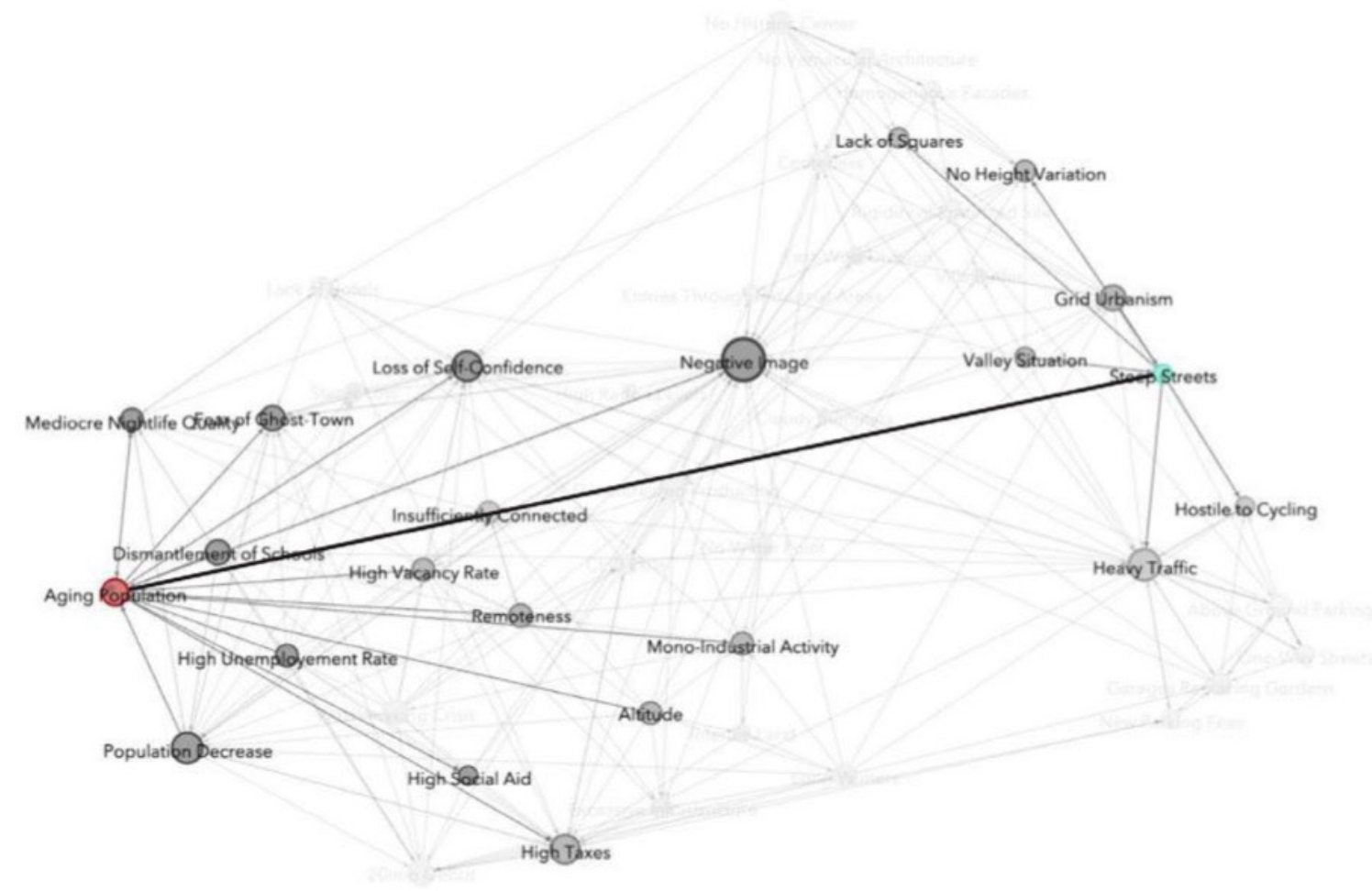
East-West Division



Valley Situation



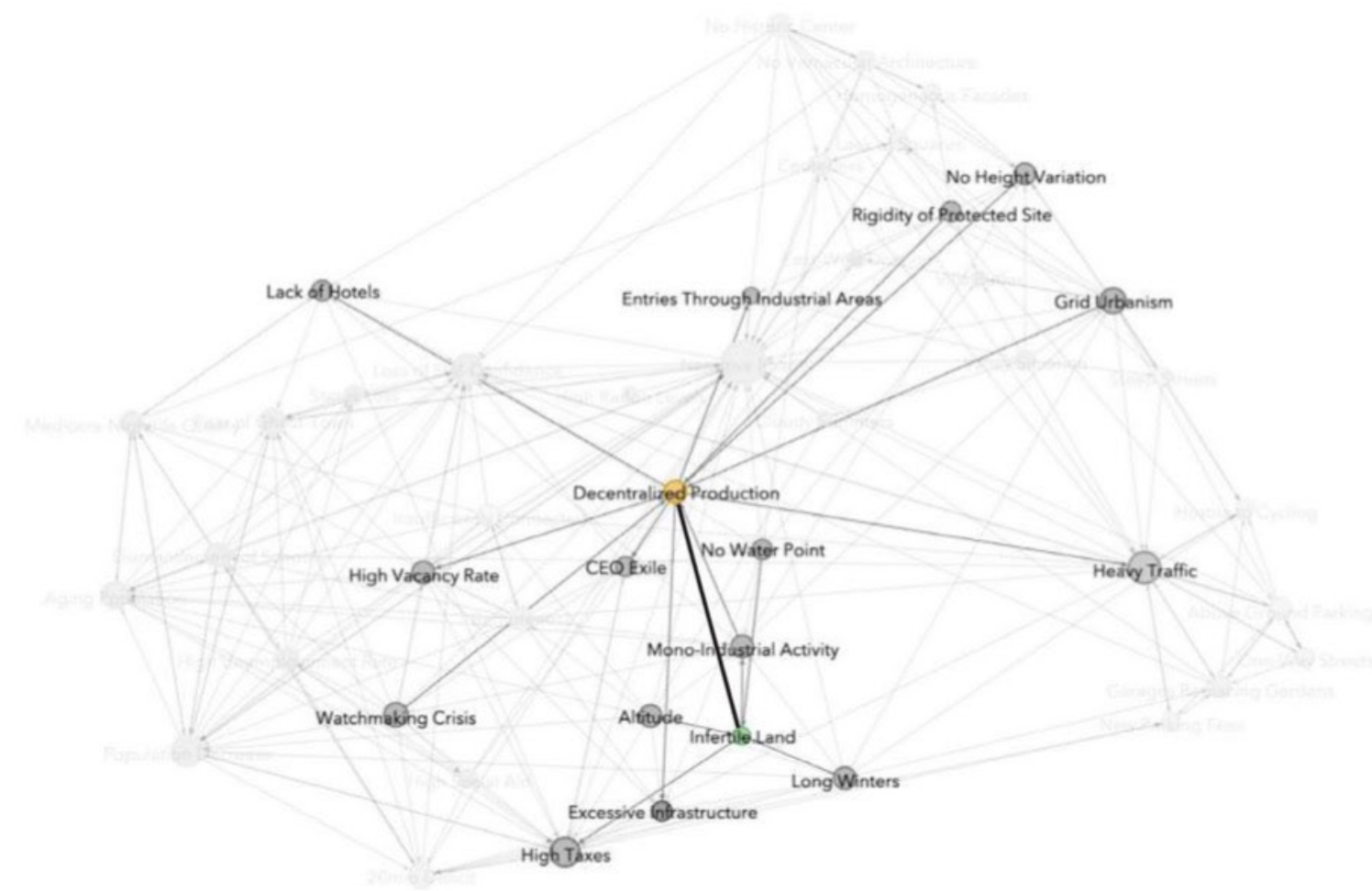
Aging Population



Steep Streets



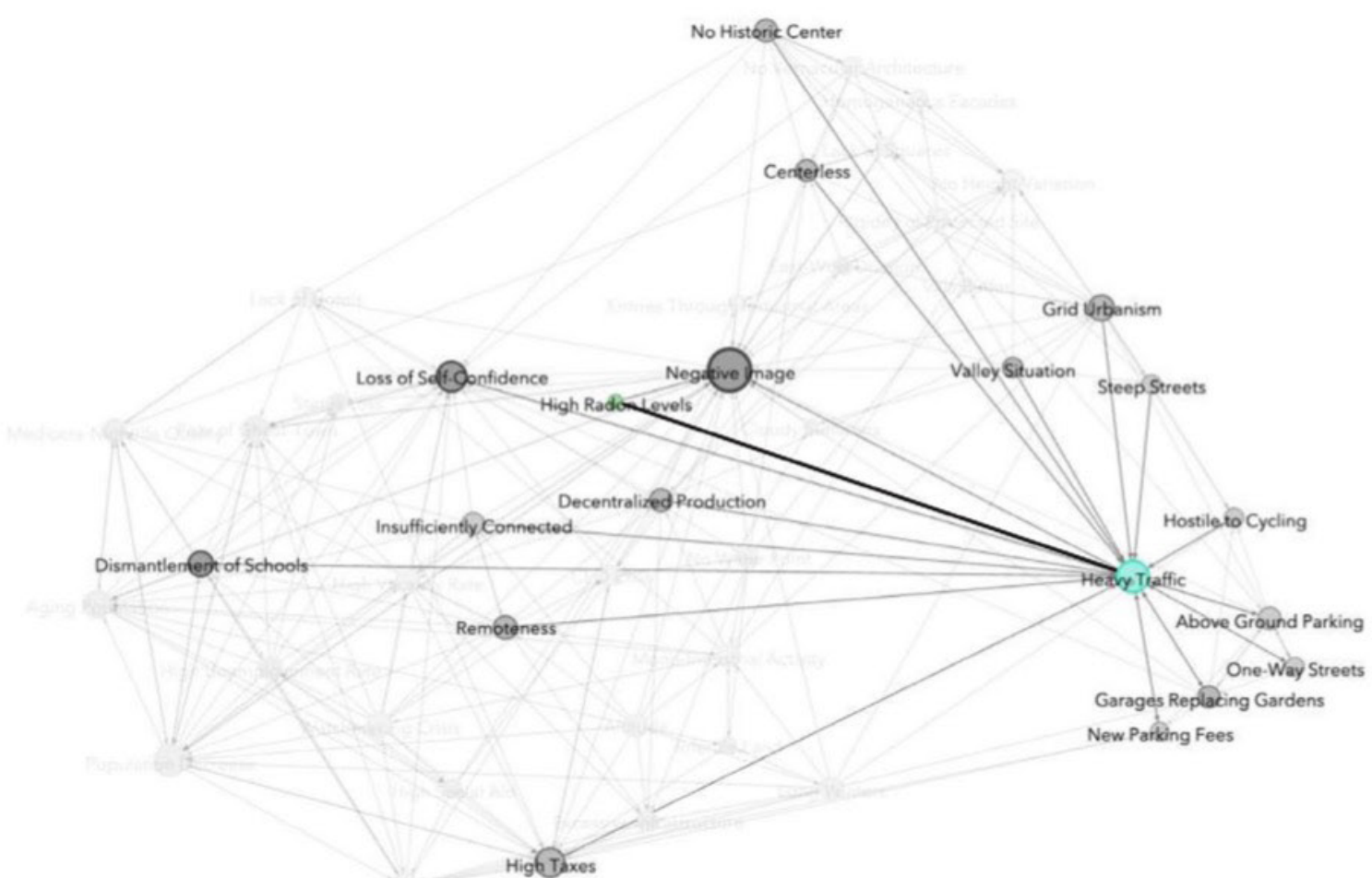
Decentralized Production



Infertile Land



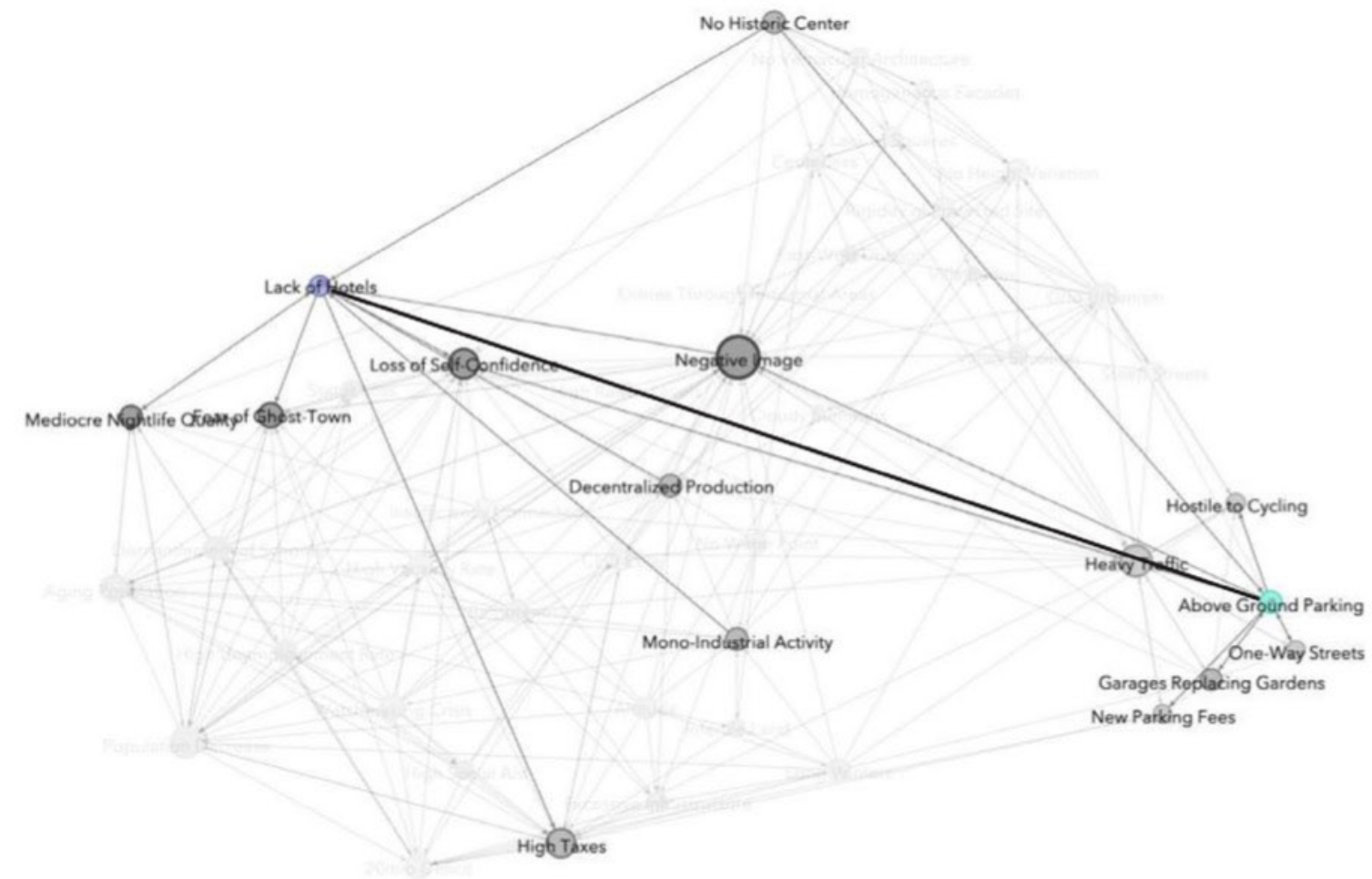
High Radon Levels



Heavy Traffic



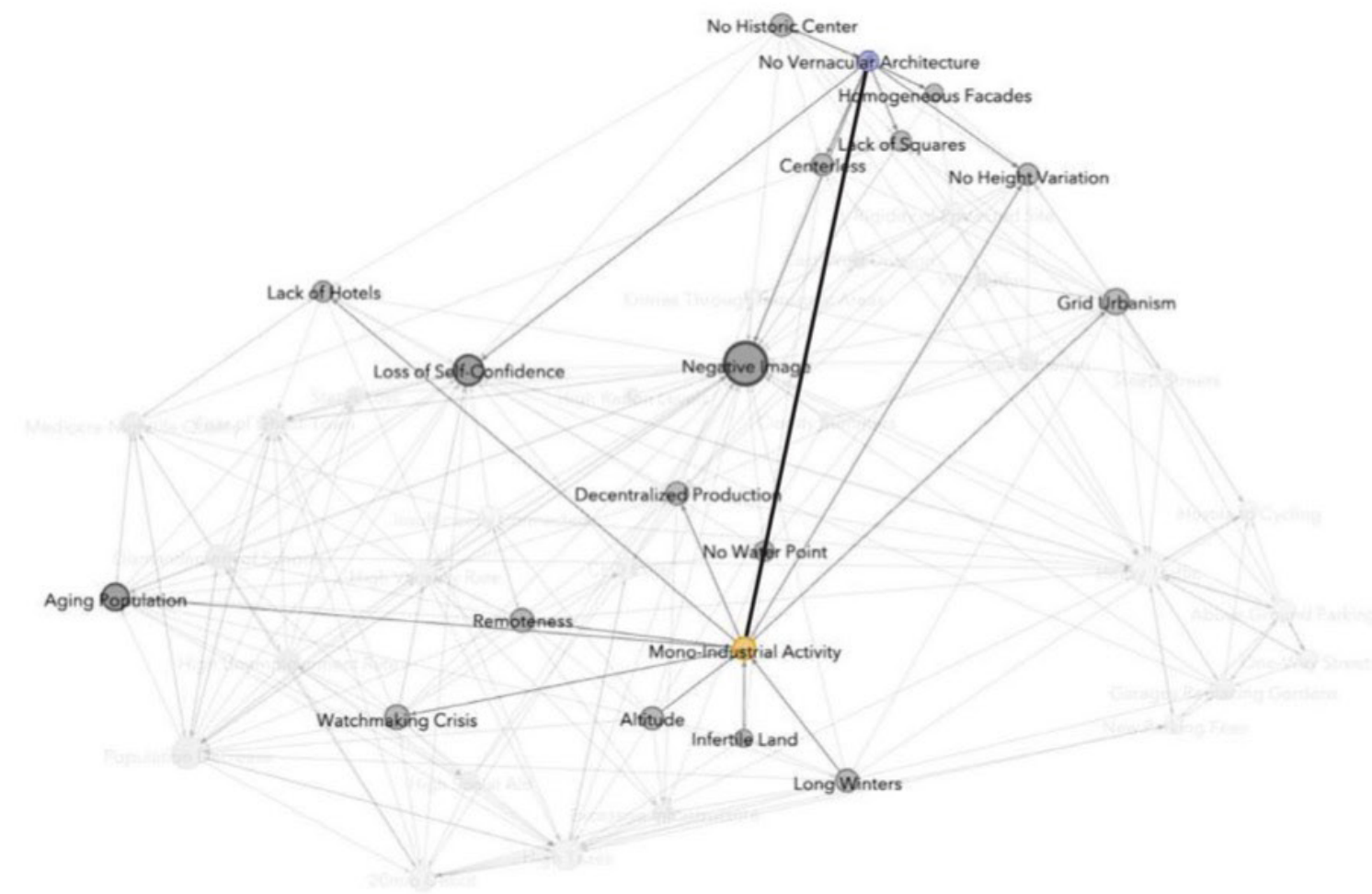
Lack of Hotels



Above Ground Parking



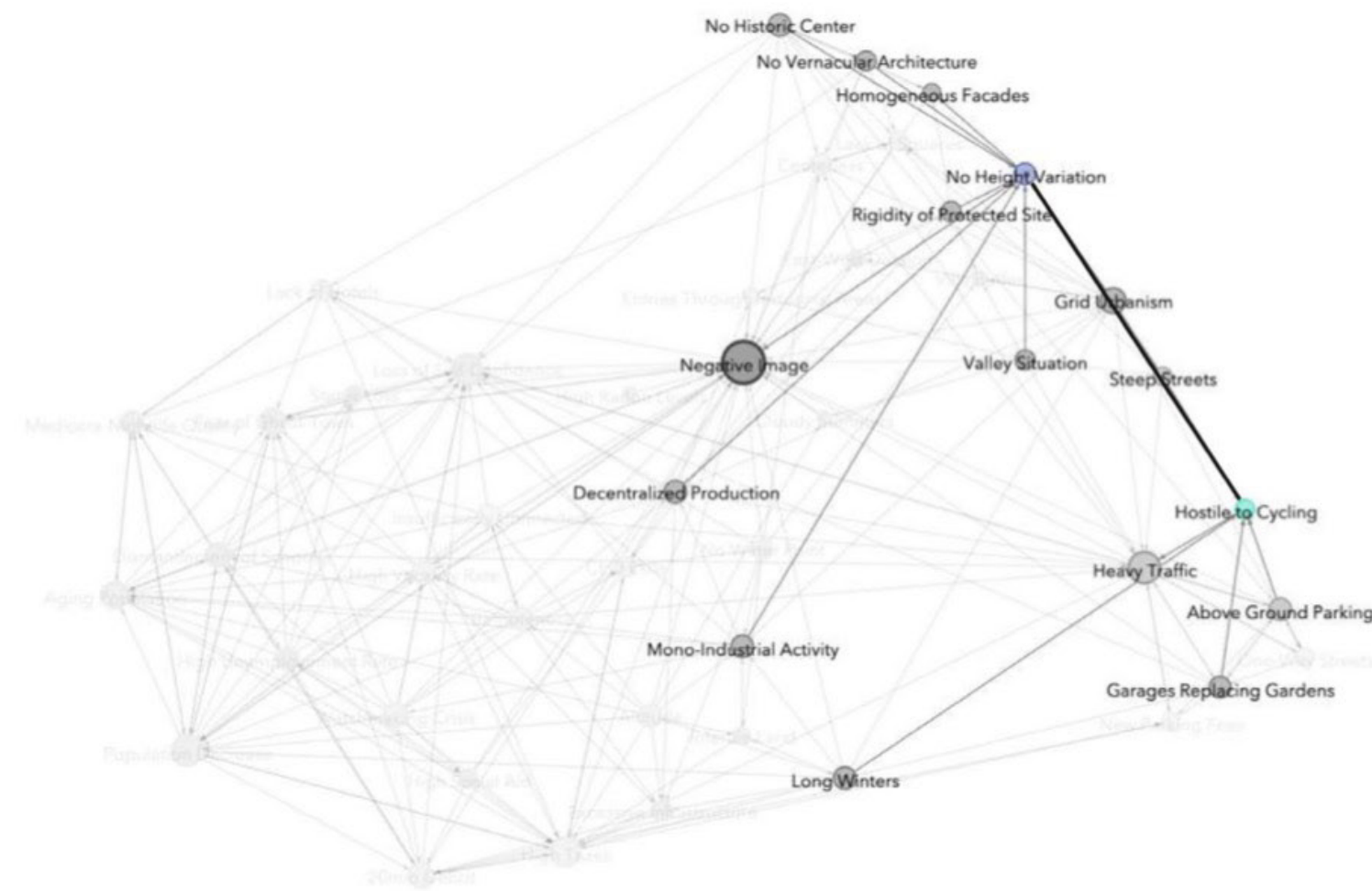
No Vernacular Architecture



Mono-Industrial Activity



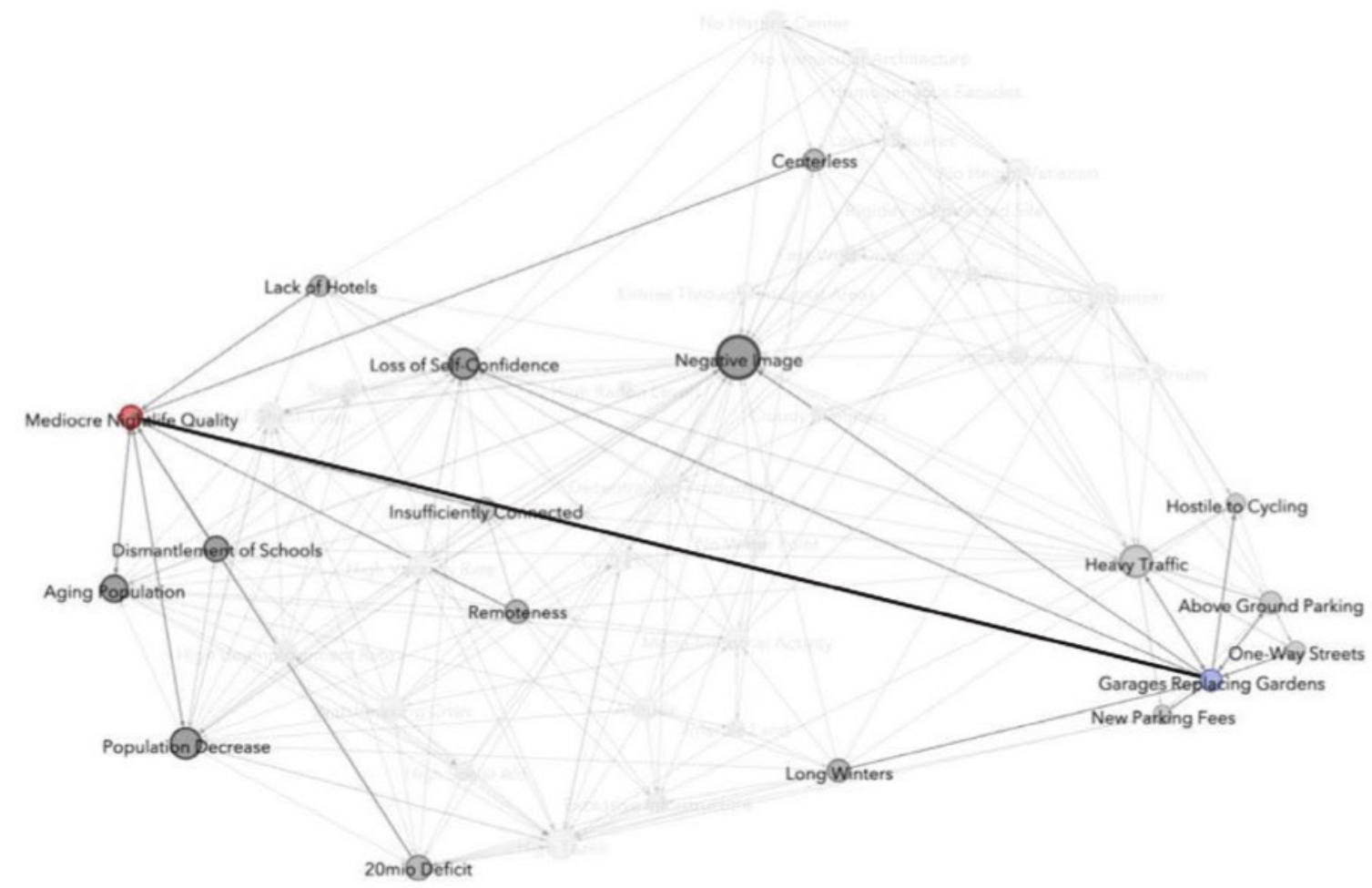
No Height Variation



Hostile to Cycling



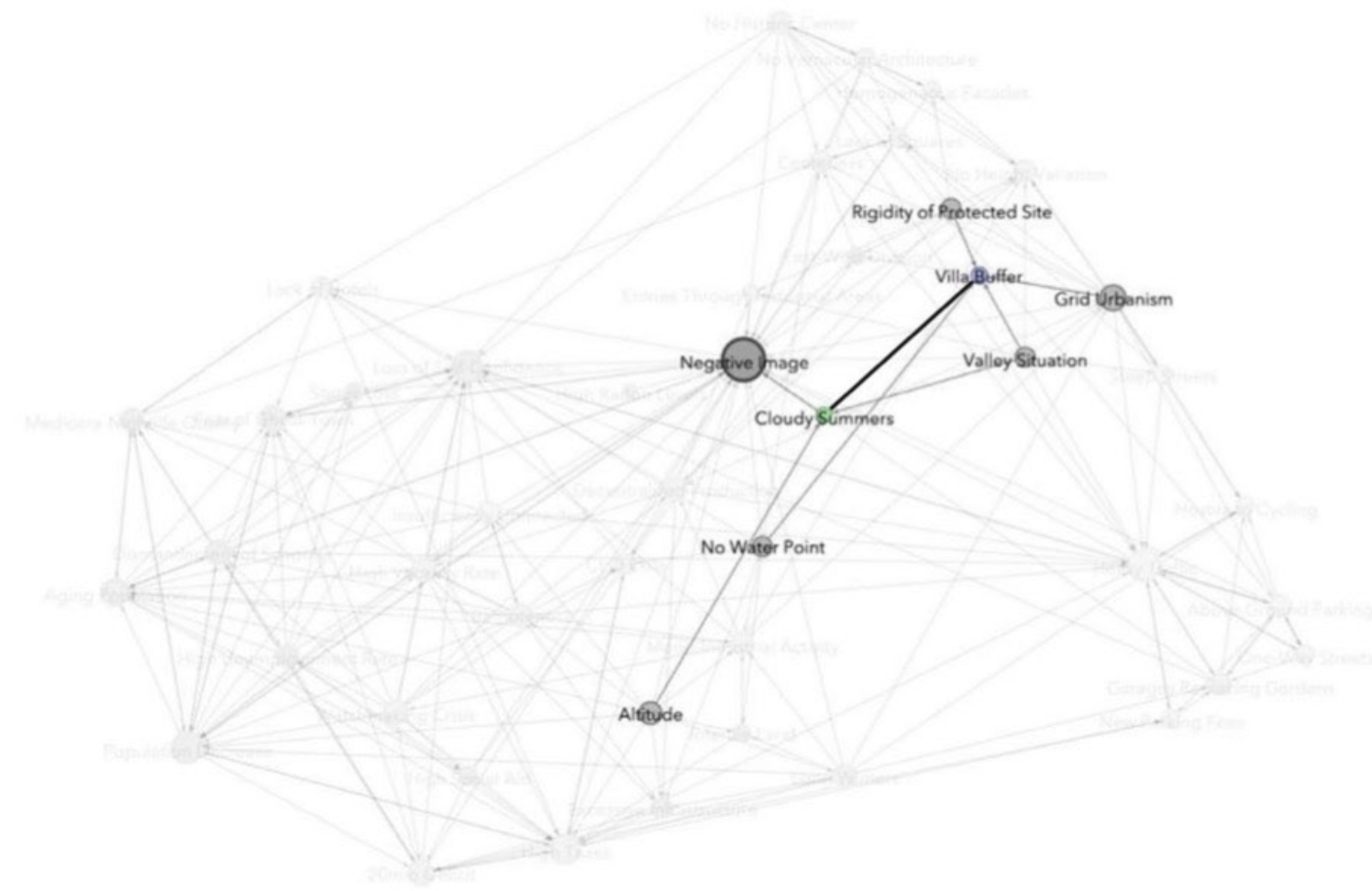
Mediocre Nightlife Quality



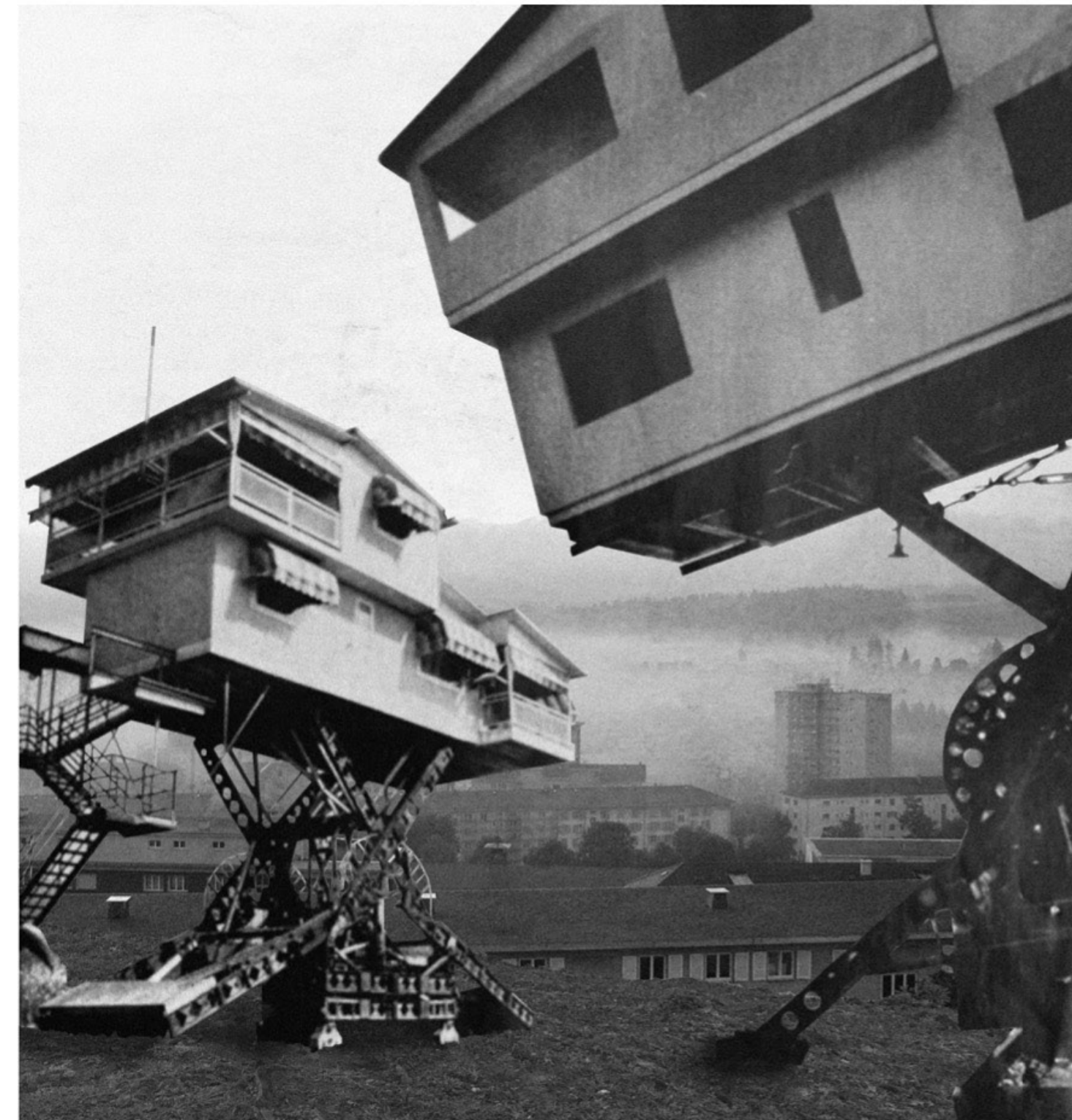
Garages Replacing Gardens



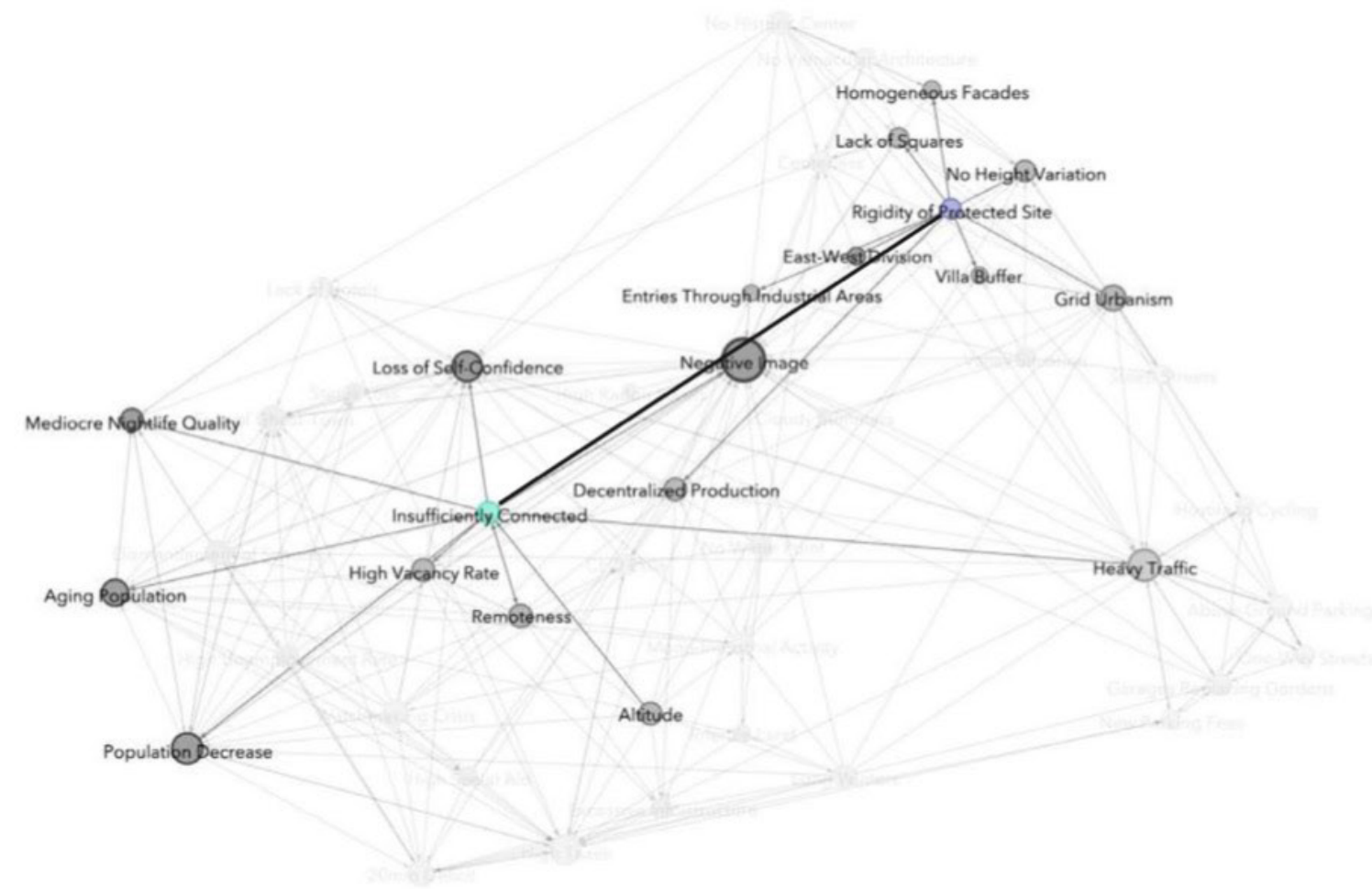
Villa Buffer



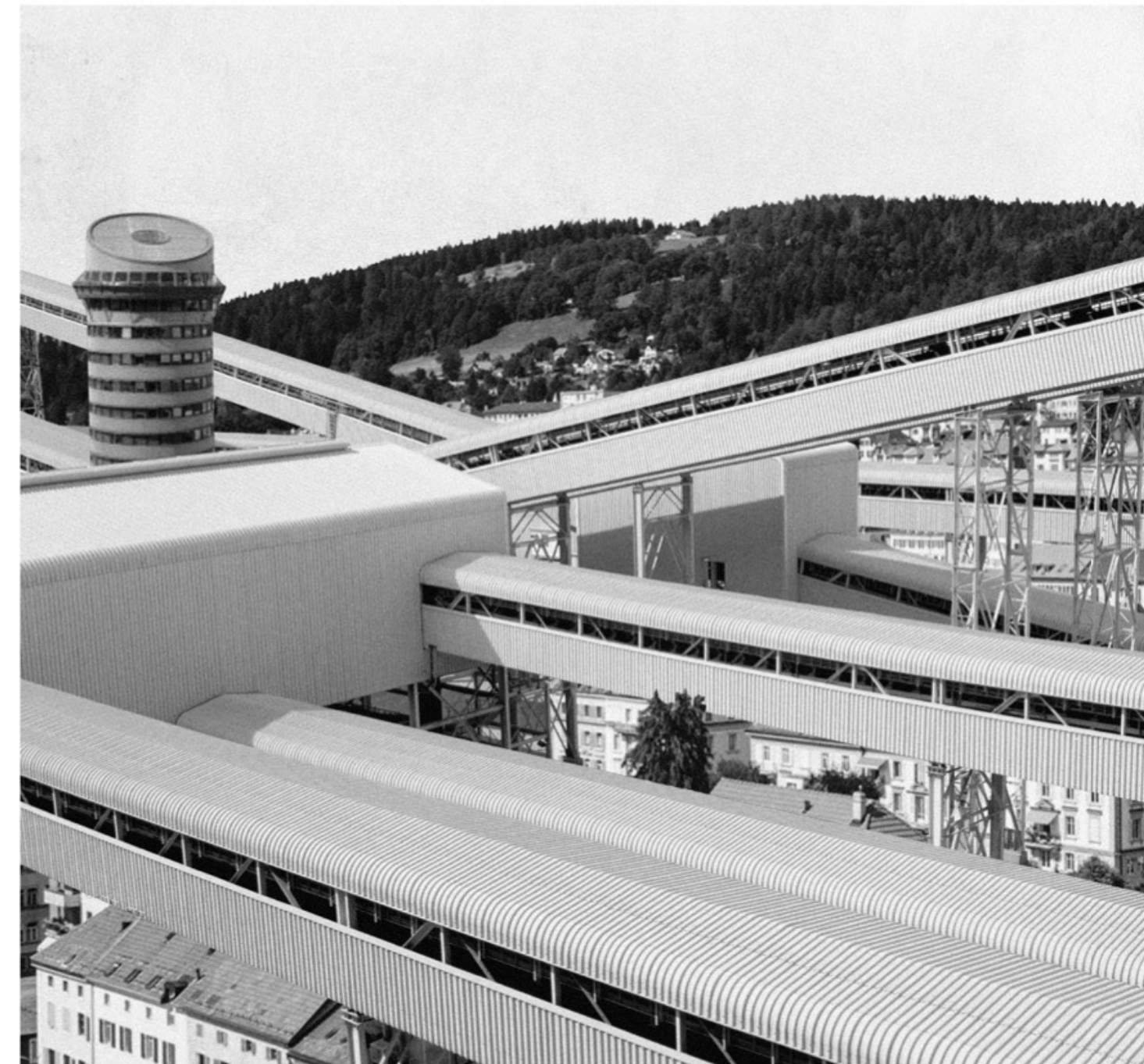
Cloudy Summers



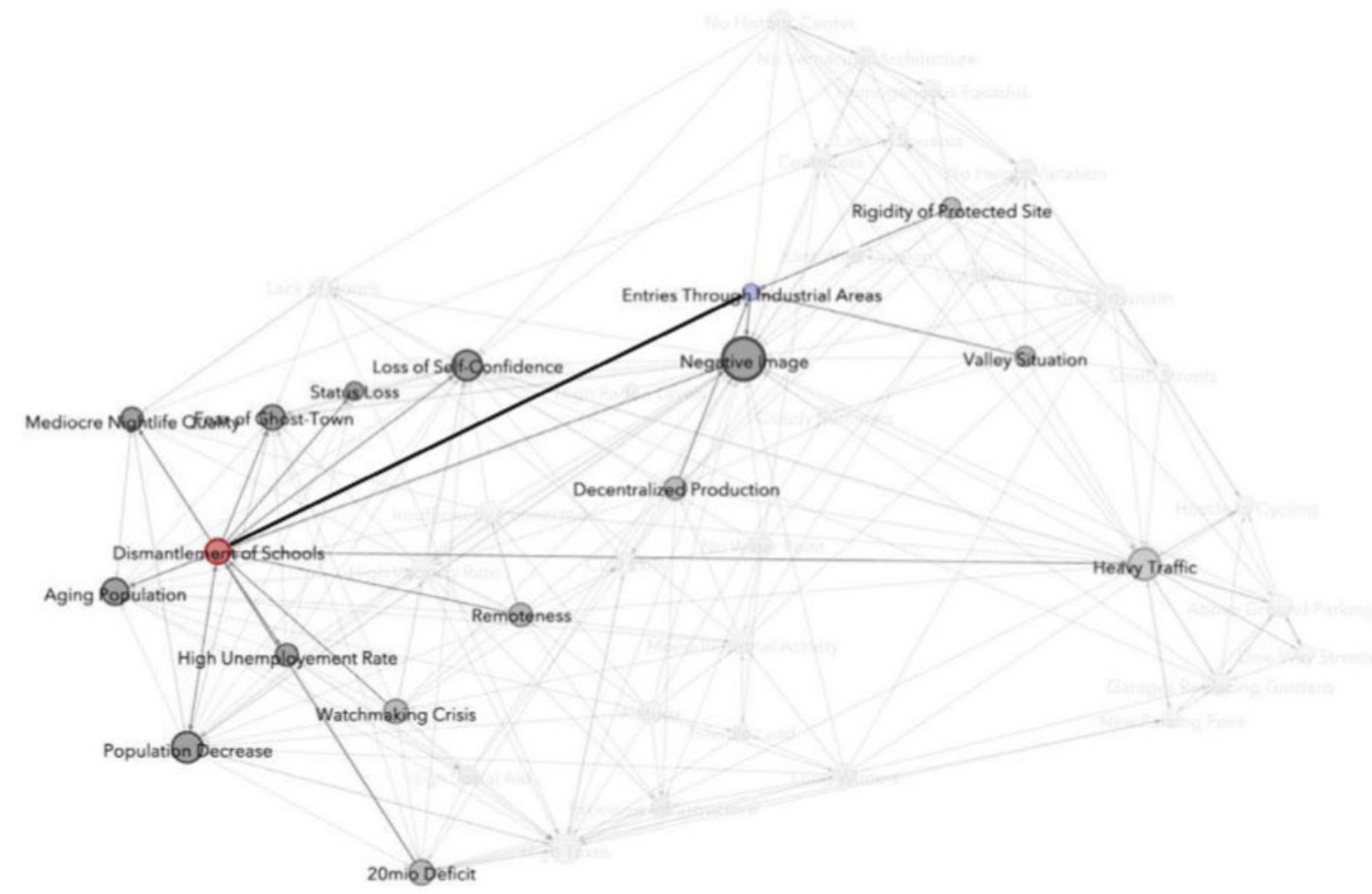
Rigidity of Protected Site



Insufficiently Connected

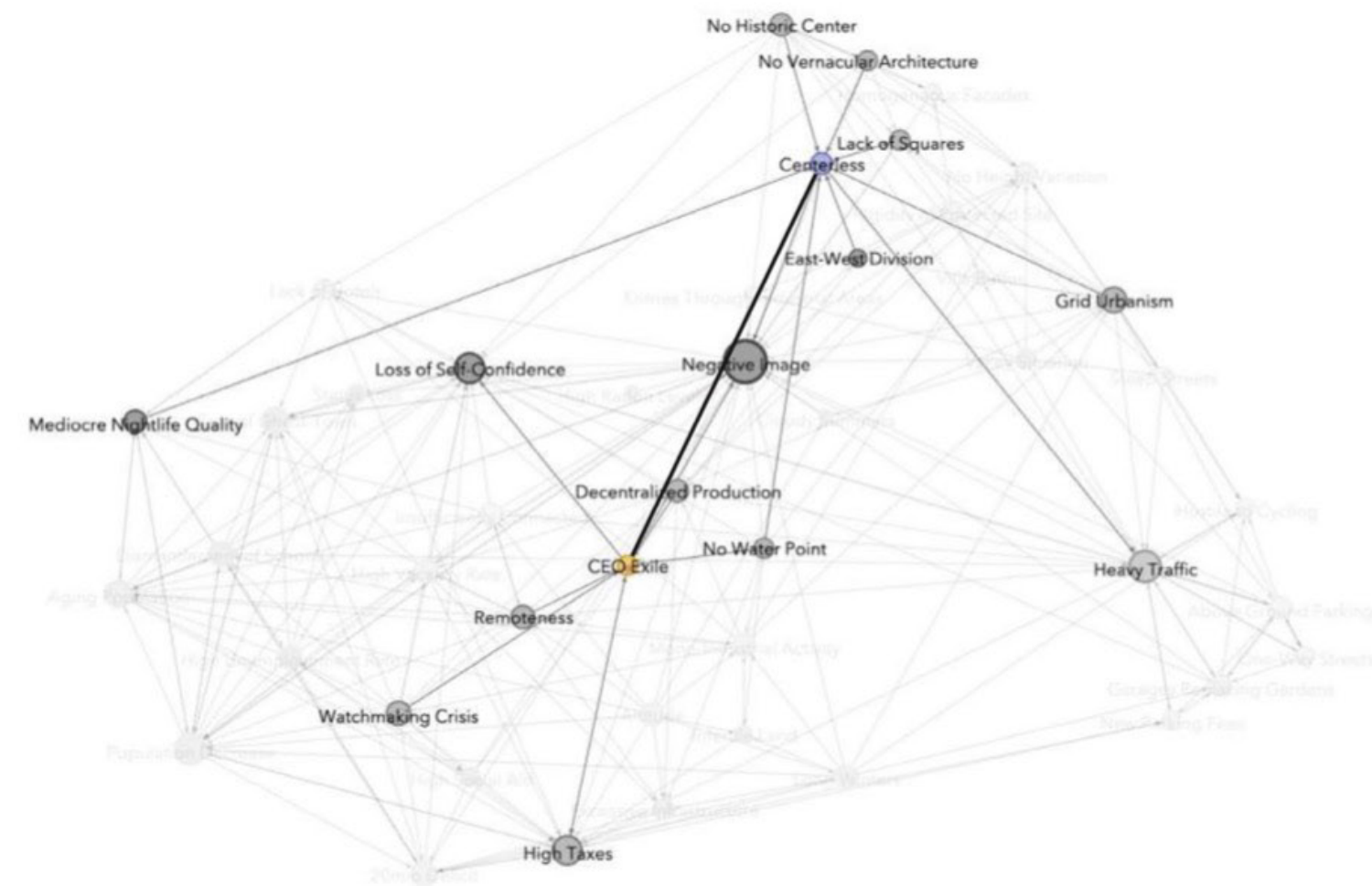


Entries Through Industrial Areas



Dismantlement of Schools

Centerless



CEO Exile



ARCHIVE

"Compared to other Swiss cities, La Chaux-de-Fonds is a clearly defined special case and, as such, should be rated very high, given its originality.

The logic that presided over the metamorphosis of a rigid planning grid into an exemplary prototype of an urban agglomeration constitutes a unique case in the history of Swiss urbanization."

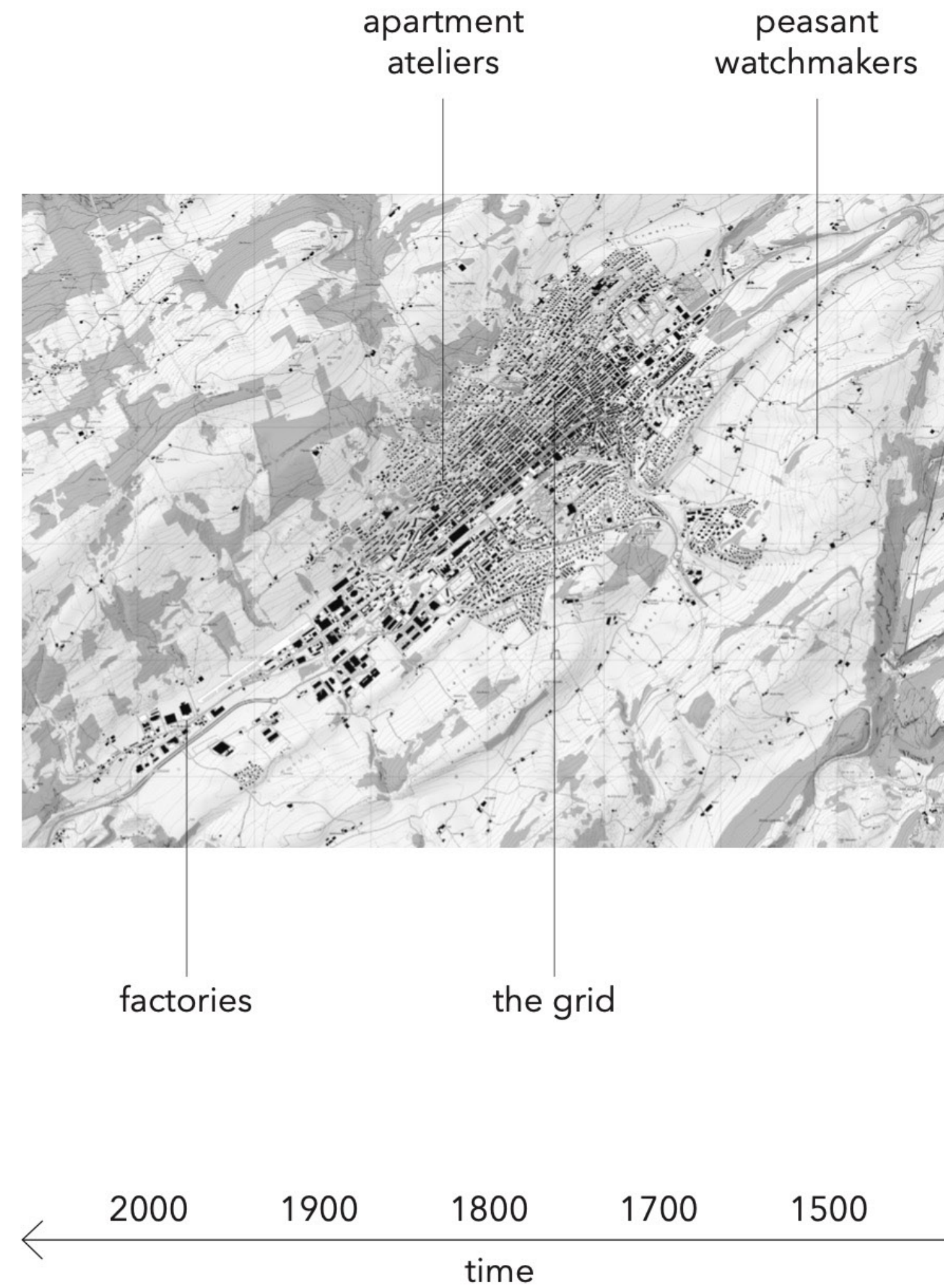
Heusser

INVENTORY OF BUILT SITES TO BE PROTECTED IN SWITZERLAND



ARCHIVE

One can read and understand the whole history of watchmaking by looking at the city of la Chaux-de-Fonds. Because of the manner in which it grew, the urbanism of the city holds the keys to understanding its specificities. The two centuries throughout which it has developed brought many changes to the industry, the city and its people. All three are directly related, forming some kind of watchmaking trinity. Through their specificities, one is able to understand the relations and metamorphosis of the place. By dissecting la Chaux-de-Fonds, be it through found quotes or images, these specificities start to emerge.



"I remember having seen in my youth in the region of Neuchâtel a rather pleasant and perhaps unique sight on earth. A whole mountain covered with houses, each of which is the center of the land that depends on it; so that these houses, at distances as equal as the fortunes of the owners, offer both the contemplation of retirement and the comforts of society to the many inhabitants of this mountain. These happy peasants, all at their ease, free of sizes, taxes, sub-delegates, and chores, cultivate, with all possible care, goods whose product is for them, and use the leisure that this culture leaves them to make a thousand works of their hands, and to put to good use the inventive genius that Nature gave them. In winter especially, when the height of the snow prevents them from communicating easily, each one, enclosed warmly with his numerous family, in his own pretty wooden house, which he has built himself, occupies himself with a thousand amusing works, which drive away the boredom of his asylum, and add to his well-being."



Rousseau
LETTRE À D'ALEMBERT

"Listen rather to the geographer, he will tell you that the whole hydrographic system of continental Europe has its determining principle in the situation and the disposition of these mountains. Remove them, Europe is no longer watered, is no longer fertilized by these immense rivers, it becomes arid, it is a desert; move them towards any of the four cardinal points, you change the borders of four great empires, and the historian will no longer be able to present you the same pictures, to give you the same accounts on the formation of the nationalities stemming from Latin or german races."



Pinot

PAYSANS ET HORLOGERS JURASSIENS

"This young man set out to make a similar watch. He first had to imagine and make all the necessary tools as well as the springs, the box and other assortments, without having in his position any help that could facilitate his success. But by his genius, supported by stubborn work, he managed after a year to have enough tools to start his watch which was completed six months later."



Ostervald

DESCRIPTION DES MONTAGNES ET DES VALLÉES

“The need was certainly a help in these mountains to develop talent, the freedom that the inhabitants enjoyed, the subtle air that they breathed, the need to be self-sufficient because of the little trade that they had with foreign countries, may also have had an influence. Each individual was obliged to be a mason, carpenter, wheelwright, blacksmith, etc., and to make all his own furniture. and to make all his furniture himself [...]. Moreover, since the nature of the land required little work and did not invite the owners to cultivate it, they had to turn easily to the arts in order to provide for their subsistence and to dissipate the boredom inseparable from the long hardships they endured. Today, the education they receive, the trade they have among themselves and with foreigners, the reading for which they have a decided taste, the habit they have formed of traveling, the emulation of which they are infinitely susceptible, all this serves to excite and develop these same talents that cannot be ignored in them if one frequents them. They have from nature a singular genius, a striking aptitude for all the mechanical arts, all the more extraordinary because nothing similar is found in the countries immediately surrounding them to the north and south. One frequently sees in these mountains people who exercise certain arts of which they have not learned anything.”

Ostervald

DESCRIPTION DES MONTAGNES ET DES VALLÉES



"The watchmaking industry required spacious and well-lit rooms. Many changes were made to the original plan; the houses of this period are higher, they usually have one floor on the ground floor. The vaults of the kitchen are removed, the large chimney with pipe carried by a thick wall. The facade is pierced by a greater number of windows, and by the middle of the last century the primitive type was completely modified. The children of the country having abandoned the cultivation of the land towards the end of the century to devote themselves exclusively to the clock industry, the industrial workers' barracks were substituted for the old houses of our fathers."



Mathys
LA CHAUX-DE-FONDS

"No carpenter, locksmith, glazier, or turner by profession has ever entered the country; all are for themselves, none for others; in the multitude of comfortable and even elegant pieces of furniture that make up their household and adorn their dwelling, there is not a single one that has not been made by the hand of the master. They still have time to invent and make a thousand different instruments, of steel, wood, cardboard, which they sell to foreigners, several of which even make it to Paris, among them the small wooden clocks that have been seen there for some years. They also make iron clocks, they even make watches; and, what seems incredible, each one of them combines all the different professions in which clock-making is subdivided, and makes all his tools himself."

Rousseau
LETTRE À D'ALEMBERT



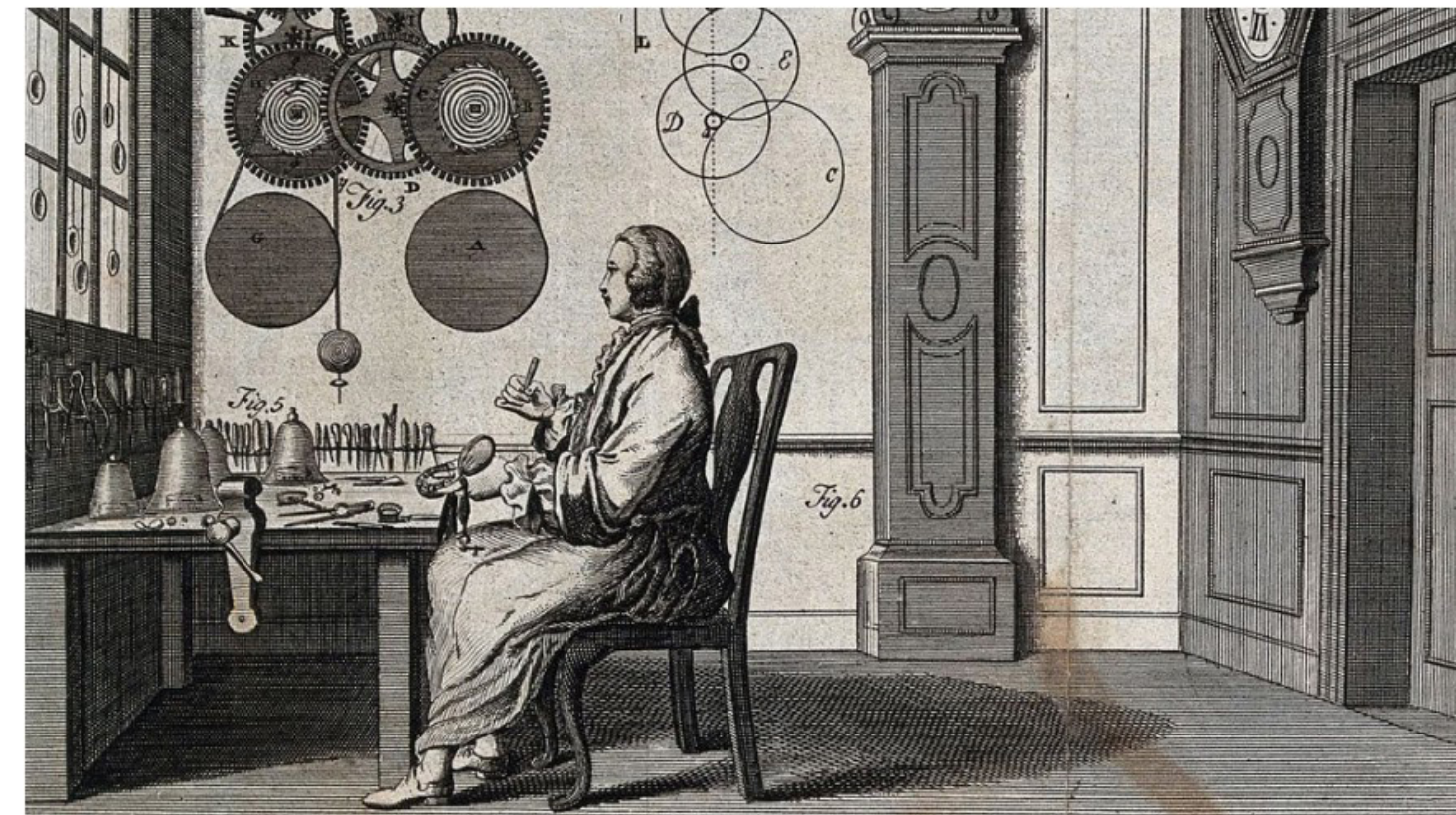
“No industrial enterprise as such is observed in La Chaux-de-Fonds before the 1880s. The *établisseur*, who was sometimes also called a negotiator or watch merchant, dominated this system of division of labor organized according to Mendels’ classic proto-industrial model. As an intermediary between the market and production, the *établisseur* orders from a very dense network of subcontractors, themselves organized according to hierarchical logics of subcontracting, the various constituent parts of a watch (case, movement, dial, parts of movements, etc.) which he has assembled in his workshops, sometimes called *comptoirs*, and which he then sells on various markets. However, not all watchmakers are established at the same hierarchical level in the *établissage* system. Some of them do not have direct access to the market and work for other traders and manufacturers who order certain finished products from them and sell them. While there are many legally independent workshops within the *établissage* system and thus a multiplicity of watchmaking bosses, they are not all situated on an equal level.”



Donzé

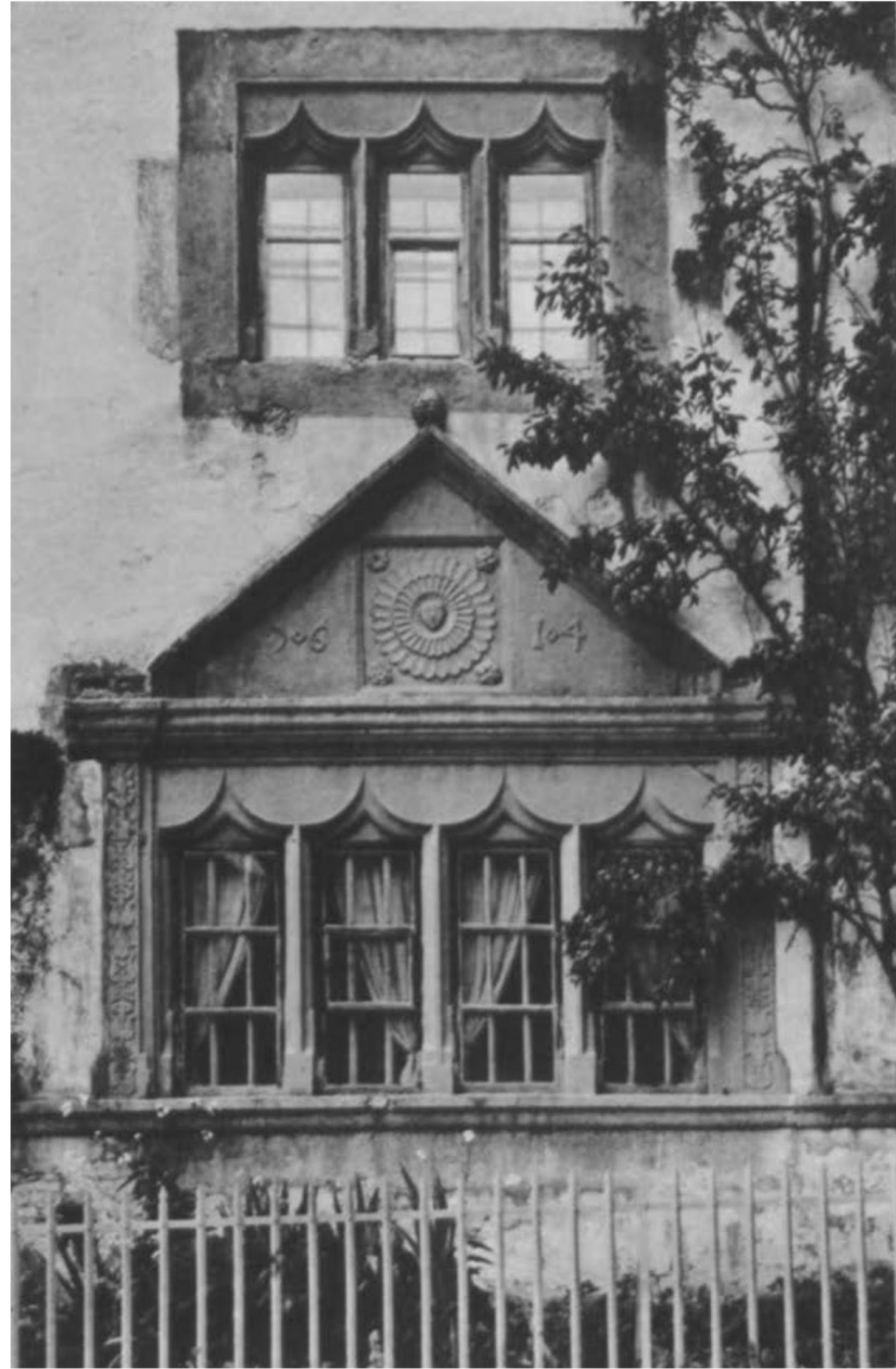
LES PATRONS HORLOGERS DE LA CHAUX-DE-FONDS

"Among the traders, there are some who buy the watches and clocks ready-made, others only provide themselves with the parts necessary for their manufacture. These ones have them reworked and assembled under their eyes. There are few workers in watchmaking, capable of making alone the different parts of a watch: some make springs, others hands, while the neighbors take care of spirals, chains, rosettes & cases, which are also worked by different hands."



Gauthier

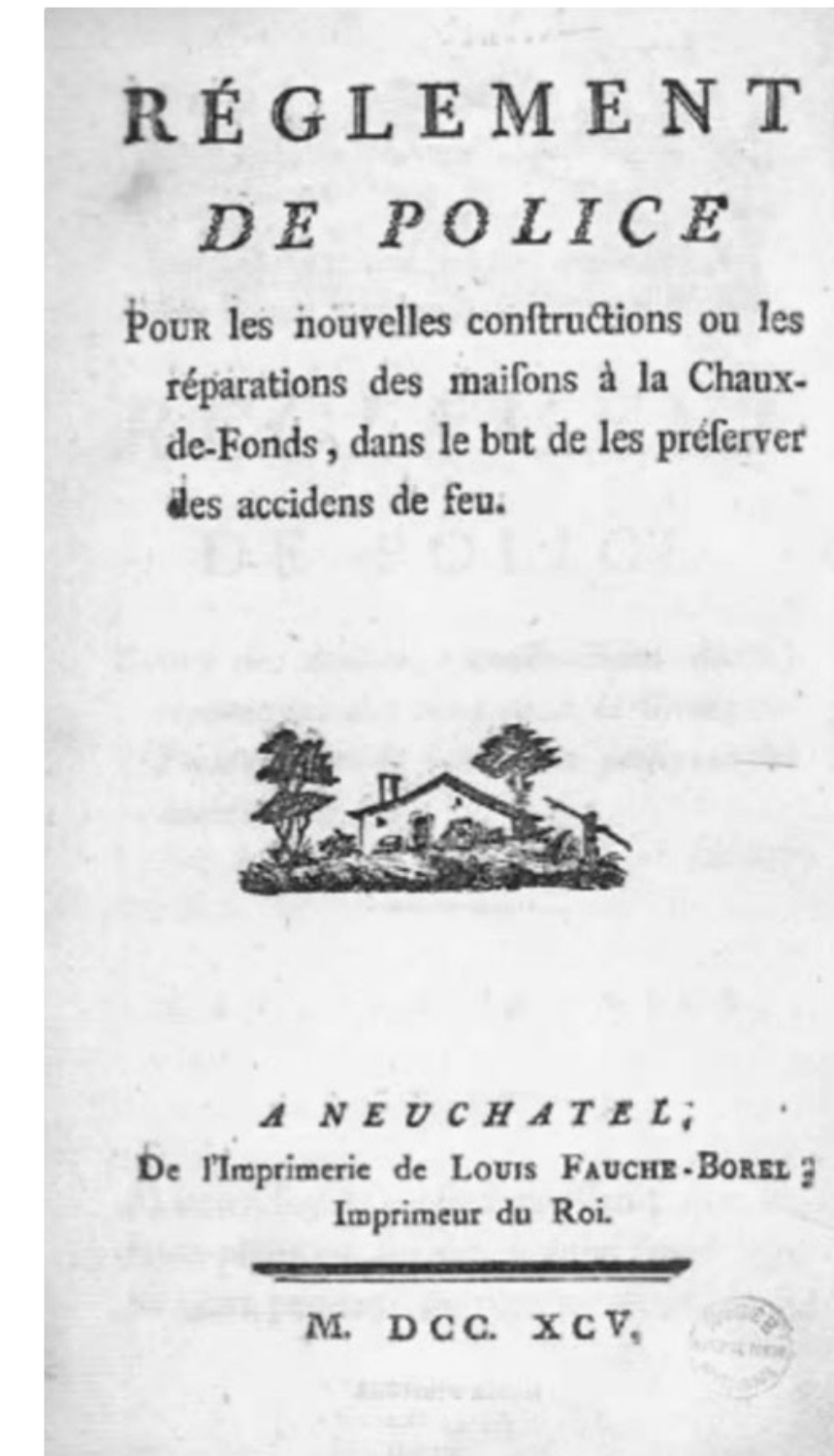
VOYAGE D'UNE FRANÇAISE EN SUISSE



"In view of the fire that has just taken place in the Village of La Chaux-de-Fonds, let these unfortunate inhabitants be allowed to take advantage of the sawmills that are in the department and in their vicinity to have the wood that they will transport from this country reduced to planks, and to be assured of being able to bring it home without any obstacle."

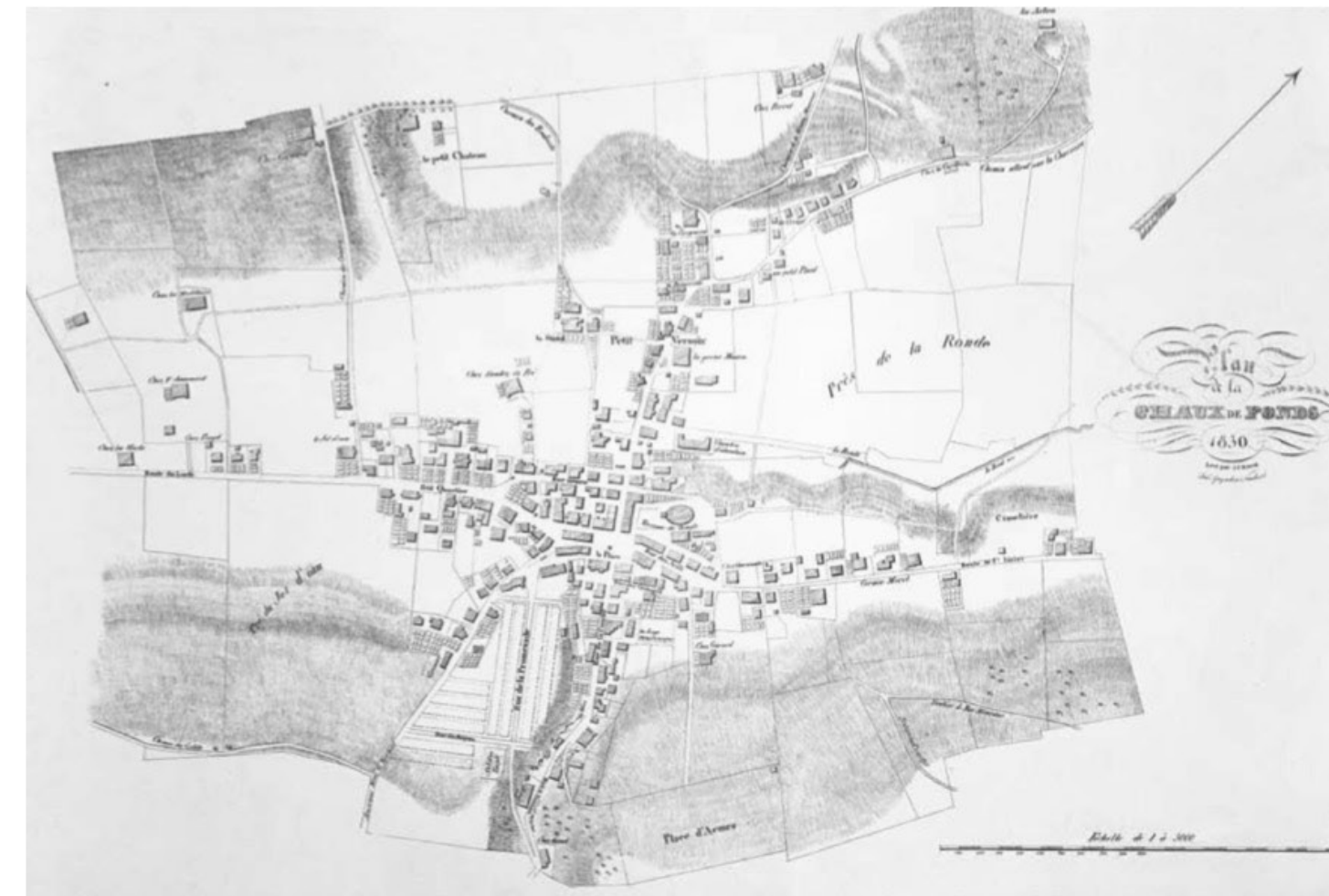


"All private individuals called upon to make new constructions or repairs, both inside and outside the houses, are obliged to notify the officials, and to communicate to them their construction or repair plans, under penalty of being particularly sought after for their negligence in this regard, and of demolishing, at their expense, what could be contrary to both the fire police and that for the alignment and grading of the streets; each master builder, mason, or carpenter, shall be obliged to swear an oath to comply with the present by-law."



POLICE REGULATIONS FOR NEW CONSTRUCTIONS OR REPAIRS OF HOUSES

“The assembly took care of the rebuilding of the temple to be able to exercise the Divine Worship. The narrow and badly directed streets are very dangerous and inconvenient especially in the case of misfortunes of fires, this is why after a wall examination of this matter, Gentlemen of justice, reinforcement and council and members of the commission, have unanimously found that before rebuilding the temple and even other houses and to prevent in the future as much as possible of similar accidents, it is necessary to deal with a general plan of rebuilding so that the streets are less constricted, the place of the village more vast and the houses built in a way not to be dangerous for the fire.”



MINUTES OF THE COMMUNE OF LA CHAUX-DE-FONDS, "L'INCENDIE DU 5 MAI 1794"

“The plan [by Charles-Henri Junod in La Chaux-de-Fonds], innovative in its scope but in fact very pragmatic, reflects a broad consensus. By simply providing for alignments of houses parallel to the axis of the valley, it instituted an urban grid based on the traditional layout of the farms in the upper Jura, well adapted to the topography, the path of the sun and the winds. Moreover, this layout already appears to a certain extent on the 1794 plan [...]”



Cop

HISTOIRE DE LA CHAUX-DE-FONDS

“Comparing the modest village destroyed by the fire with the one we knew as children, and the latter with the present large city, with its 30,000 inhabitants, with its spacious streets, its well-built houses, which are increasingly invading the slopes formerly covered with green meadows, with its numerous public buildings, the most beautiful of which are dedicated to the education of youth, one cannot help but admire the powerful vitality which has produced this almost unique development in our old Europe.”



Droz

CE QUE NOUS DIT LE CENTENAIRE

"There is no trace of utopia or «ideal city». Alignment, orthogonal crossing, and the isolation of massifs are the signs of an urbanism of bridges and roads, concerned with protection against snow and fire. The power of the fire department preceded the very existence of architects."



Gubler

INVENTAIRE SUISSE D'ARCHITECTURE 1850-1920

“La Chaux-de-Fonds, thanks to the obliging and generous patriotism of our fathers, has gradually risen from its ruins, larger and better built. It is no longer the wooden village with an agricultural and industrial aspect, but it is La Chaux-de-Fonds, built according to a regular plan of alignment, adopted in 1794 by the interested parties, with wide and spacious streets and squares, allowing the sun to light and heat the houses, and the air to be constantly renewed; it is La Chaux-de-Fonds built in stone with 2 or 3 floors on the first floor and tile or slate roofs, and yet it is still the old Chaux-de-Fonds, the working-class, active, laborious and devoted city.”



Mathys
LA CHAUX-DE-FONDS

“This snow, sir, which, in the mountains of which I speak, covers the earth for six or seven months of the year, is most certainly one of the causes which have produced so many good watchmakers in the cantons of Vaud and Neuchâtel, which have made them patient, industrious, skilful, and of remarkable intelligence. Indeed, when the snow, like an immense white shroud, spreads over all the valleys that the eye can embrace, covers the dwellings of men, the high heaths, the forests of stunted pines, the rivers solidified by the cold ; When the deep silence, universal in these regions, cannot be interrupted either by the foot of the man, or by the rolling of the cars, or even by these thousand confused cries of the retailers, which, in the majority of our cities, deafen the inhabitants; when finally the workers, imprisoned in their residences, can hardly make a passage through snow, to be able to get the objects of an absolute necessity, what does it remain to them to be distracted, to ward off the boredom? Nothing, absolutely nothing... but work, and work, little by little, becomes an imperative, indispensable need.”



Dubois

LETTRES SUR LES FABRIQUES D'HORLOGERIE DE LA SUISSE ET DE LA FRANCE

“La Chaux-de-Fonds, thanks to the obliging and generous patriotism of our fathers, has gradually risen from its ruins, larger and better built. It is no longer the wooden village with an agricultural and industrial aspect, but it is La Chaux-de-Fonds, built according to a regular plan of alignment, adopted in 1794 by the interested parties, with wide and spacious streets and squares, allowing the sun to light and heat the houses, and the air to be constantly renewed; it is La Chaux-de-Fonds built in stone with 2 or 3 floors on the first floor and tile or slate roofs, and yet it is still the old Chaux-de-Fonds, the working-class, active, laborious and devoted city.”



Mathys
LA CHAUX-DE-FONDS

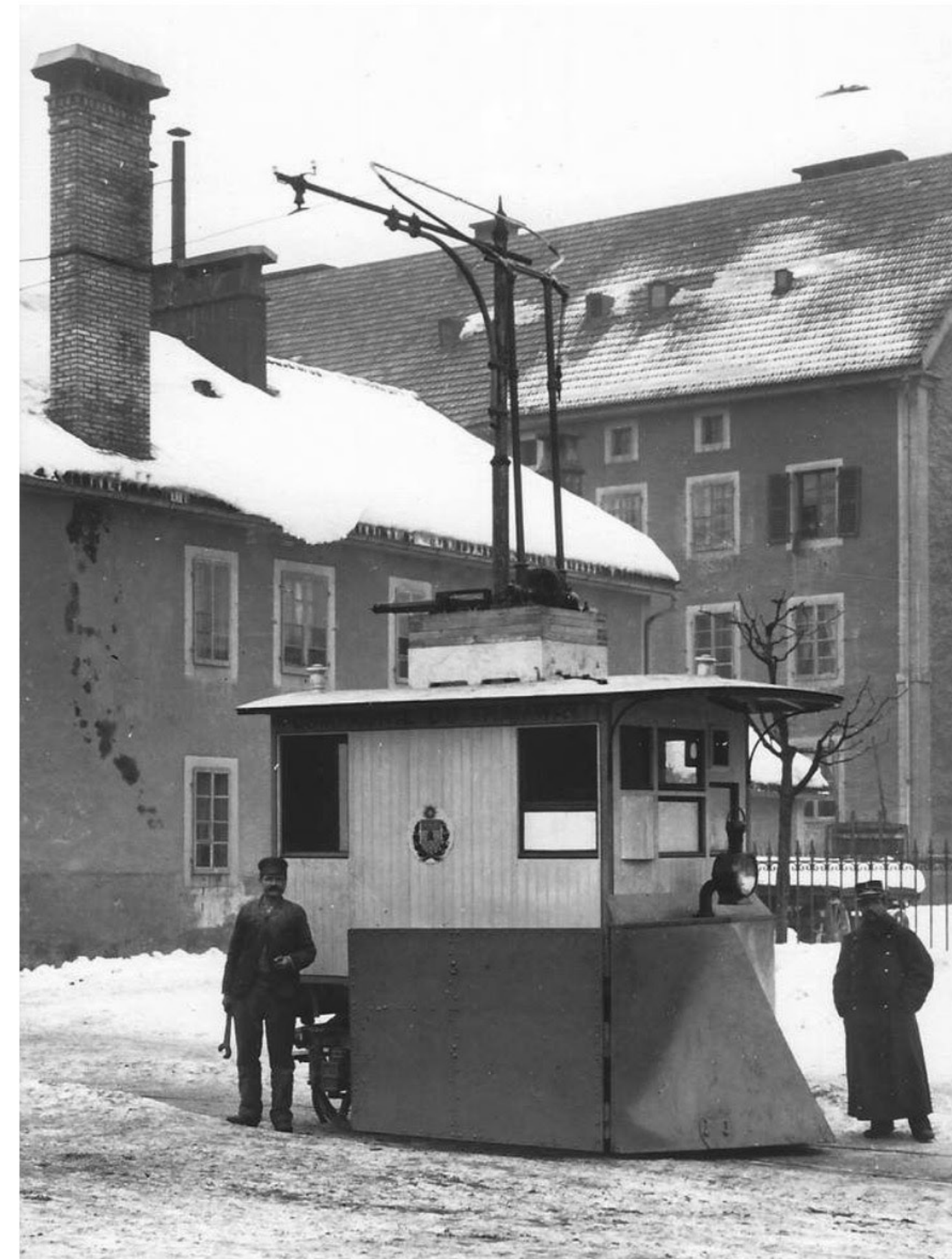
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Dubois

LETTRES SUR LES FABRIQUES D'HORLOGERIE DE LA SUISSE ET DE LA FRANCE

“The production of watches then depends directly on the capacity of exchange between the various places of production. This presupposes an efficient network of roads and streets throughout the year. Without the possibility of moving watch parts, production would have come to a halt, with all the economic and social inconveniences that this would have entailed. When the snow fell, the «triangle», a wooden structure forming a point and pulled by a powerful hitch clearing the snow on the sides of the road, was passed. With the passing of the snowy weeks, the access was thus narrower, but always possible allowing the swarming of the watchmakers to carry out their work in spite of the abundance of the snowfalls which elsewhere would have paralyzed all the city.”



URBANISME HORLOGER, CANDIDATURE AU PATRIMOINE MONDIAL

"One must, I believe, aim essentially at free & unhindered traffic & require everything that can contribute to good order & cleanliness in the streets, but consider the question of beautification as secondary."



LETTER FROM JAMES LADAME TO THE CITY COUNCIL OF LA CHAUX-DE-FONDS

"The plan is distributed in such a way that all the dwellings face the rising sun with wide, airy streets and small pleasure gardens at the south, in front of each house."



REPORT PRESENTED TO THE GENERAL MEETING OF SHAREHOLDERS



"The workshops developed in close connection with the housing, first in the dwelling itself, then in the direct vicinity of the houses, because they did not bring any nuisance. Thus, in urban areas, factories and dwellings are often located next to each other, the former sometimes recognizable only by their tightly packed rows of windows."



Heller

LE PAYSAGE INDUSTRIEL: HORLOGERIE, HABITAT, FABRIQUE

“La Chaux-de-Fonds, the seat of the watchmaking industry and trade, does not however have large factories with powerful engines, but there is not a house where at least one family of watchmakers does not live, which does not contain one or more watchmaking workshops or parts of watchmaking, but it still draws its strength from the perfection of its tools, from the division of labor pushed to the extreme limit and from the inheritance of the multiple qualities of delicacy of touch, know-how, artistic handling of the file and the chisel, and the finesse in the work that the patrimonial trade requires.”



Marchand

LA CHAUX-DE-FONDS, CAPITALE INDUSTRIELLE ET COMMERCIALE DE L'HORLOGERIE

"In 1880, out of the 12214 people employed in La Chaux-de-Fonds, more than half were engaged in watch production (6802), not to mention all those who, from further afield, for example in the services, also depended on it. Marx describes La Chaux-de-Fonds as «*einzig* Uhrenmanufaktur», a city that lives only for and through watchmaking, which is spread throughout the urban fabric. Not a street, not a house without watchmakers, the architecture itself reflecting the economic activity of the Montagnons. The watchmaking industry, according to the system of the *établissage*, needs the whole urban space to develop, in a dispersed order, in a multitude of small workshops and rooms for home workers."



Barrelet

LES RÉSISTANCES À L'INNOVATION DANS L'INDUSTRIE HORLOGÈRE

ARCHIVE

"At the beginning of the 20th century, therefore, there were several types of watchmaking buildings: the building discreetly integrating a workshop on the first floor (only numerous windows reveal its presence); the small workshop adjoining a residential building; the mixed-use building integrating in the same architectural composition workshop and dwelling; the factory still linked to a dwelling (the house of the boss); the «autonomous» factory."

APARTMENT ATELIERS



URBANISME HORLOGER, CANDIDATURE AU PATRIMOINE MONDIAL

“Not only do they manufacture all the tools necessary for this purpose, but they have also invented many of them, and all the kinds of workers that one would not be able to do without in order to complete this factory, such as painters, enamellers, engravers, gilders, etc., are gathered in these two villages; where, according to an exact calculation, it is claimed that nearly forty thousand watches are exported annually. It is certain that the genius and the industry which reign on these mountains, present a very interesting picture, and there is perhaps not in the whole universe (if we except Geneva) a place where one finds so many people as well off as here. [...]. It is only a few years ago that most of these valleys were almost a continuous forest; but by the magical and supernatural power of industry, they have been happily transformed into opulent villages and fertile meadows.”



Coxe

ESSAI SUR L'ÉTAT PRÉSENT, NATUREL, CIVIL ET POLITIQUE

"The considerable developments of industry have given rise in recent years to a special kind of architecture which must draw its means and inspiration from the science of engineering. In the construction of the factory, the building is only a slave to the material it is called upon to receive, and the architect must observe special provisions for the entry and exit of personnel, for the arrival and dispatch of goods, for water, heating, lighting and ventilation, for the transmission of motive power, for economy, stability, incombustibility, surveillance."



Lami

DICTIONNAIRE ENCYCLOPÉDIQUE DE L'INDUSTRIE ET DES ARTS INDUSTRIELS

“With the railways, with machinery, with electricity, everything has changed: the continuous rumour of the spacious and clear workshop has replaced the light creaking of the bow at the solitary workbench, in the window embrasure; the infinite division of work has confined the worker forever to his speciality, and often he even shares with the ingenious mechanism that he sets in motion a work that has become almost automatic.”



Godet

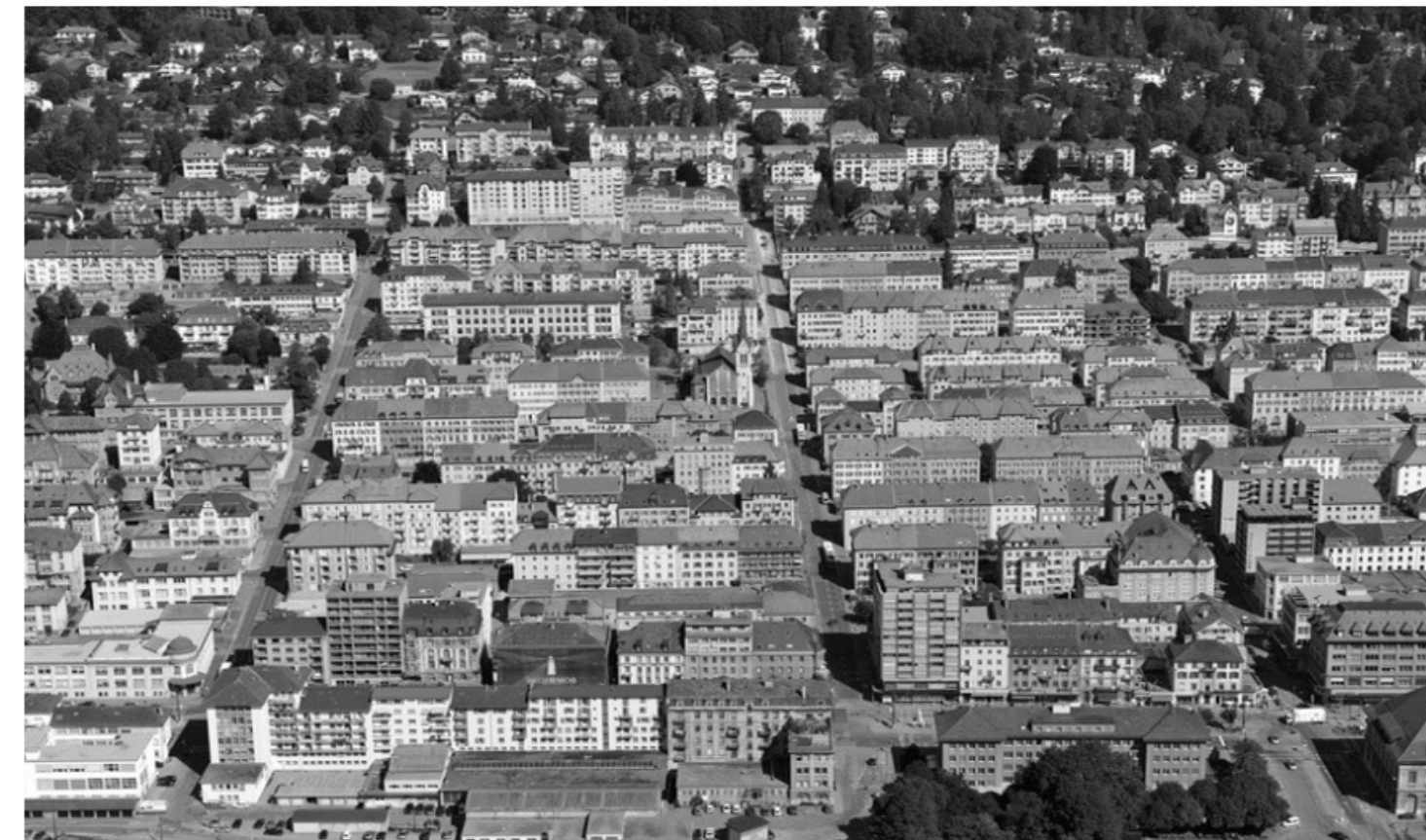
ZÉNITH, UNE INDUSTRIE NEUCHÂTELOISE

“By a series of circumstances created by the inhabitants of the Mountains and by chance, the cities which occupy the top of the Jura and Neuchâtel mountains have a creative power which will soon produce wonders, if to produce they possess the support of a single condition [...]. It is necessary for the future of the Mountains not to be hindered, that these Mountains provide their inhabitants with existence, with life at low cost, or at least at the lowest possible price. In order to achieve this result, rents must first of all be cheaper and less scarce. The railroads will hardly reduce the price of living, in La Chaux-de-Fonds, in Le Locle, in Les Brenets, if the most modest house has an exorbitant price. Everything follows the price of rents, subsistence, clothing, recreation and entertainment. When, due to the scarcity of housing, it becomes even more expensive than it is today, we will see the emigration of the working class to other localities multiply. What our mountains need is to keep their monopoly on the manufacture and trade of watches. Healthy and numerous houses, easily available at reasonable prices, are the condition for the preservation of the creative power of our mountains.”



FEUILLE D'AVIS DES MONTAGNES, DE LA NÉCESSITÉ DE BÂTIR AU LOCLE

"In the 19th century, the architectural production in La Chaux-de-Fonds was mainly the work of building contractors and presented a remarkable homogeneity of construction. The typology of the dwellings is the result of the «common practice» of the companies. Since the massif is the basic urban unit, the housing plans tend to be standardized. A frequent arrangement consists in grouping «in tandem» at each landing two crossing cells of inverted plan. This plan distributes the rooms through a central longitudinal corridor. The kitchen is thus isolated from the other three rooms. The double orientation makes the most of the sunshine. [...] It would seem, in the present state of our information, that no qualified architect was established in La Chaux-de-Fonds before the 1870s."

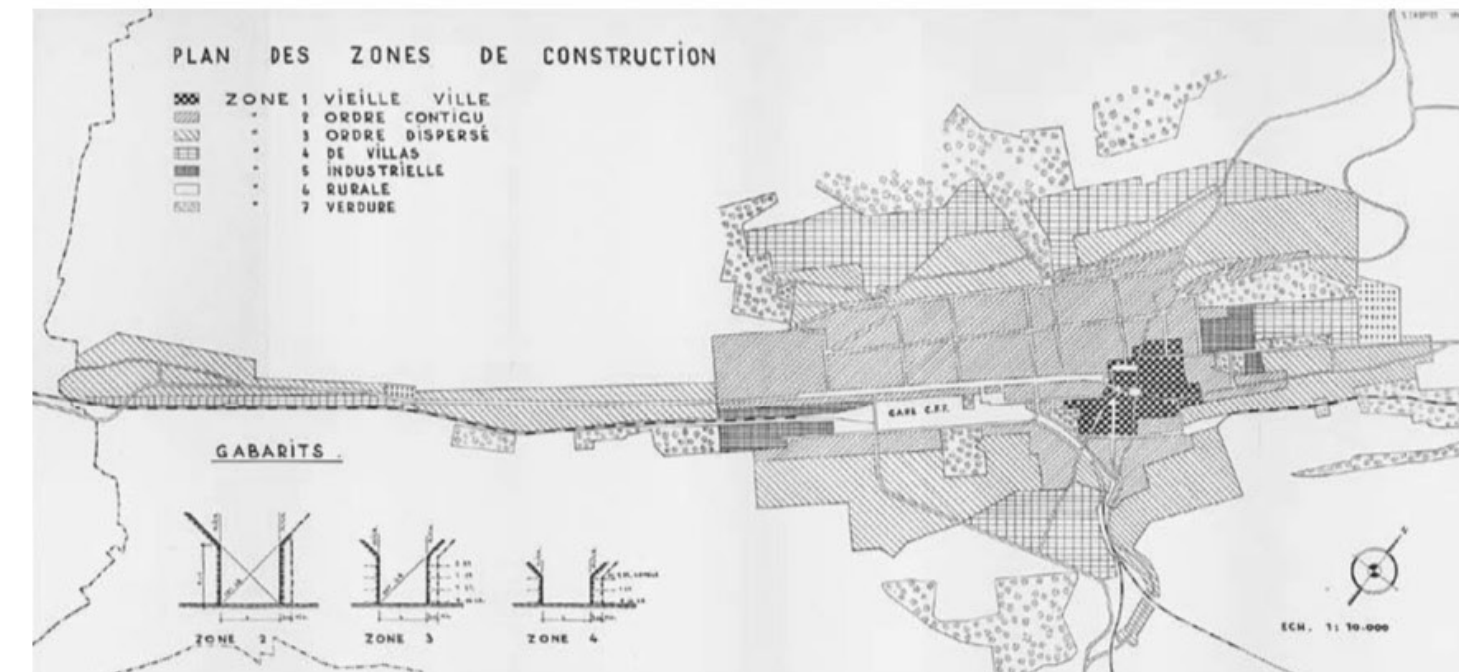


Gubler

INVENTAIRE SUISSE D'ARCHITECTURE 1850-1920



“Zoning is the operation carried out on a city map with the aim of assigning to each function and to each individual its proper place. It is based on the necessary discrimination between the various human activities, each of which requires its own particular space: residential premises, industrial or commercial centers, halls or grounds for recreation.”



Le Corbusier
THE ATHENS CHARTER

"Today she [the city] sighs when she sees so many men, women, and young girls leave the house each morning and head for the factories, this necessity of our time, these rustling hives where the task of each bee is only the atom of a fragment without any visible relation to the whole; where the effort is mechanical, where speed follows gain. But what is the use of regretting what was, what seems to us to have been better? Let us be of our time, let us make the most of it, the greatest amount of happiness for all, the highest level of morality our century can reach. Let's honor the bosses who care to offer their workers high and clear rooms, well ventilated, hygienic locker rooms and wash basins, some shade and some lawns in the yards. The notion of the necessarily ugly factory is beginning to disappear, and the architect will be born for our country, who will reveal to it a new style, beautiful simple lines, appropriate to their use, a kind of construction worthy of sheltering an industry whose vital condition is beauty as well as utility."



Godet

NEUCHÂTEL PITTORESQUE

“The size of the Billodes factory (612 workers in 1905) and its size (about twenty buildings) set it apart from other smaller factories more specifically dedicated to watchmaking. Like many of his contemporaries, Georges Favre was a paternalistic man with an unbridled desire for power and a real megalomaniac, and he seemed to have no limits to his ambitions. He wanted to create a small empire around the Billodes: housing for his workers, built with materials from his quarry and his brick factory, hotels, agricultural estates to satisfy his passion for horses, a legendary car and a villa built on the heights to dominate the whole. He wants to rule his business like an English ironmaster.”



Barrelet

GEORGES FAVRE-BULLE, HORLOGER, INDUSTRIEL, ENTREPRENEUR

“However, after the crisis that occurred during the first fifteen months of the war, the watchmaking and munitions industries flourished to such an extent that in 1919 the population exceeded 42,000. This resulted in such a shortage of apartments that our authorities had to house many families in colleges for some time. At that time, the price of labor and materials had not decreased at all, so construction was far from being profitable. Despite this, the population, including the industrialists, demanded the construction of rental buildings at any price [...]. In contrast to other industrial towns, where the factories themselves build the houses for their workers, in our town this was left to the community.”



Maistre
MAISON COMMUNALES

"For so many years, while political expression has been monopolized by those in power and their pretenders (the «new saviors of the oppressed classes»), we anarchists have gathered to shout out our rage and hope, our determination and dreams, our opposition to so much underhanded repression, in order to gradually destroy the wall of hatred and mutual incomprehension.

Without compromise and without violence, we want to realize our passions, our desires and start creating a society without a state."

"THE ANARCHIST WAKE-UP" FLYER



Depuis tant d'années, que l'expression politique est accaparée par les détenteurs du pouvoir et leurs prétendants (les «nouveaux sauveurs des classes opprimées»), nous les anarchistes, nous nous sommes rassemblés pour crier notre rage et notre espoir, notre détermination et nos rêves, notre opposition à tant de répression sournoise, afin aussi de détruire peu à peu le mur de haine et d'incompréhension mutuelle.

Sans compromis et sans violence, nous voulons réaliser nos passions, nos désirs et commencer à créer une société sans Etat.

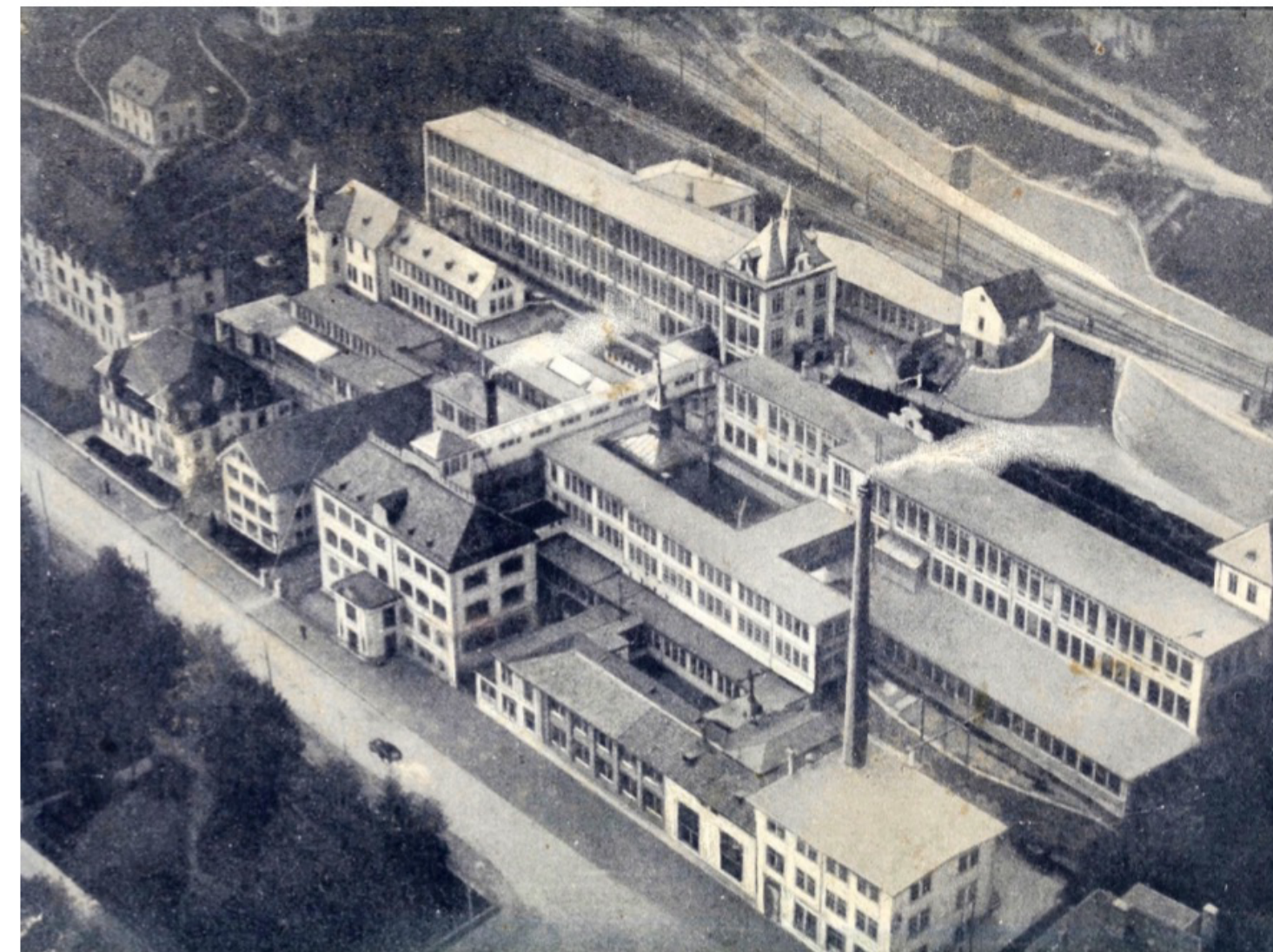
LE RÉVEIL ANARCHISTE

“The harmony is destroyed, the village has lost its aspect of bonhomie and distinction; the new building is displaced and the landscape itself suffers from this disagreement.”



Lambert

L'ARCHITECTURE CONTEMPORAINE DANS LA SUISSE ROMANDE



DEALING WITH DECAY

**"They will not leave at a moment
of despair; or desert, with
sudden and wild resolve. They
leave it only when it has attained
the apogee of its prosperity."**

Maeterlink
THE LIFE OF THE BEE



DEALING WITH DECAY

With the current increase of vacancy in la Chaux-de-Fonds, it is perhaps only a matter of time before the center of the city becomes a ghost town completely. This wouldn't be the first time that such a phenomenon happens to a mono-industrial city. There are many examples that can be found around the world, and different strategies have been put in place to revive some of them.

ABANDONMENT



DEALING WITH DECAY

Wanting to revive small towns in Italy, local governments put some abandoned houses for sale online which can be bought for a symbolic dollar. The condition is that the new owners have a certain restricted amount of time to renovate the acquired property. One of the largest of these programs is in Mussomeli, a southern town in Sicily hours from Naples and the Amalfi coast.

ONE DOLLAR HOME



DEALING WITH DECAY

Planned shrinkage, also known as municipal disinvestment in America, is a controversial public policy where the city removes certain services such as police patrols, garbage removal, street repairs, and fire protection from the most problematic areas. It is heavily criticized for encouraging the exodus of the poorer communities to make room for development by private interests. In more extreme cases, some neighborhoods are torn down without much consideration to the communities living there.

PLANNED SHRINKAGE



DEALING WITH DECAY

Smart shrinkage is a strategy which aims to concentrate quality in one place instead of having multiple problematic areas. Named «the city that embraced its decline», Youngstown opened a dialogue with the different neighborhoods and founded the Youngstown Neighborhood Development Corporation who identify the healthiest parts to fix up, and encourage few people living in the most run-down parts to move in order to demolish/replace, find new uses for the land.

“The way I view that is, planning within the realms of reality. It’s not that we don’t want to grow. Given the option to shrink or grow, anyone is going to pick grow. But we’re not operating in such a way as if we’re going to grow tomorrow or even growing now. I think it’s really a common-sense approach. It’s not like “Oh look at us, we’re dying.” It’s more like, this is our reality, and we have to make decisions a certain way based on this.”

Beniston
DIRECTOR OF YNDC



DEALING WITH DECAY

BOTTOM-UP

Bottom-up planning is letting the community decide what is best for them. In Boston, a community got together and formed the DSNI (Dudley Street Neighborhood Initiative), which is the first and only community-run grassroots organization to gain the power of eminent domain. This means that the community controls its own development and land-use. There are currently over 3'000 active members who try to revitalize the neighborhood.



DEALING WITH DECAY

In Leipzig, the city puts banners on some run-down buildings, and makes a contract with a person who wishes to occupy the place to let them live there for free. In exchange, that person would renovate the apartment he/she occupies, becoming a caretaker, hence the name «Wächterhaus». This has a lot of success and draws a younger public, often artists, which helped the culture scene in Leipzig develop.

CONDITIONAL FREE RENT



DEALING WITH DECAY

In 2013, Riga, the capital of Latvia, was preparing to become the European Capital of Culture. A non-governmental and activist circle launched a campaign where 5'000 stickers were created which would be put on buildings that had vacant space. The idea was to raise awareness of the situation and address the paradox of vacancy in which there's a large number of vacant spaces, but no space for the many new cultural, artistic and social initiatives arising in the city. Starting as an artistic intervention, it ultimately led to the formation of a wider coalition and a partnership between the city and an NGO focused on temporary use.

TEMPORARY USE



DEALING WITH DECAY

In Philadelphia Pennsylvania, the Village of Arts and Humanities was born with the help of an arts organization which renovated dozens of urban lots and empty buildings with murals, mosaics, and gardens. It received the Rudy Bruner Award for Urban Excellence in 2001.



DEALING WITH DECAY

SQUATTING

In Copenhagen, Denmark, an abandoned military area became the home for homeless people in the 70s. Because of a lack of affordable housing, the site became somewhat of protest against the Danish government. More and more people moved there and formed their own village, growing to 1000 residents. They named it Freetown Christiania and the community lives with their own rules and philosophies. Today it has its own electricity plant, a bath-house, a giant athletics building, and yoga center. It has also become a big tourist destination to showcase an alternative way of living.



THE QUESTION OF HERITAGE

“In the course of the industrial development of recent years, our old neighborhoods have been neglected and even disorganized, as has been the case in many other cities. It is now time to reorganize and adapt these neighborhoods to a dignified and modern living environment. The Old Town must not become a museum, but must retain its social aspect.”

MINUTES OF THE GENERAL COUNCIL OF THE CITY OF LA CHAUX-DE-FONDS, 1977



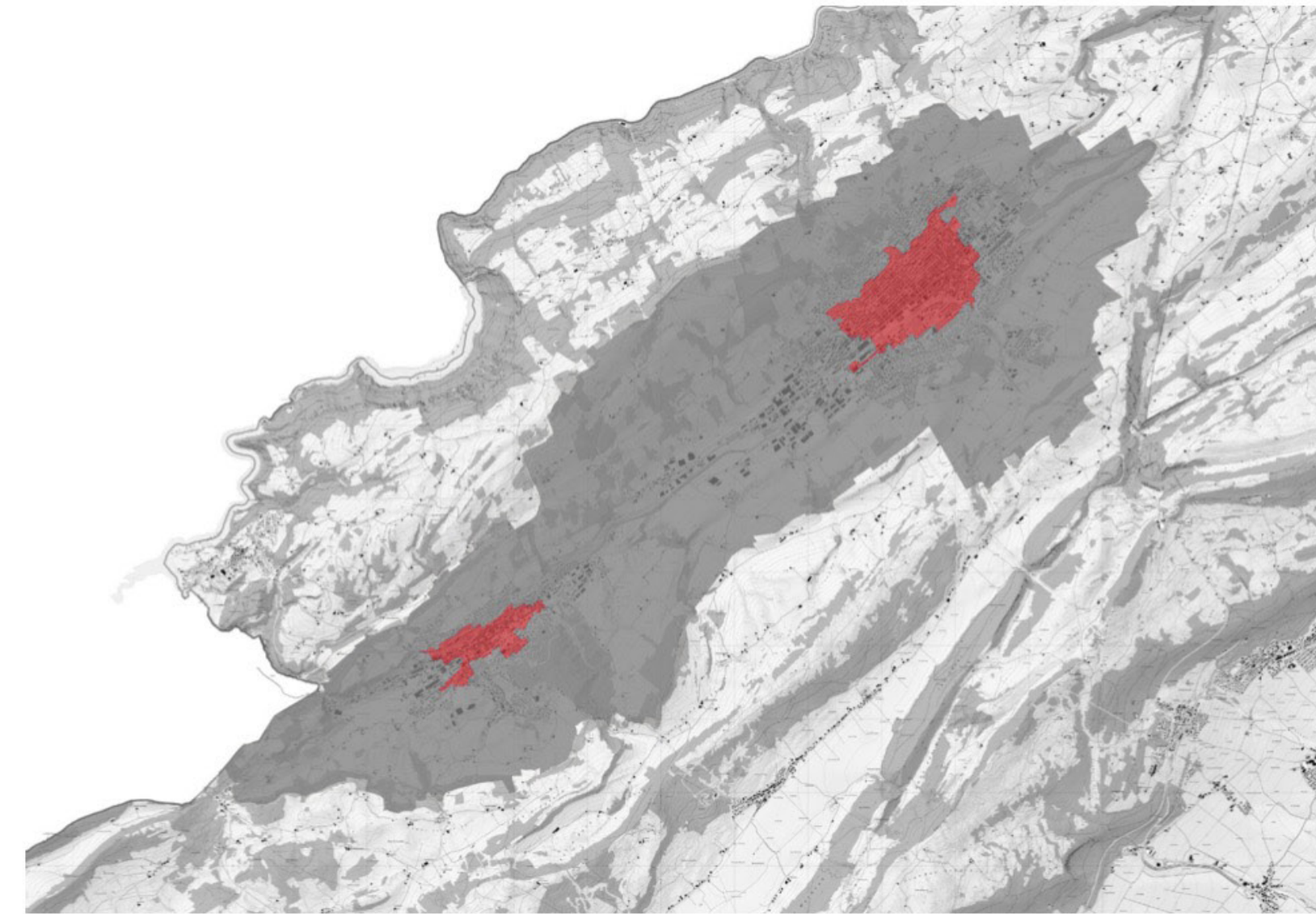
THE QUESTION OF HERITAGE

The candidature “La Chaux-de-Fonds/Le Locle, Watchmaking Urbanism” is presented to UNESCO as an evolving cultural landscape. Because of its unique testimony to a cultural tradition, its illustration of a type of building or architectural ensemble or landscape illustrating a significant period in human history, the object complies with several UNESCO criteria.

In 2009, the two cities became a World Heritage Site and because of this, very little change can be brought to them. It is important to both the city and UNESCO that they maintain their heritage as a testimony to the watchmaking urbanism.

This raises two questions:

1. How can a city which cannot change still be part of an evolving cultural landscape ?
2. How can they inherit this watchmaking urbanism today, when the watchmaking production has moved out of the city ?



THE QUESTION OF HERITAGE

Art. 217. Objectives for Old Town Zone (ZVA)

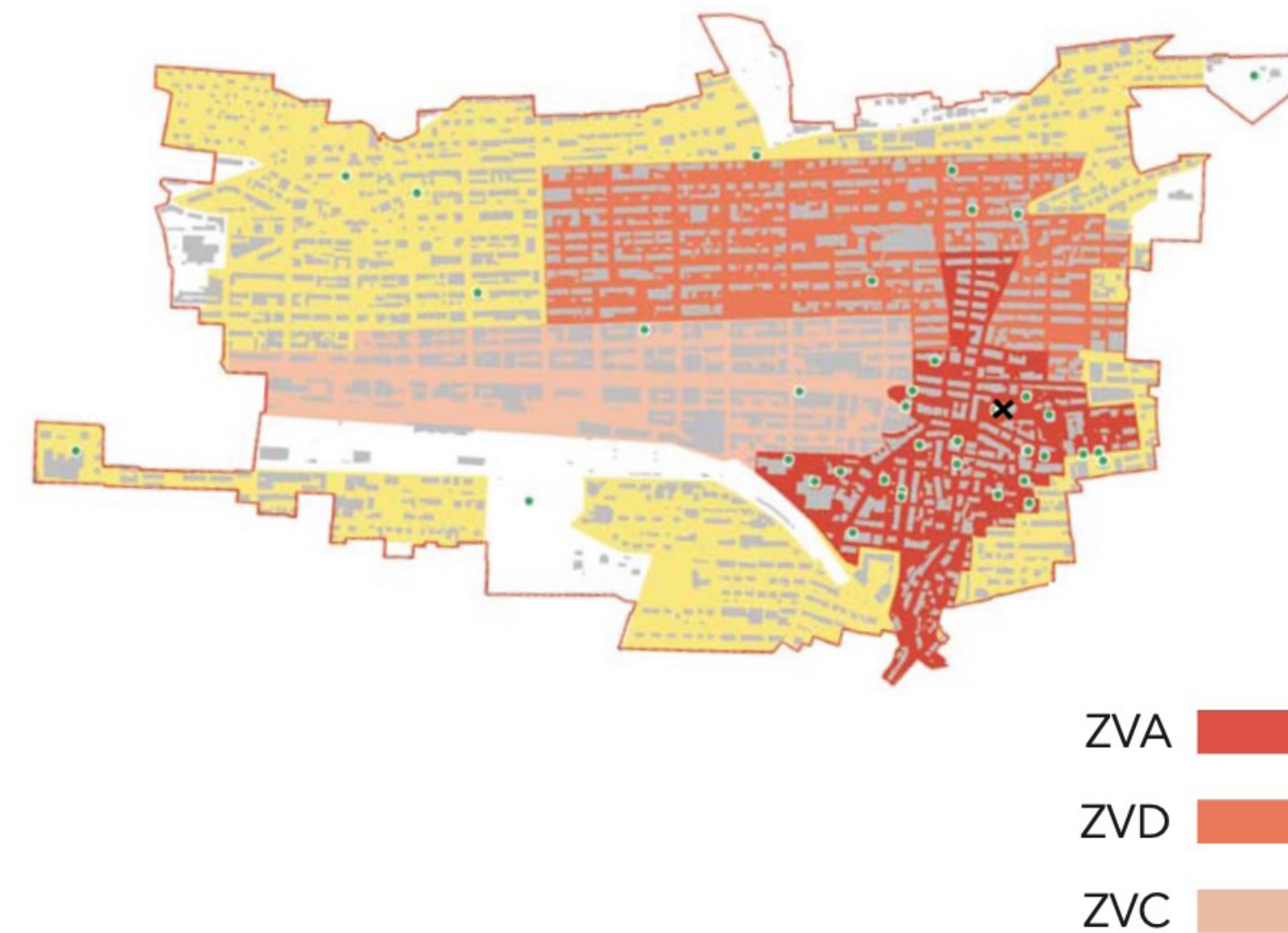
In the Old Town Zone, the objective for the site plan is to preserve the general aspect of the zone, in what concerns the implantation of the buildings, their volumes, their general aspect and their surrounding space.

Art. 218. Objectives for Damier Zone (ZVD)

In the Old Town Zone, the objective for the site plan is to preserve the rigour and regularity of the constructions, especially concerning the typology of the facades and roofs, and their surrounding spaces.

Art. 219. Objectives for City Center Zone (ZCV)

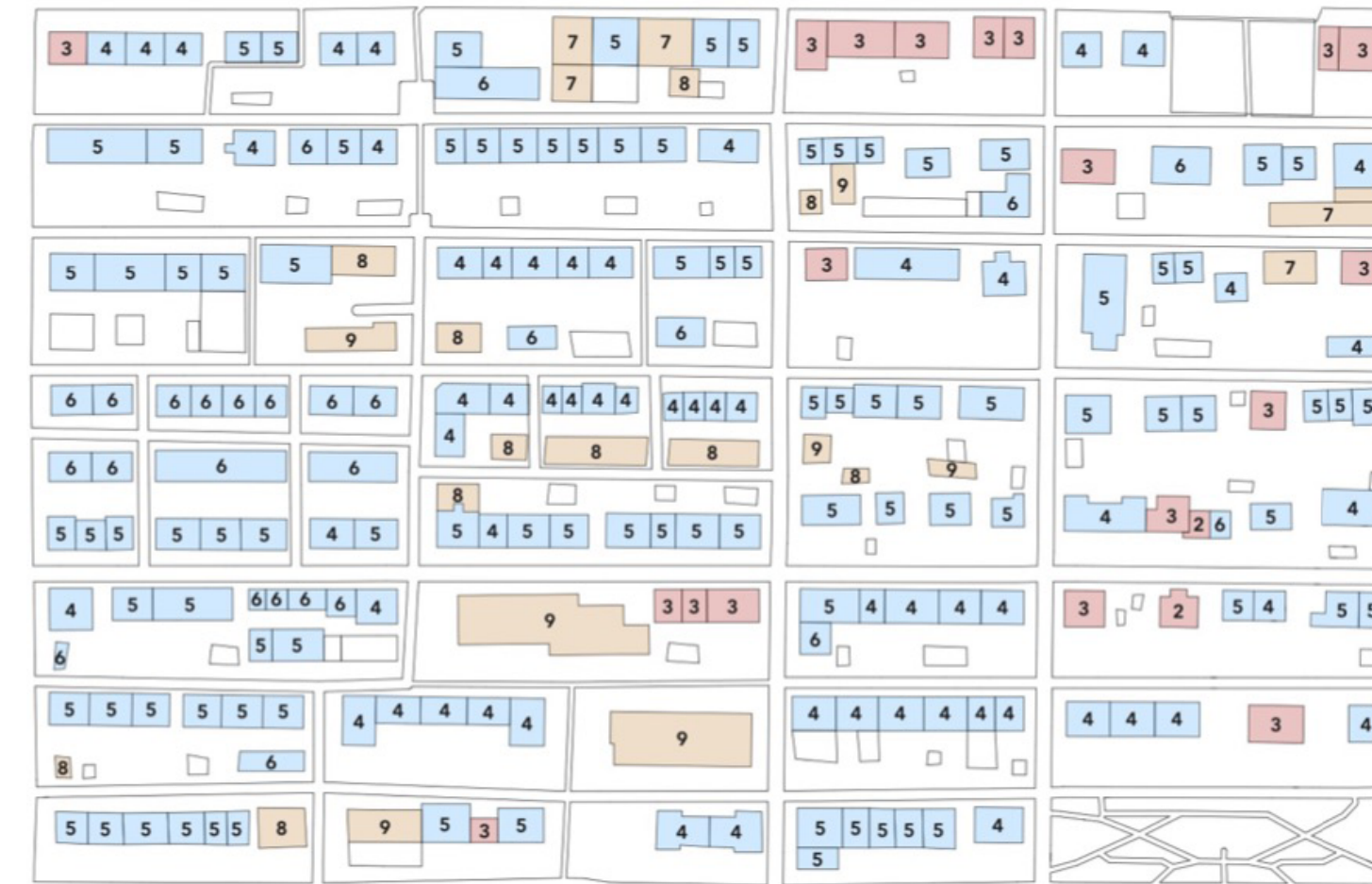
In the City Center Zone, the objective for the site plan is to preserve the diversity of styles and epochs to keep the historical evolution of the city readable and to enable its future evolution.



THE QUESTION OF HERITAGE

87% of the buildings in la Chaux-de-Fonds were built before 1930, and as such testify to the history and evolution of the city. Each building has a value attached to them which judges them by coherence to the watchmaking urbanism. As a general rule, buildings built before 1930 are considered interesting and well integrated, and ones built after are considered banal or even disturbing. Only very few buildings in the third category are housing, most are schools or commercial buildings.

BUILDING CLASSIFICATION



CATEGORY 1: INTERESTING BUILDINGS

- 0: REMARKABLE
- 1: MULTIPLE INTERESTS
- 2: EVIDENT INTEREST
- 3: PROBABLE INTEREST

CATEGORY 2: WELL INTEGRATED BUILDINGS

- 4: TYPICAL
- 5: PICTURESQUE
- 6: NEUTRAL, BANAL

CATEGORY 3: BANAL OR DISTURBING BUILDINGS

- 7: WITHOUT INTEREST
- 8: DISTURBING
- 9: DISTURBING AND STANDING OUT

THE QUESTION OF HERITAGE

The few places in la Chaux-de-Fonds which aren't considered to be part of the watchmaking urbanism are allowed to evolve. But quite often, where change does happen, specificities which aren't related to watchmaking itself but to the city as a whole, are erased. In the case of the train station, 100 years ago, the square would transform into an ice-skating rink in winter.

DIMINISHING SPECIFICITY

2022



1922



THE QUESTION OF HERITAGE

One of the ways La Chaux-de-Fonds wants to increase its attractiveness is by transforming the Avenue Léopold-Robert into a pedestrian zone. Being the main artery of the city, it was conceived for circulation and has a very distinctive character with its 6 lanes. As with the train station, it also isn't considered to be part of the watchmaking urbanism and isn't as protected as the damier center. Therefore, much of the attention is brought to this street and the damier is being left behind. Urban quality is being condensed to this single strip instead of spreading over the whole city.

DIMINISHING SPECIFICITY



THE QUESTION OF HERITAGE

The protection of the watchmaking urbanism comes with a cost. Most of it is housing, and with its strict guidelines on renovations and impossibility to tear down and rebuild, the expenses outweigh the benefits for the landlords. But since there is a growing demand for more modern housing, new constructions are being built where they can; on the periphery of the protected center. Perhaps aimed at attracting new residents to come live in la Chaux-de-Fonds, these newer apartments also attract the local residents living in the protected center, adding more vacancy.

COST OF PROTECTION

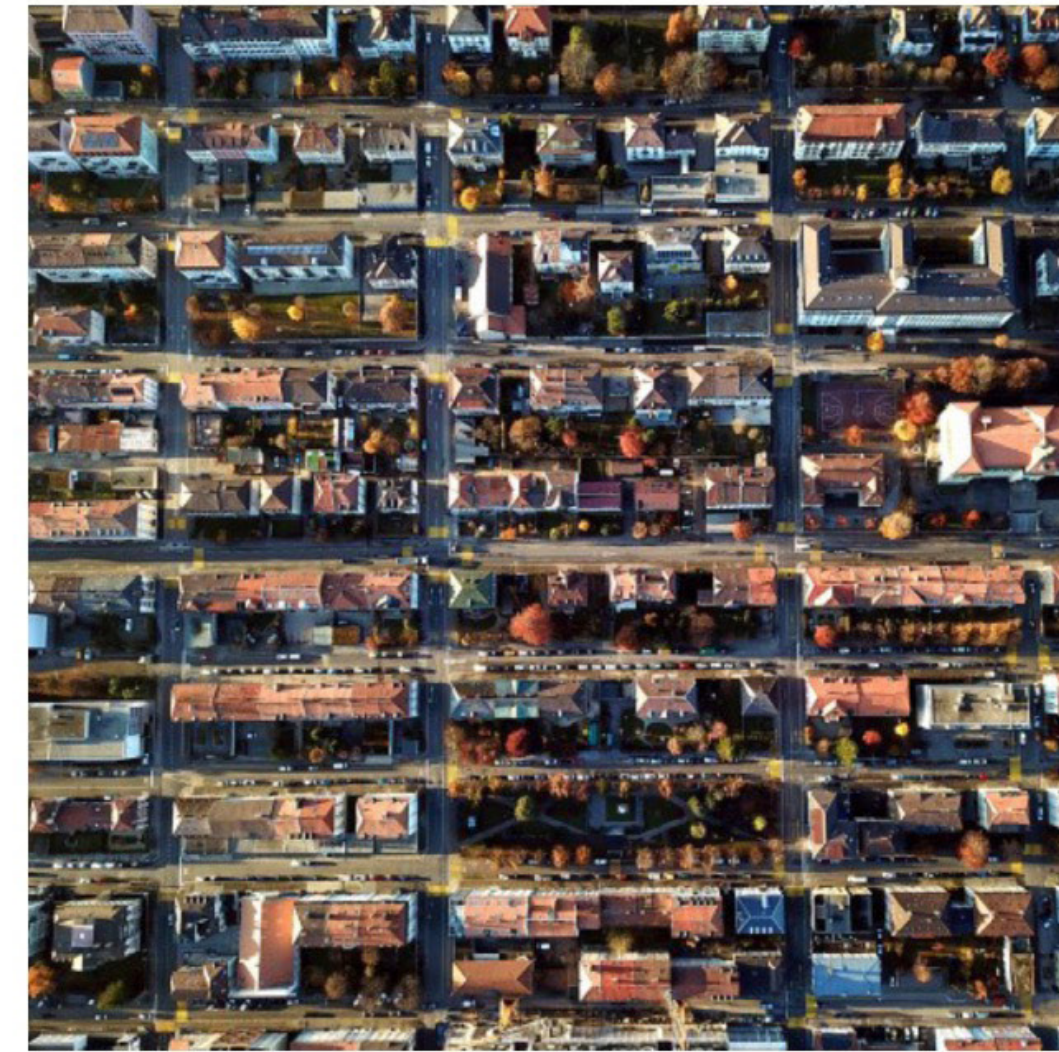


THE QUESTION OF HERITAGE

With watchmaking having left the center to meet its modern logistical and spatial requirements, and the people leaving the center to meet their modern needs, there are concerns as to its heritage. Is the watchmaking urbanism of la Chaux-de-Fonds only about its physical architectural objects? If so, then it is a museum. If it wants to be a city, then it should consider its people and spirit.

La Chaux-de-Fonds is more than watchmaking. To preserve the heritage to its full extent, it shouldn't consider only what and where they produced watches. It should also consider how it produced these watches, and who they were produced by. Its the people themselves, who come from the mountains, who in winters would cultivate their craft and intellect, and who would live and work together in a city adapted to their needs. And today the needs of the people have shifted but the city cannot adapt to them.

PRESERVING HERITAGE



NINE STORIES

“Instead of vainly struggling, therefore, they do what they can to safeguard the future; (...) they fly to their reserves of honey, into which they eagerly dip in order to possess within themselves the wherewithal to start a new city.”

Maeterlink
THE LIFE OF THE BEE



NINE STORIES

The vacant spaces present throughout the protected center of la Chaux-de-Fonds can provide the city with a new opportunity for growth. If they are seen not as empty apartments, but rather as empty spaces, they can take on many programs which relate to the city's true heritage and become current once again. This could become a strategy to limit the number of vacancy in the city; by repurposing them into communal spaces, they lose their status as vacant apartments and decrease the overall vacancy rate.

Although the dense amount of apartments in the Damier are part of the watchmaking urbanism, they have become obsolete. They do not respond to the current situation and are no longer part of the evolving landscape the city is proud of. In order to reinforce the heritage of la Chaux-de-Fonds and its specificity, the city can look back at all the stories which defined it, and use them as tools to inform its future.

The following pages contain a collection of stories which look at the city through different lenses. They are put in relation to quotes from urban theorists, architects, and philosophers, to alienate the stories from their past and make them current.



"Actors require a «zone of indetermination», that is, a zone of uncertainty where multiple perspectives can coexist. Actors create these zones of uncertainty in fast changing heterotopias."



Shane
RECOMBINANT URBANISM

“This means, essentially, that the building be built around the process of community organization, and that the place be clearly recognizable as community territory.”



Alexander
A PATTERN LANGUAGE

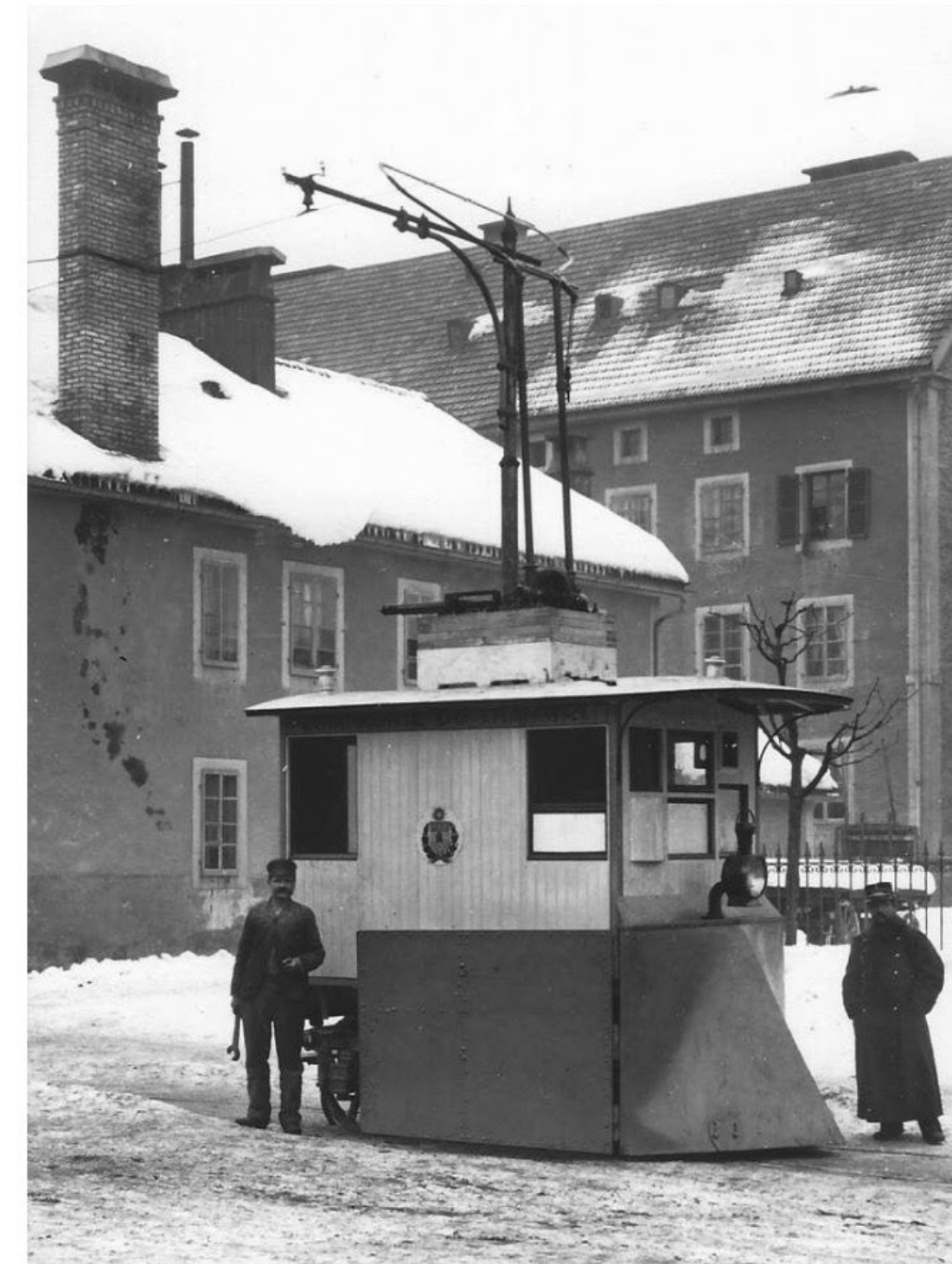
“The solution to this vertical problem was the rooftop water tower, filled by basement pumps triggered by water depletion. Not only was the tower able to provide water under pressure to even the tallest new buildings, but it also acted as a reservoir, providing spare capacity to handle peaks in demand.”



Ascher

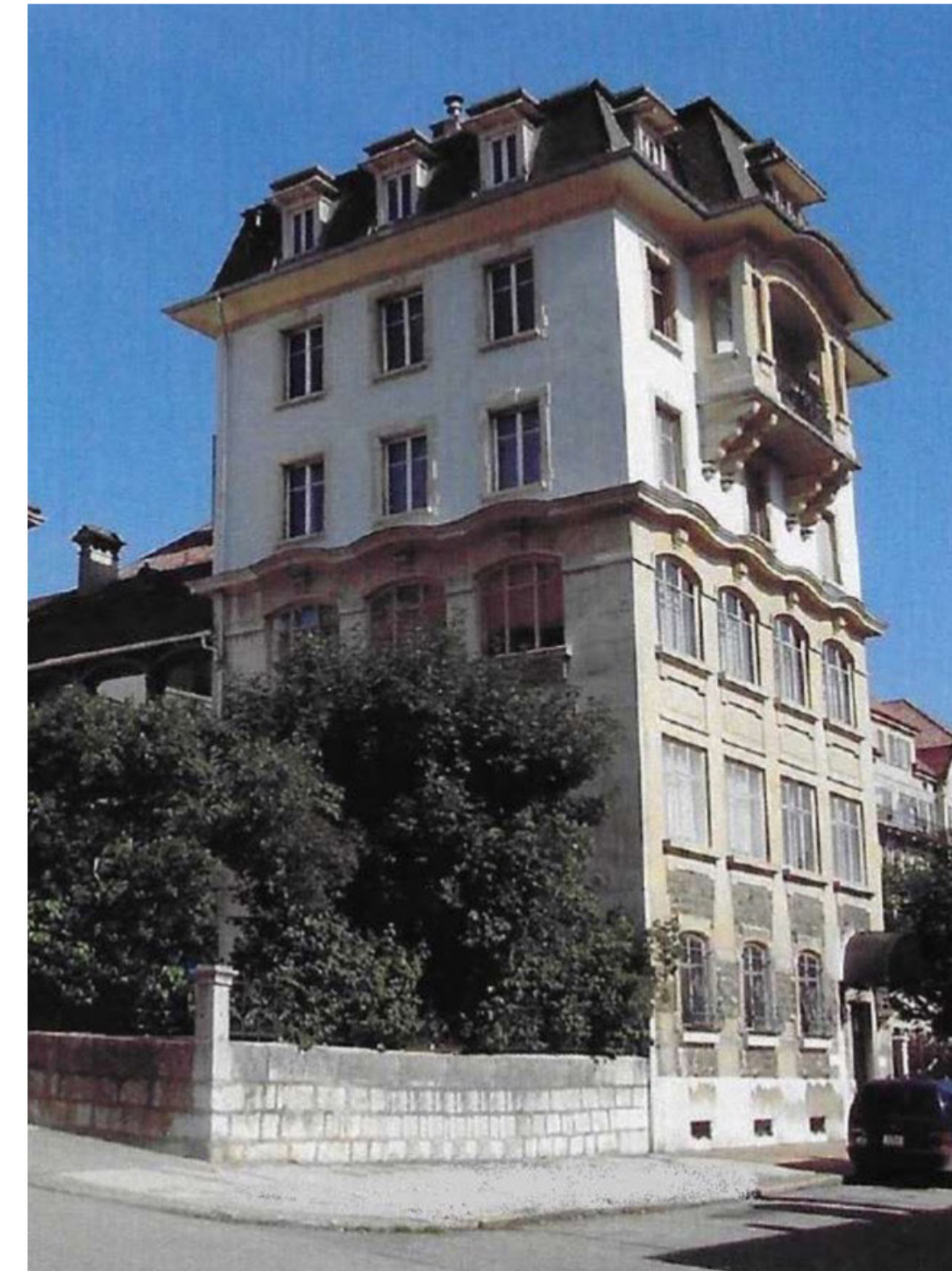
THE WORKS ANATOMY OF A CITY

“The goal is to achieve maximum efficiency with minimum investment of energy and resources.”



Shane
RECOMBINANT URBANISM

“In such a society, the home workshop becomes far more than a basement or a garage hobby shop. It becomes an integral part of every house; as central to the house’s function as the kitchen or the bedrooms.”



Alexander
A PATTERN LANGUAGE

“Other cities should take initiatives to build cheap residential areas for low income residents including migrant workers who want to stay in the cities where they work. By building those areas, big cities could show more consideration for low income residents, and provide them with more welfare.”



Greenspan

SHANGHAI FUTURE MODERNITY REMADE

"The city fosters art and is art; the city creates the theater and is the theater."



Mumford
THE CULTURE OF CITIES

"[...] let us hope they will be built in garden cities or in other isolated places where the new life, the new morals and the new architecture can all flourish together."



Richmond
MARKETING MODERNISMS

“The epicenter of the city, the heart of the heart of the [...] project, lay in the main plaza, which contained the icons of temporal and spiritual power and their concomitant activities.”



Levy

LEXIKON OF THE HISPANIC BAROQUE



Heinrich SIEGFRIED
La Chaux-de-Fonds, 1863

Frédéric-Samuel OSTERVALD
Description des montagnes et des vallées qui font partie de la Principauté de Neuchâtel et Valangin, 1766

Hans Christian ANDERSEN
Histoire de la Ville du Locle, des origines à la fin du XIXe siècle, 1960

Hans MATHYS
La Chaux-de-Fonds. Son commencement, son développement, et son accroissement, 1876

Madame [de Besançon] GAUTHIER
Voyage d'une Française en Suisse et en Franche-Comté, 1790

Pierre-Yves DONZÉ
Les Patrons horlogers de La Chaux-de-Fonds, 2007

Charly GUYOT
Le voyage du général Miranda dans la Principauté de Neuchâtel en 1788, 1934

Robert PINOT
Paysans et horlogers jurassiens, 1979

Pierre DUBOIS
Lettres sur les fabriques d'horlogerie de la Suisse et de la France, 1853

Numa DROZ
Ce que nous dit le centenaire, 1894

Charles THOMANN
L'histoire de la Chaux-de-Fonds inscrite dans ses rues, 1965

A. MAISTRE
Maison communales, 1944

Guillaume NUSSLE
Essai sur La Chaux-de-Fonds, 1944

Guillaume COXE
Essai sur l'état présent, naturel, civil et politique ou lettres adressées à Guillaume Melmoth, 1781

André LAMBERT
L'architecture contemporaine dans la Suisse romande, 1904

Raoul COP
Histoire de La Chaux-de-Fonds, Le Locle, 2006

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Über die Lage städtischer Häuser und Strassen zur Sonne, 1907

Jacques GUBLER
Inventaire Suisse d'Architecture (1850-1920), 1982

Louis MARCHAND
La Chaux-de-Fonds, capitale industrielle et commerciale de l'horlogerie, 1893

Geneviève HELLER
Le paysage industriel: horlogerie, habitat, fabrique, 1991

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Philippe GODET
Zénith, une industrie neuchâteloise, 1908 Neuchâtel pittoresque. Vallées et montagnes, 1902

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La Chaux-de-Fonds, capitale industrielle et commerciale de l'horlogerie, 1893

Eugène-Oscar LAMI
Dictionnaire encyclopédique et biographique de l'industrie et des arts industriels, 1883

Jean-Marc BARRELET
Georges(-Emile) Favre-Bulle, horloger, industriel, entrepreneur (1843-1917), 2001

François ROBERT
Voyage dans les 13 cantons suisses, les Grisons, le Vallais et autres pays et états alliés ou sujets des Suisses, 1789

Charles L'EPLATTENIER
L'esthétique des villes, 1910

Jean-Marc BARRELET
Les résistances à l'innovation dans l'industrie horlogère des montagnes neuchâteloises à la fin du XIXe siècle, 1987

E. Berger, M. Chaussard
Études de la répartition des précipitations dans le département du Jura, en fonction de l'altitude, 1959

Samuel JACCARD

FREE DIPLOMA PROJECT

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