Scientific Report

EGEA Western Regional Congress 2025

Catan's compass: navigating historical land use

Contents

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1 Introduction

The Western Regional Congress 2025 was located in the lovely accommodation “De Hoge Rielen”, a former military basis, in the Campine Region in Northern Belgium. Here, 120 young geographers explored the topic of historical land use, focusing on how former land uses and planning decisions influence todays (urban) landscape.

Flanders has a high population density and a city is always close. A lot of Belgium’s population lives in the “countryside” and commutes to the city to work. However, countryside is put in brackets as the border between city and countryside is rather fuzzy. Over the last 50 years, spatial planning was rather insufficient, and land use competition was high. This in combination with a growing population, lead to the appearance of ribbon development. Unfortunately, this phenomenon has a lot of negative consequences: it’s hard to organise efficient public transport, to connect natural areas, to prevent flooding, … The workshops and excursions explored historical land use patterns, and some took a look into what future development could look like. I would like to thank the amazing workshop and excursion leaders for their contribution to this congress, without them it wouldn’t have been possible. This documents is a collection of the reports of the workshops and excursions, summarising their content and results. Enjoy the reading!

Lotte Van Beurden & Nele Troosters

Scientific Coordinators

Figure 1: Our logo

Figure 2: Group picture

2 Workshops

2.1 Workshop - "The Essentials of Geoguessr Mapmaking"

Workshop Leaders: Radim Indra (indraradim@gmail.com)
Eliska Ptackova (elipta@seznam.cz)

2.1.1 Introduction

Geoguessr mapmaking may sound like a straightforward skill but in reality, the topic has many unwritten rules and principles that every person making maps in Geoguessr has to know. The goal of this workshop was to enable the participants to create their own maps in the popular map-based game Geoguessr. This can help further popularise geography and help with ideas for the organization of geography-related events. We wanted to add to the range of workshop options with a more practical content with an output more shareable than knowledge.

2.1.2 Methodology

During the first workshop session, we played geography-related icebreaker games (map of entities made from participants, two truths & one lie about travelling). Most of the session was dedicated to explaining the essential information about the game itself, what to look out for when playing and how to make sure that the maps themselves will have these criteria met. We ended the session with playing Geoguessr with all participants.

In the second session, we guided the participants through the process of map creation + introduced the participants to the tools through which maps can be created. This was mostly done by sharing the workshop leaders' screen with live explanation while the participants were going through the steps on their own laptops. The rest of the session was left up to the participants for creating their own maps. We used various tools to make these maps such as **map-making.app** or **map-generator.vercel.app**. Thanks to these 3rd party sites, participants could make these maps without a need for a Geoguessr Pro account.

In the last workshop session, participants finished their custom maps and workshop leaders uploaded these maps into Geoguessr. Participants could test and play the maps of other groups. In the workshop presentation, we have set up our laptops with preloaded maps, allowing anyone to play the maps participants have created.

2.1.3 Results and Interpretation

Participants have created their own custom maps with different themes: **Bridges around the World, Castles in Europe, Islands around the World, Meme Locations, Ikea Stores, EGEA Recent Congress Locations** and **EGEA All Congresses**. The games can be played via the Geoguessr game app. The maps can be found on the following account link https://www.geoguessr.com/user/673348fc712f8f8c076cf402 in the section "Maps by Radim". The Meme Locations map can be found on this link: https://www.geoguessr.com/quiz/fffd1d91-2d7c-4d25-a14b-fdb9647fb9ce?r=5c6d88f9f8f7fb63d0486a1d.

Figure 3: Geoguessrs at the poster presentation

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2.2 Workshop – Geographers as Local/Regional Development Managers in Belgium

Workshop Leaders: Gabrijel Kučko & Ivica Hrkać, EGEA Zagreb

2.2.1 Introduction

The topic of the workshop: is the role of the geographers as actors in local and regional development on the example of Belgium. We had two main research questions: "What can geographers actually do to develop places like Belgium?", and "What can geographers do in other workplaces to support this development?" The space is not an infinite resource because actions we take in it result in long-lasting materialized consequences. To add to this, one of geographers' primary fields of work is studying, explaining, planning and predicting the interactions between humans and nature, so they certainly have a big and important role in its management. When put in real use, it also interacts with other actors in space like politics, industry and other sciences. We were inspired by a political roleplay about the SDGs of the EU and we wanted to adapt it to more geographical way of thinking.

2.2.2 Methodology

The workshop was divided into three sessions. In the first session, we got to know each other a bit better and tried to get everybody on the same page with the preexisting knowledge about Belgium, its natural and social features, as well as the knowledge about the role of foreign investors and the EU. We used the perception of each person to brainstorm about the idea of Belgium first. After that, participants synthesized the official statistical data found online which helped them to understand the spatial differences inside Belgium and how they affect the people and environment. That knowledge was used in the 2nd session where participants developed strategies to tackle the existing problems found in Brussels, Flanders and Wallonia, as well as investment frameworks for the robotics company which wanted to build a facility in Belgium and for the EU in the light of SDG Goal 7: Affordable and clean energy. These problems were set beforehand by the leaders of the workshop in the manner of three pillars of sustainable development. In the third session, participants presented their work in a short roleplay and those who were assigned the investors' role picked a project to invest in.

Figure 4 - Brainstorming, Session 1

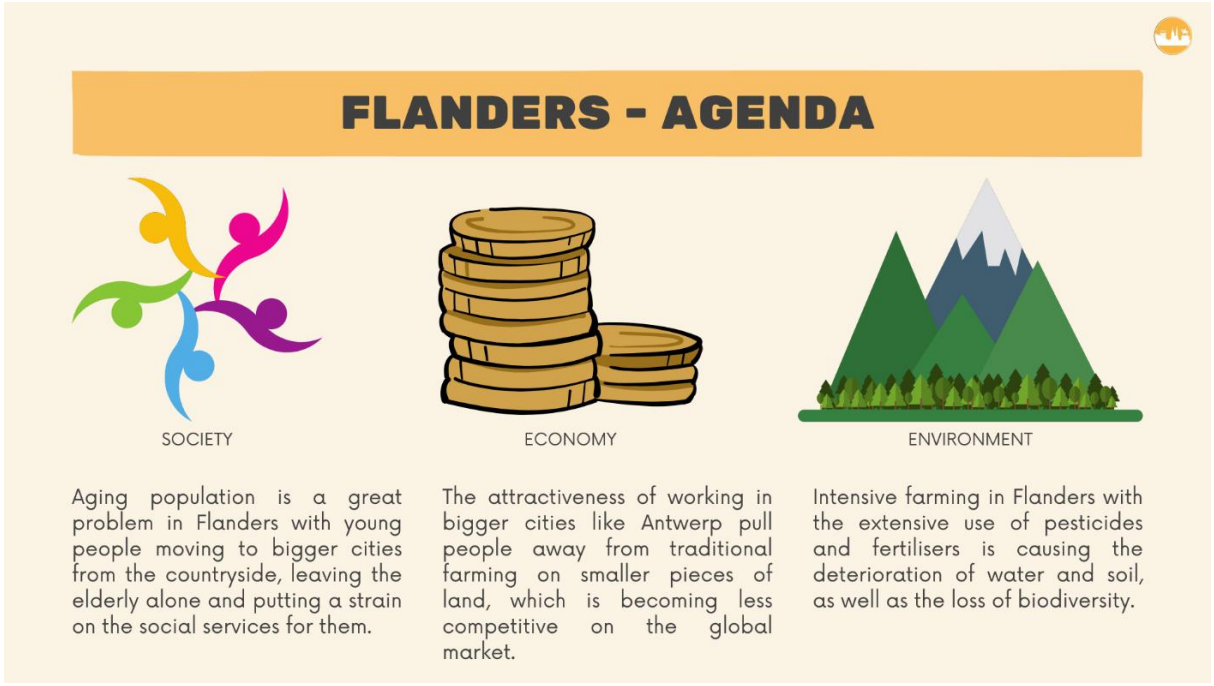

Figure 5 - Example of set problems regarding the 3 pillars of sustainable development for Flanders

2.3 Results and Interpretation

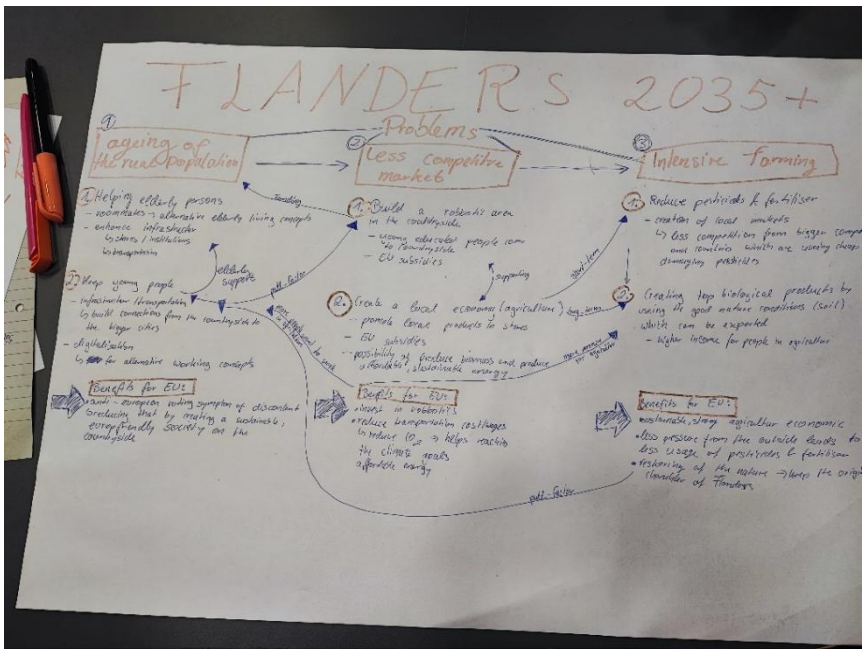

Figure 6 - A project picked by a robotics company - Flanders 2035+

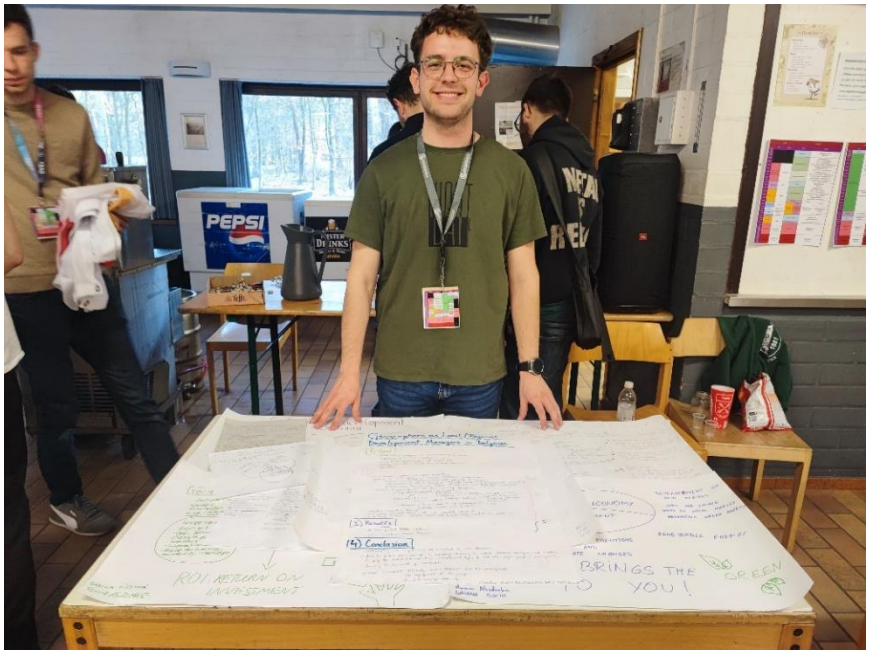

Figure 7 - All the output made during the workshop

These results show a multitude of possible options when tackling real problems in a unique space-time frame of 21st century Belgium and its regions and some parts of it can find its place when developing real politics and measures like clustering different companies which can then collaborate and attract young people in underdeveloped parts

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of the country. The final result of the investments' choices (the EU picked Wallonia, and the robotics company picked Flanders) did not come as a big surprise, however the process showed the importance of compromising and collaborating with others, as well as the need for a good presentation to assert your ideas in front of the audience, which connects our workshop to soft skills, too. It would have been nice to spark the final debate between the participants a bit more with some bold statements, but pretty much everything else went as planned and we are really satisfied with the team, support and the results we had.

2.2.4 Literature

Atlas of Belgium (2025): https://www.atlas-belgique.be/geoclipair/web/?lang=en#view=map12&c=indicator [21 Feb 2025]

BISA (2025): https://bisa.brussels/themas [21 Feb 2025]

Statbel, Belgium in figures (2025): https://statbel.fgov.be/en [21 Feb 2025]

Statistics Flanders (2025): https://www.vlaanderen.be/en/statistics-flanders [21 Feb 2025]

Walstat (2025): https://walstat.iweps.be/walstat-accueil.php [21 Feb 2025]

2.3 Workshop - “Cartes de Ferraris”

2.3.1 Introduction

Our Workshop, titled Cartes de Ferraris: Tracing the Past, Shaping the Future, focused on the Ferraris maps, an 18th century set of topographic maps covering the area of today’s Belgium. We introduced multiple aspects of these maps, such as the historical context, the people behind the mapping, geodetical accuracy and methods of modern age maps and how we can use old maps for urban planning today. Our goal was to let our participants experience the maps on their own using interactive methods and capture the interesting information and collaboration of the participants for the final outputs during the workshop presentation.

2.3.2 Methodology

During the three sessions of our workshop, we tried to let the participants engage as much and as actively as possible, so that besides gaining the knowledge of the historical understanding of the maps, they also experience the possibilities through collaborative learning when using their analytical skills.

Figure 8: Workshop session 1, the theoretical introduction

For this we used the marketplace method in the first session and a roleplay in the second session. Therefore, after getting to know the participants and the introduction, we let them roam through the room. There they could explore the “market stands” with different topics and focus on the aspects they were interested most in.

The materials covered the topics of the historical context of Austrian Netherlands at the end of the 18th century, a short introduction of Count Joseph de Ferraris, the creator of the maps, the historical context of the overall mapping, the geodetic accuracy and modern applications for historical maps of that era. Besides the basic information provided at the stands we also provided additional materials through QR-codes. That way our participants were able to dive deeper into the topics they were interested in. These contained among other things scientific articles, lexicon phrases or examples.

After discovering the different stations, we set up a World café style discussion. Stopping by at every station, we asked participants who dived deeper into that topic to expand on what they learned to the group. Then we discussed and highlighted the most important aspects of the given topic. This way all participants were able to experience an overview of all information, even if they didn't visit all stands and were able to share their own thoughts and further information, like sharing web applications for comparing old maps of their own region, such as the Bayern Atlas or geopunt.

Figure 9: : Workshop session 2, the city planner roleplaying discussion

The second session's goal was the active application of the information acquired during the first session. At the end of the first session, we gave the participants cards with roles they should perform during a city planning roleplay game. They were given time to prepare their character, arguments and goals that an 18th century citizen would have. Every group faced a realistic scenario they had to prepare "their" city for based on sheets of the Ferraris map. In the game the city council had to convince their mayor which action to take to both fulfil their own interests and face the problem at hand. The conclusions were then visualised on the printouts of the Ferraris maps to visualise their urban planning ideas. Common approaches included building bridges to connect different parts of the city and to ensure possible expansion, making space for sheep pastures to increase agricultural possibilities or additional security measures. For further engagement each scenario had a twist only handed out after the discussion started. This gave the participants an impulse to rethink the changes they made within the city and adapt to new situations.

The third session focused on producing the outputs. The participants discussed different aspects in groups and created posters, a short roleplay station and a web application comparing the Ferraris maps to today. By that, we wanted to showcase the bandwidth of the Ferraris

Figure 10: Workshop session 3, the output preparation

maps and that that there's something interesting to them for everyone.

2.3.3 Results and Interpretation

Our results showcased the participants' thorough understanding of the context, methodology and usability of the 18th century military mapping of today's Belgium.

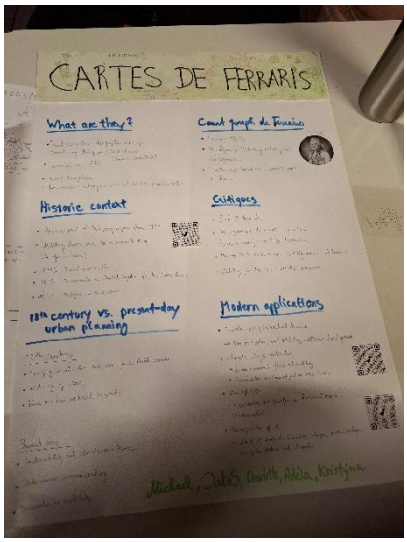

Figure 11: The informative poster

The outputs reflected the different aspects we discussed. The first group made a visually appealing poster focusing on the theoretical parts such as history, modern uses or geodetical accuracy, while another group prepared an interactive map comparing the Ferraris maps with how the areas look today. The third group prepared a roleplay station to showcase 18th century urban planning and a short, interactive way to people curious about the workshop, which attracted attention and allowed the congress participants to explore further. The last group prepared a physical version of interactive maps, using examples of the urban planning decisions from the roleplay to explain what they did during the second session.

We collected information about the overall effectiveness of the methods we used via Google forms. From the total of 20 participants, we received 11 responses. We asked about their rating of the marketplace method, the world café discussion and the roleplay approach. We got overwhelmingly positive results, with constructive criticism such as too much information in the marketplace method info sheets, not communicating the time left properly or not enough direction during the discussion parts.

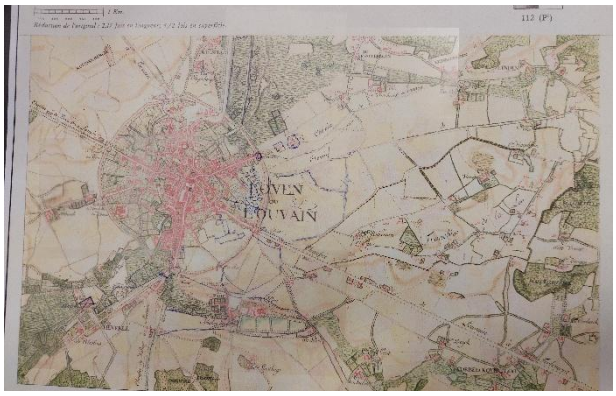

Figure 12: Alterations made on the city plan of Leuven

Our goals were achieved by the high levels of interactivity and participation by the workshop attendees. The outputs showcased that the participants understood the topic of the Ferraris maps thoroughly and were able to pass that knowledge on other people effectively and in an engaging way.

2.4 Workshop "Beers Across Belgium: How Brewing Impacts the Country's Economy"

2.4.1 Introduction

The aim of the workshop was to present the impact of brewing on Belgium's economy, along with a brief comparison of the brewing situation in Belgium, Poland, and other EU countries.

2.4.2 Methodology

Our training was divided into three sessions. During the first one, we provided participants with general knowledge about the country and the history of brewing through an interactive quiz to engage the group. We also presented data on beer import, export, production, and per capita consumption across the European Union. Additionally, we discussed the negative brewing trend in Belgium – the decline in beer consumption and the number of breweries. The session concluded with a short film about beer production, and an overview of beer styles produced in Belgium, especially those characteristic of the country.

In the second session, we held a debate in which participants had to present both positive and negative opinions on topics such as: "Is non-alcoholic beer still beer?", "Should beer be subject to stricter advertising regulations?" and "Beer as a social drink – should it be consumed in company or alone?". After the debate, we moved on to a blind tasting of Belgian beers. Participants sampled 11 typical Belgian beers of various styles and rated each in the following categories: aroma, bitterness, intensity, drinkability, and overall score.

During the final session, we discussed the results of the beer tasting carried out in the previous session. The most liked and least liked beers were identified. Afterwards, participants were divided into three subgroups and created posters summarizing the knowledge acquired during the training. The poster topics were: Chain of brewing professions – from brewery to bar, Current brewing trends in Europe – consumption, export, future, and Styles of Belgian beer and a tier ranking of the beers they tasted.

2.4.3 Results and Interpretation

The workshop results were presented on the posters created by the participants. These showed that the employment chain in Belgium's brewing sector is extensive – involving over 35,000 indirect employees. Belgium also remains the largest exporter of beer in the EU, despite the decline in the number of breweries and domestic beer consumption.

The results of the workshop did not bring many surprises, except for the impressive diversity of Belgian beers we experienced during the tasting. Next time, we would focus more on encouraging participants' creative input – especially through debates. This helps integrate the group and leads to engaging discussions on topics proposed by the participants. Additionally, having more practical knowledge and hands-on experience with the training topic – in our case, Belgian beers – would be beneficial. For us, it was our first time in Belgium and our first encounter with the workshop topic during the congress itself.

2.4.4 Literature

Our sources were based on articles about Belgian brewing and statistical data found on the websites listed below:

(1) https://brewersofeurope.eu/wp-content/uploads/2024/10/Belgium.pdf

(2) Belgium: Craft Beer Nation? Eline Poelmans and Johan Swinnen

(3) Belgian Beers: Where History Meets Globalization Damiaan Persyn, Johan F.M. Swinnen and Stijn Vanormelingen

(4) https://www.statista.com/statistics/202400/beer-production-in-europe-in-2010/

(5) https://brewersofeurope.eu/european-beer-trends/

2.5 Workshop "The Sandy Soils of Flanders"

2.5.1 Introduction

'The Sandy Soils of Flanders' is a workshop exploring the unique soil properties of Flanders, learning about how sandy Belgian soils were modified in order to use them for agriculture. What does the sandy soil consist of and what crops are grown onto it? We looked into the chemical composition and properties of the soil and explored what an ideal agricultural soil looks like. The current agricultural soil is the result of decennia of modifications. What modifications were made and how do local farmers manage their land? Alongside the theory, we went into the field to collect soil samples and soil cores to compare the natural soil to agricultural soil. This resulted in a small field research aiming to answer the following question, based on pH, soil horizons and other field observations:

How does agricultural soil compare to natural soil?

The participants have identified two hypotheses. They expected the agricultural soil to contain more organic matter and have less clear soil horizons than the natural soil as a result of the continuous agricultural modification of the soil.

As 3rd year Earth Sciences students, we are quite familiar with the soil basics. We both went on field trips where we have obtained hands on experience with sediments and soils. However, when it comes to the more agricultural modifications and location specific elements of the soil, we had to trust the literature available.

2.5.2 Methodology

During the first workshop session, we discussed all of the relevant theory behind the sandy soils in Flanders. This theory is based on a combination of personal knowledge and literary research both online and in our university books (see literature). We started with a fun introduction to get to know each other and then discussed the geological history, agriculture, soil properties and soil modifications. During each part of information we asked reflective questions and/or did a little game to keep the participants focused and involved.

Figure 13: participants observing the soil profile

The second session was all about soil coring with the soil drilling materials provided by KU Leuven. We used a meter long gouge auger to make soil profiles that are useful for determining the soil horizons. We provided the participants with a profile sheet on which they could draw the soil profile to scale and write down relevant observations. We allowed the participants to make their own observations and later shared our own with the group through a little discussion (figure 13). Secondly, we used a soil auger to take soil samples at an approximate depth of 20 centimetres to later examine. This procedure was performed at both an agricultural soil as natural soil location close to the accommodation of the Hoge Rielen. We ended the session by doing a soil drilling competition inspired by the student soil drilling championships in Wageningen each year.

Figure 14: participants working on the poster

During the last session we performed a pH test on the soil samples using pH test strips. Then a short summary of the theory was provided, followed by the observations of what we saw in the field. All of this was then tied together resulting in the interpretation and conclusion of the field research. Lastly, the participants had to make a poster summarizing all that they had learned during the workshop (figure 14). We also brought some modelling clay to allow a more creative output of the workshop.

2.5.3 Results and Interpretation

The natural land had a relatively small O and A horizon due to the coniferous forest surrounding the location that provides little organic matter. We also observed some leaching, visible as the light grey sediment, slightly mixed in with the A horizon. The B horizon showed strong iron oxidation.

The agricultural land felt more compact and was slightly harder to drill into. There was a strong iron smell but no iron oxidation. The soil contained more water than the natural soil. It was missing the O and E horizon completely and had rather gradient A, B, C horizons (figure 15).

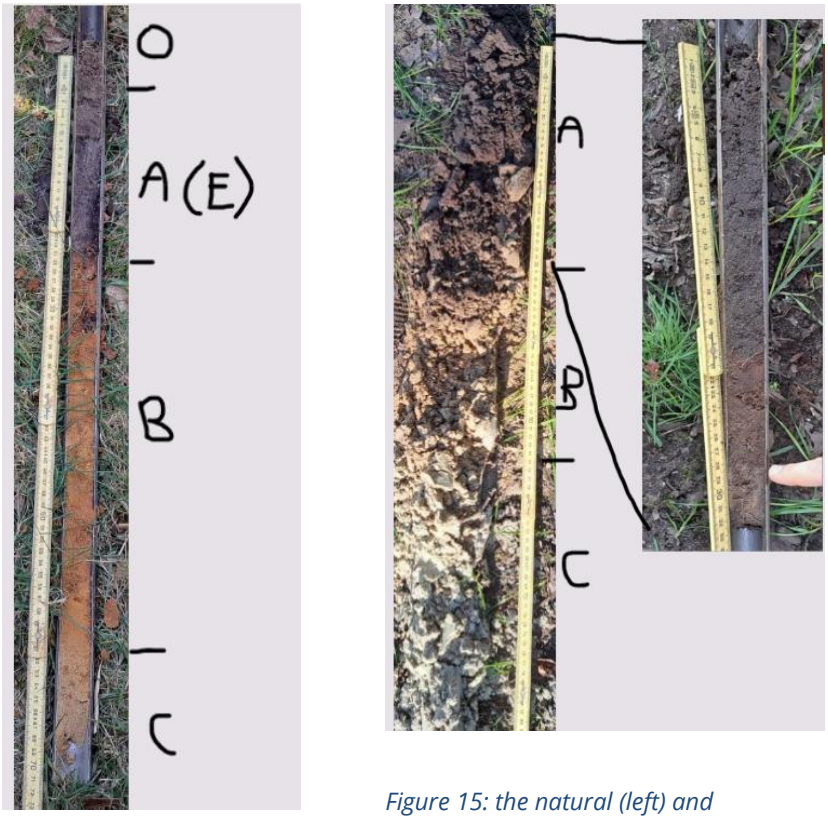

Figure 15: the natural (left) and agricultural (right) soil profiles and their horizons

The pH test unfortunately did not show a distinctive result; both soils had about the same slightly acidic pH of 6. The pH test paper might not have been the best method of comparing these soils in pH as the paper is not precise enough.

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To conclude, the natural soil was iron oxidated where the agricultural soil was not. This can be explained by the absence of agricultural disturbance. The use of certain fertilizers and irrigation can mess with the process of forming iron oxidation. In the natural soil there is a natural seasonal water cycle including waterlogging cycles that allow the iron to fixate. Furthermore the horizons in the natural soil reached deeper and were more distinct compared to the agricultural soil. Again, this is the result of agricultural disturbance, tilting and harvesting that influence the distinction of the horizons. Lastly, the organic matter layer (A) was thicker than in the natural soil. This can be explained by the slow buildup and acidic conditions of the natural soil and by the fact that agricultural soil is continuously supplemented by organic matter. These conclusions match the hypotheses stated in the introduction and were then formed into a workshop output (figure 16).

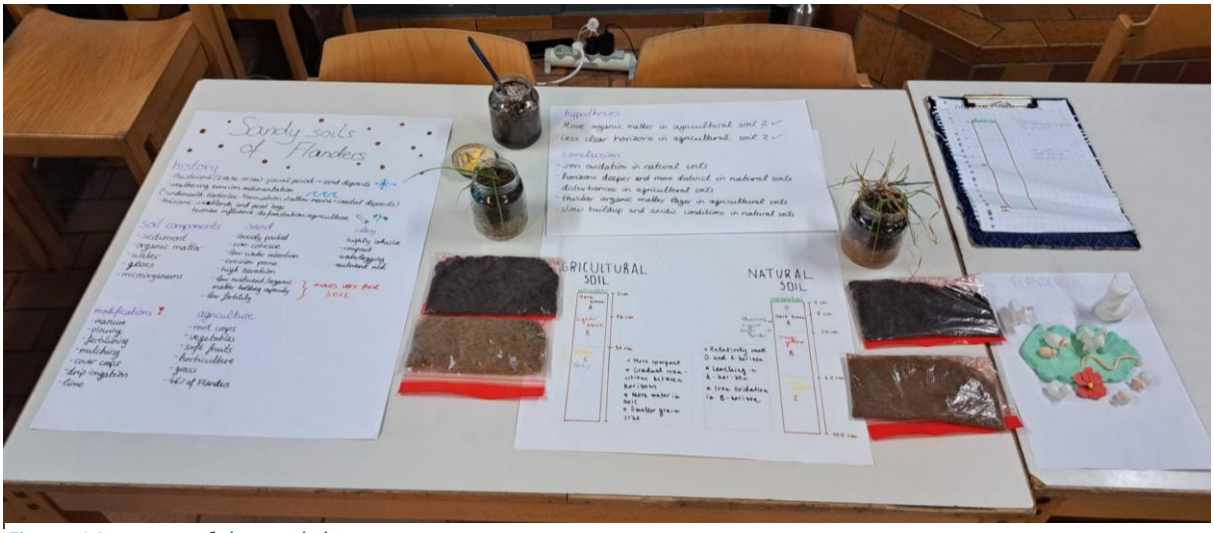

Figure 16: output of the workshop

The output of the workshop consists of two posters, one with the theory discussed during session one, the other with the results of the field research. The profiles were drawn onto the poster based on the participants sketches in the field. We also displayed the soil samples, small soil profiles that were created in the glass mason jars and the creative clay work.

However, some aspects could be improved for a future workshop. For instance, we did not have a hammer for the gouge auger which is why we could not completely get the auger into the soil. At the agricultural land cite we only got a profile of about 30 cm where it could have been 100 cm. We then made an alternative profile by using the other soil drill but this does not provide a very precise result. Also, we were restricted in the choice of drilling location. The natural land cite might not have been on the most natural soil as

it was located close to buildings on a small piece of grassland. However, we could not drill between trees because of the roots and did not feel comfortable drilling on protected natural land. The agricultural land cite on the other hand was located on the boarder of some kind of grass field. This means that there could have been influence of the nearby trees. Additionally, we did not know the history of the natural/agricultural land and what it has been used for, which could also have an effect on the results. Furthermore, as already discussed, the pH paper might not have been the right tester as small differences are hard to detect with indicator paper based on colour.

2.5.4 Literature

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3 Lecture - “The Landscape Perspective”

Introduction

Following the official opening of the congress “Navigating Historical Landuse,” PhD Bas van der Veken, chair of the “Regionale Landschappen Vlaanderen” oversight committee, presented an insightful lecture on the landscape perspective. His talk guided us on a journey from the local context of the “Hoge Rielen” to the broader dynamics of the Campine Area and concluded by examining the European Landscape Convention and its practical application in regional projects.

Figure 17: Scientifc Lecture - The Landscape Perspective

Venue Overview: De Hoge Rielen

Bas began his lecture by introducing the “Hoge Rielen,” our congress venue. Once a British Army base, this site has transformed from a restricted area into a forested space now used for recreation and tourism. Its surroundings vividly illustrate two distinct landscape features:

- Meadows (Former Peat Soils): Displayed in green on Figure 18.
- Plaggic Anthrosols: Shown in pink on Figure 18, representing soils modified with manure to improve fertility.

Figure 18: Topographical map "Vandermaelen" 1850

Exploring the Campine Area

The lecture then shifted focus to the Campine Area within Flanders. Bas explained that the region's top geological layers were formed during the Late Miocene in the North Sea basin, leaving behind significant relics such as the Campine Ridge—an iron-rich formation that stands out against the otherwise flat terrain. He also discussed the historical agricultural challenges posed by the sandy, nutrient-poor soils and the natural gradients ranging from dry dunes to wet peat lands. For example, villages typically featured two distinct soil types: nutrient-enhanced plaggic anthrosols near urban centers and surrounding marshes and heathlands traditionally used for grazing.

Transformation of Land Use

By comparing historical maps (such as the Ferrarismap) with current landscape observations, Bas demonstrated the dramatic evolution in land use over time. He noted a substantial reduction in heathlands, which have largely given way to urban development and forested areas. This had led to the decrease of biodiversity and unvisablity of the former division between different soil types. This transformation underlines the importance of adopting a landscape approach to address modern challenges.

The Landscape Approach and Its Relevance

The lecture highlighted how major societal challenges—including climate change, energy security, public health, food security, urbanisation, and migration—are intrinsically linked to the way landscapes are managed. The landscape approach is characterized by:

- Holistic and Transdisciplinary Methods: Integrating various aspects of natural and human systems.
- Dynamic Management: Transitioning from static protection to active, adaptive management.

- People-Centric Views: Recognizing the central role of human perception and emotion in defining and valuing landscapes.

Figure 19: The Landscape Approach (Sayer et al., 2013)

The European Landscape Convention

The European Landscape Convention defines a landscape as "an area as perceived by people, whose character is the result of the action and interaction of natural and/or human factors." This comprehensive view reinforces the idea that landscapes are everywhere and that effective management requires (Council of Europe Landscape Convention, 2016):

- Recognizing the omnipresence of landscapes.
- Adopting a holistic perspective that crosses traditional disciplinary boundaries.
- Emphasizing proactive measures that involve both protection and active development.
- Placing human experiences and emotions at the core of landscape planning.

Practical Application: Regionaal Landschap Kleine en Grote Nete

Bas concluded by presenting how the "Regionaal Landschap Kleine en Grote Nete" implements the landscape approach in its projects. Their strategy involves balancing ecological, cultural, and developmental factors through actions such as:

- Enhancing Landscape Readability: Making key features like paraboloid dunes, micro-reliefs, and expansive vistas more recognizable.
- Preserving Iconic Vegetation: Protecting characteristic pines and oaks on dune tops.
- Promoting Biodiversity and Resilience: Supporting habitat restoration and climate adaptation initiatives.
- Encouraging Habitat Diversity: Maintaining various habitat types including heathlands, open sands, and small agricultural plots.
- Counteracting Aridity: Implementing afforestation measures to reduce soil drying.
- Fostering Soil Health: Emphasizing the importance of soil care and leveraging subsoil characteristics in land management.
- Integrating Historical Context: Aligning management practices with historical land use to maintain cultural continuity.

Conclusion

PhD Bas van der Veken's lecture offered a compelling exploration of how historical land use and natural evolution inform modern landscape management. His insights underscore the necessity of a holistic landscape approach as a vital tool in addressing the complex environmental and societal challenges of our time.

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4 Excursions

Excursion: “Campine Ridge”

By Robbe Buls

In the northeast of Belgium lies the Campine (Kempen) region, a sandy plain characterized by distinctive vegetation and a remarkable history of land use changes. During a 40 km cycling tour, we explored the valley of the Kleine Nete River and the Campine Ridge, a local topographical elevation with geomorphological structures that reveal the story of the region. We examined the history and current state of land use in the valley and on the ridge, identified the challenges both landscapes face, and discussed the land use conflicts that arise today.

Figure 20: (Gosia Bartnikowska)

Our first stops focused on geology: how is it possible that a ridge exists in the middle of the flat Campine plain? We discovered that the Poederlee geological formation, rich in oxidized iron, plays a crucial role. These iron-bearing layers protect the ridge against erosion. A clear parallel exists with the Diest formation in southern Flanders, responsible for the witness hills made famous by classic Flemish cycling the Ronde van Vlaanderen. The presence of the Poederlee layer in the Campine region also leads to locally features from the south of Flanders, including hollow roads and remnants of iron ore mining.

During the Pleistocene epoch, wind-blown cover sands were deposited over these Tertiary layers by katabatic winds coming from the northern ice cap, giving the Campine region its sandy subsoil. Further south, finer sediments such as silt were deposited, resulting in more fertile soils. This difference in soil fertility not only shaped distinct land use patterns—more deforestation and agriculture in the south—but also led to socio-economic disparities between north and south.

After descending the ridge, we entered the valley of the Kleine Nete river, specifically the Geels Gebroekt area between the cities of Herentals and Geel. Here, the valley has been almost completely deforested and drained for agricultural use. Ditches, pumps, and dikes are visible reminders of efforts after the World War II famine to make as much land as possible available for farming. The river was straightened to drain water quickly and prevent flooding. However, we noticed that the fields remain quite wet and are now primarily used as pastures for cattle and horses.

Figure 21: (Laura Heleene Tirkkonen)

At the next stop, we visited one of the few remaining nature reserves in the valley. Here, we encountered typical wetland vegetation and persistently moist conditions. Like the deforested areas, the water levels were high, with trees dying due to excess water. Historically, this part of the valley was not cleared but instead exploited for peat extraction, which was used as fuel for heating homes. The peat extraction left large pools that today provide unique habitats for amphibians and waterfowl. Although peat cutting has long ceased, human pressure on the ecosystem persists, particularly due to nitrogen emissions from intensive livestock farming in both Flanders and the Netherlands. This favours certain species like brambles, which outcompete other (unique and endangered) species, leading to a homogenization of the ecosystem.

Further along the valley, we discovered why the area is currently so wet. Recently, two new meanders were introduced. These slow the flow of water, raising the water level in the river and surrounding valley lands. These meanders were reintroduced for ecological reasons: the typical wetland landscapes support rich biodiversity, including several characteristic and endangered species. Additionally, the wetlands offer protection against future flooding downstream in Herentals and help prevent low groundwater levels during dry periods. However, while these measures have clear ecological benefits, local farmers are displeased, as their fields have become too wet for crop farming.

A visit to the city centre of Herentals allowed us to delve into the economic history of the region. Despite its poor soils, Herentals developed into a significant town during the late Middle Ages. Remnants of old city walls, along with religious heritage such as the beguinage, several monasteries, a belfry, and a relatively large church, all point to its former wealth. This prosperity stemmed largely from the cloth trade, which brought recognition to Flanders and Herentals in particular.

Heading back towards the ridge, we stopped at the Tourist Tower, where we enjoyed panoramic views of the valleys and ridge. The area is characterized by podzol soils—leached and infertile—which explains why the region remains relatively forested, unlike the heavily deforested southern parts of Flanders.

However, a lidar image revealed that agriculture once thrived here too. We observed remnants of Celtic fields from the Iron Age, where early farmers repeatedly removed the leached topsoil to cultivate crops on the poor sandy soils. During the Ancien Régime, the local population adopted a different agricultural approach. Common lands (fields accessible to all) played a crucial role. On these lands, livestock grazed, and sods were cut. The removed topsoil, mixed with animal manure, enriched the arable fields. However, overuse of the common lands eventually degraded the soil to the point where natural deciduous forests could no longer regenerate. As the deciduous forests disappeared, heathlands emerged. Yet, even these heathlands were overexploited, leading to the formation of large, vegetation-free drifting sands. This caused partial depopulation and earned the region the nickname "the silent Campine."

Figure 22 (Anne Denzlein)

During this drifting sand period, parabola dunes and deep blowouts formed, reaching down to the groundwater table. These depressions filled with water, creating ponds known as fens. Today, these are biodiversity hotspots where active peat formation occurs. However, they are not immune to the nitrogen issue: an overabundance of nutrients leads to algal blooms, which, upon dying, deplete the oxygen in the water, making survival difficult for fish and other species.

The heath and drifting sands largely disappeared after the French Revolution. The invention of artificial fertilizers eliminated the need for turf cutting, and the import of crops reduced pressure on agricultural land. When common lands in Belgium were privatized, large-scale planting of coniferous forests followed. The straight, fast-growing timber of these trees was vital for coal mining in eastern Campine region. Today, much of the Campine region is covered by coniferous forests, though these are not natural to the area. Given that heathlands—although not natural either—support several valuable species, efforts are now being made to remove sections of coniferous forest and restore heathland, through grazing and even occasional turf cutting to keep the soil nutrient-poor. Yet, the nitrogen surplus from intensive livestock farming in the Low Lands continues to pose a significant threat to these unique habitats.

This excursion through the Campine region provided a clear insight into the complex interplay between geology, land use, and socio-economic development. We observed how the natural subsoil and geomorphology shaped the current landscape, but also how human intervention—from peat extraction and agriculture to water management and afforestation—has continuously transformed the region. It became evident that these interventions are not without consequences: ecological challenges such as nitrogen deposition, waterlogging, and biodiversity loss demand thoughtful, forward-looking management. The Campine region illustrates how past and present converge in a dynamic landscape full of challenges and opportunities.

Excursion: Brussels

By Jasper Cuypers, Claire Runacres and Lotte Van Beurden

First, once we exited the Bruxelles-Luxembourg station, we gave a short explanation on Brussels and its place inside Belgium, namely the different official regions and the different official language communities. An extensive introduction was given about the European quarter, how and when it was formed, as well as about the station. The neighbourhood knows its origin as an extension of the city of Brussels in the 19th century. The station of Bruxelles-Luxembourg, formerly known as Bruxelles-Leopold (referring to Leopold I, first king of the Belgians), came from the sleeper trains that used to depart from here, going to Luxemburg city.

We started with a visit to the European Parliament, where our guide told us more on why the EU was formed and how the EU functions. It was formed with the goal to maintain peace, which was possible by cooperating on the thing causing problems: economics, and more specifically steel. We got information on the role of the European Parliament, the European Commission, the Council of Europe and the EU Council. We finished our visit with viewing the actual room where the European Parliament sittings take place.

On our way to the Jubelpark/Cinquantenaire we passed by the Schuman roundabout and pointed out where the EU Council, the Council of Europe and the European Commission are located. Then we had our lunch in this beautiful park. We showed the arc and what it commemorates, namely the 50-year anniversary of Belgium's independence, and how this is the start of the Tervurenlaan as a big driveway to the Africa-museum created by Leopold II, and the form in which this museum exists now. The park itself used to be a training ground for the Belgian army. Later, Leopold II (second king of Belgium and colonial ruler in Democratic Republic of Congo, Rwanda, Burundi) has turned the grounds into the commemorative and impressive park it is today, to commemorate the 50 years existence of Belgium (in 1880), but also the world exposition that Belgium was hosting. Unfortunately, the impressive building still refers to the colonial history of Belgium in a glorifying way, rather than an objectively educational way. This prompted us to head to our next stop: the Lumumba Square.

Here we shortly explained who Patrice Lumumba was and how he died (very popular first leader of Congo after decolonisation and anti-royalist, killed by the CIA and the Belgian monarchy), and in that way gave some more information on the colonial history of Belgium. Then we moved to the Troon-square with its large and glorifying statue of Leopold II, illustrated the difference between the two squares, and talked about what

Brussels and Belgium do (not do) with these kinds of colonial statues. The statue was spread with red paint and anti-colonial slogans, which illustrated the views of (a part of) the Brusseleirs, including *'tueur colonial'* (eng.: colonial killer). From here we walked around the royal palace and explained how the layout of these squares and streets implied/defined the way many parts of Brussels are oriented. The orientation of the Coudenbergh palace (which was home to the Dukes of Burgundy and Charles V, but burnt down) has defined the roads in the quarter, but also the expansion of the Leopold quarter and even the location of the Sint-Maria Church and the train station of Schaarbeek. We also pointed out how the Parc Royal/Warandepark used to be a royal hunting ground and how it has been designed to give a view on the three parts of power in Belgium: Royal Palace, Federal Parliament, and the Palace of Justice. It was also pointed out how this quarter is all elevated and close to none of the original topography is left. This enlarged the physical divide between the richer people living higher up and the poorer people in the lower centre & Sint-Jans-Molenbeek.

The next stop was the Kunstberg/Mont des Arts, which translates to "mountain of arts", here we can find a lot of museums, for example the museum of Magritte, and the royal library. It has a great view on the town hall, the basilik, and other prominent buildings. This hill connects the richer upper town to the poorer lower town. The lower town was traditionally poorer, with traders and workers living close to the port, while the upper town was traditionally richer, where the bourgeoisie lived. Originally on the location of the Mont des Arts, there was the neighbourhood Saint Rochus, which got destroyed by the project of building this beautifully designed hill with its museums connecting the upper and lower town.

Our last stop was the Grand Place/Grote Markt with the town hall. It's a beautiful square with a lot of gold ornaments, which has been preserved from modernization by a stubborn mayor. An urban legend says that the architect of the town hall committed suicide, as the building is not symmetrical. However, this is not true, as the building of the town hall took multiple decades. At this last stop, we also talked a bit about the stock exchange, which was just around the corner. The stock exchange has recently been renovated and is now open for the public again. It's located along the Boulevard Anspach, which is now a pedestrian zone. Historically, the river the Senne flew here, but mayor Anspach decided to culvert the river due to hygienic reasons, and make a boulevard. Until not so long ago, this was a busy car road. In 2015 activists organized "picnic the streets", where they organized picnics on this busy road to demand a more carfree city center. This action got heard off and the road got transformed into a (semi-) pedestrian zone.

Figure 23: walking tour through Brussels

Figure 24: Participants at the European Parliament

In conclusion, the excursion talked about Brussels and its multiple aspects, from how it shows the colonial history of Belgium to how it is the unofficial capital of the European Union, from Belgiums royalty to the different museums and art scenes in Brussels.

Excursion: Antwerp

We started off the day by walking towards the station of Tielen. Here, we gave a short explanation about typical Flemish breakfast and lunch foods. After taking the train to Antwerp-Central station, we immediately hiked towards the old port area of Antwerp. At the entrance of the MAS, we waited for our local guide to tell us more about the history of the urban development of Antwerp and the expansion of the Port throughout the years.

Our first stop with the guide was in the visitor centre of the Port Antwerp-Bruges. Inside was a large map covering the entirety of the floor with satellite images of the entire city of Antwerp and more importantly, the entire port of Antwerp. It demonstrated the scope of the port. We got an in-depth explanation about the different port areas, which docks belong to which companies, the main industries present on site and some interesting statistics about the port. The Port of Antwerp-Bruges is the second largest port of Europe and is extremely important for the local Antwerp economy, with many residents working in the port and providing a stable source of revenue to be invested in the city. It is also a big source of the diversity of the city, with many communities finding their origins in ancestors being sailors who decided to stay in Antwerp for a better life.

A port spokesperson talked about how the port continues to evolve and expand. Circular economy is a very integral part of the future vision of the port, where waste energy is being repurposed to power buildings and equipment, but also how large-scale material recycling is becoming an integral part of the port dynamics.

We also discussed the case of Doel, a town which was supposed to be destroyed for the expansion of the port. However, local protests erupted and after a long period of time, it was mandated by court that the town would not be destroyed and that the port could not expand in this direction. This opened the discussion between large scale investments with wider economic benefits and the loss of a home town for a few hundreds residents.

Afterwards, we were guided through the Antwerp neighbourhood called ‘het Eilandje’, meaning *the little island.* Here we learned about the historical expansion of the city of Antwerp, the old docks, the building of the canals and the repurposing of the area because the port was moved outside the city centre. The revitalisation of the neighbourhood shows an interesting story about how such a large area can be repurposed after the loss of its main economic income. We visited old warehouses, which were turned into bars, cafés, offices or apartments. We ended the guided tour by going on top of the MAS building, a museum build on the former port headquarters. From this

tall building, we had an amazing view off the industrial harbour on the north side, and the city centre on the south side.

After a picnic on the roof, we went right into the city centre for a city tour. We visited a lot of the big monuments like the Notre-Dame Cathedral, the Antwerp City Hall and Grand Place, the '*Steen*'-castle, the Sint-Anna Tunnel, which was one of the first tunnels with escalators (made out of wood and still in use!). An orga team member who was originally from Antwerp guided us through this amazing city, informing us about the origins of the name *Antwerp*, the history of the city, the current problems and urban development plan. We ended the tour back at the Antwerp-Central station, often regarded as one of the most beautiful train stations in the world, despite its colonial heritage.

Figure 25: Group picture in Antwerp

Excursion: Saefthinge & Doel

This excursion was only possibly by tour-bus because public transport is not very well organised in this area.

The first stop was the drowned land of Saefthinge which is the at over 3,500 ha, is the largest salt marsh area in the Netherlands and one of the largest brackish water salt marshes in Europe. It lies in a large inner bend of the Western Scheldt, where it flows into the Netherlands from Belgium. For the visit we had a guide from the visitor center, because it can be dangerous with the upcoming tide. Only a small part of the area is accessible, even with a guide.

We were divided in 2 groups. One that would pass through the muddy areas and had to wear boots, and one that would pass over the grass, but we got the same information's. We had to translate. Most interesting was the presence of peat and of bacteria which do photosynthesis.

Next stop was the village of Doel. Since 1965, there have been plans to enlarge the Port of Antwerp and demolish the village of Doel to be replaced with petrochemical industry. This has seen many people having to sell their homes to the development corporation of that enlargement, however some people resisted the plans. In 2022, a compromise was reached after a 24-year long legal battle. The Port of Antwerp is allowed to extend its container harbour, and the village of Doel is allowed to exist. A green buffer zone will be created between the harbour and the village. We did a walk of one hour trough the village that is being abandoned but sees more and more projects coming up, respecting the places you can not enter. The tour was self guided as the excursion leader grew up in the area.

Figure 26: Map of the region

We made a little stop at the biggest dock of the world, and the biggest tidal dock in the world: the deurganckdok. We gave some information about Lillo, which is an old fortress that controlled the access of the Scheldt River. We walked around and gave an explanation about why it was so important in the history of Antwerp.

Figure 27: View from Doel

Figure 28: View on both groups