



POWER, LUST AND ZINC.



THE INDUSTRIAL LANDSCAPE
AND THE MYTH OF MORESNET



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**bureau
europa**

Platform for
architecture
& design

Boschstraat 9



Welcome to the exhibition *Power, Lust and Zinc*, a remarkable history from this region about the far-reaching influences the industry holds over the landscape, architecture and our identity.

This exhibition offers an outlook on the development of the first major industries in Europe vis-à-vis matters of ground politics, the European dream of unification that finds itself reflected in Esperanto, the products that were inconspicuously marketed in the Paris salons, and the endless urge toward innovation that together became the zinc industry.

Near the Three-Country Point, formerly a Four-Country Point, you will find the remainders of collective emotions and memories but also contemporary concerns about soil quality, the zinc flora, and the possible return of the mining industry.

Bureau Europa, as a platform for architecture, design, and the shaped environment, has collaborated with many partners and institutions in the Meuse-Rhine Euregion. All elements have been reflected and balanced to not only bundle all of the incredible stories but also our present view on borders, materials, and crafts.

A rich source for the future.

Floor van Spaendonck
Director at Bureau Europa



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POWER, LUST AND ZINC

Aux trois pierres
Groeten

POWER, LUST AND ZINC

A matter of design.

The land on which we live contains great wealth. South Limburg's borders were, and are, being drawn and designed by the mineral wealth that happens to lie beneath our feet. The element and material called zinc has a dull and grey appearance. However, a brilliant history full of lasting influences lies beneath the surface symbolic for ground politics, the industry and its influence on the landscape.

The zinc from our border regions was the essence of one of the largest industries in the world, responsible for the development of city and country, and culture and nature. In this exhibition, you will experience the curiosity about the material, its innovations and consequences. You can see how generations of people lived by the grace of this material. They worked in and around the mines; experienced the borders that were suddenly drawn around their world; wandered through the landscapes that zinc built or destroyed; and sought out boundaries to cross in search of a common future.

Today, zinc's silent witnesses are visible in our urban surroundings, from the simple gutter and facade cladding to Aldo Rossi's design of the Bonnefantenmuseum's rocket-shaped cupola. This visibility is also in nature, where withered landscapes offering little growth, except for the unique zinc violet, are the unintended by-products of old industry. The 19th-century history of zinc, which begins in the Belgian village of Kelmis, near the Three-Country Point (Drielandenpunt) in Vaals, will continue long into the future.



THE ROOFS OF PARIS

THE ROOFS OF PARIS

The zinc of the Three-Country Point.

When you view Paris on Google Earth, you look down on a grey ocean of metal roofs. This 19th-century mass of roof panels features emblematic mansards that crown majestic buildings and form a pattern of whimsical, crisscrossing lines. This wondrous zinc landscape covers 80% of the rooftops along the boulevards and avenues, nominated as a UNESCO heritage site. All this thanks to an enterprising, seductive lady and a nondescript village just below the Vaalserberg: Kelmis.

The old zinc mines in Kelmis, Belgium, have been the breeding ground for major developments, locally and internationally: the industrial revolution on the European mainland; the emergence and disappearance of new borders and identities around an incongruous country; power games that have defined the international political scene; the lives of a dozen generations of Euregion inhabitants; and the impact, both good and bad, on the richness of the landscapes of South Limburg and beyond.

The seemingly insignificant element zinc has had an all-important impact, especially on our perception of one of the world's most famous cityscapes. But the knowledge and skill to restore the old zinc and keep it in good condition erode over time, just like the material itself. As a result, scarcity arises from a lack of raw materials caused by the depletion of the earth and a lack of skilled zinc workers who celebrate their craft and show the 'time, pride and dedication' that made zinc a global product.

① The Birth of modern Paris

Edited photo, 2021

In the 19th century, Paris is a medieval city with an ancient street plan and a population density of one person per 3m². As a result of urbanisation due to the industrial revolution, the French capital becomes ever more congested. Epidemics spread and social discontent regularly leads to bloody, armed uprisings. When Napoleon Bonaparte's nephew becomes president in 1848 and then Emperor Napoleon III in 1852, long-held plans to renovate the city are carried through. The emperor commissions court architect Baron Haussmann to 'Aérer, unifier, et embellir' (aerate, unify, and beautify) the city to better connect the different parts and turn Paris into a majestic, modern metropolis. Between 1853 and 1870, Paris, as we know it today, emerges, with its squares, boulevards and avenues... complete with zinc roofs, of course.

② Shortage of roofers changes face of Paris

RTL, news report, April 1, 2021



In 2021, the famous zinc roofs of Paris are in dire need of repair. A zinc roof can easily last for 50, 100, sometimes 150 years. This durability is due to the weather forming a protective patina on the zinc's surface. Since the construction of Haussmann's apartment palaces in the centre of Paris in the 1850s and 1860s, the zinc has remained largely untouched. But today, the heavy work required to maintain the roofs is not a popular occupation among young people. Old knowledge cannot be transferred because there is not enough new, passionate talent. What if the zinc roofs disappear and another material that requires less traditional knowledge replaces them? Will this threaten the French capital's unique appearance?

A yellow halftone portrait of a woman, Fanny Mosse, with curly hair, looking slightly to the right. The image is the background of the entire page.

II

THE BOUDOIR
OF FANNY
MOSSELMAN

THE BOUDOIR OF FANNY MOSSELMAN

How a cunning ambassadress
made a metropolis, an empire
and a world industry.

The eminent writer Balzac called her the ‘golden-haired ambassadress’. Fanny Mosselman, Countess Le Hon, born into the director’s family of the Vieille Montagne zinc company in Liège, was well received in the Parisian salons. Her husband, Charles, was the first Belgian ambassador to France and eagerly took advantage of her good connections. As did she...

Fanny made no secret that she had passionate affairs with high-ranking gentlemen, such as the nobleman Charles de Morny. Furthermore, she was a regular in royal circles. She had the ear of Leopold, King of the Belgians, and was a close friend of Hortense de Beauharnais, the former Queen of Holland. So it is almost obvious that Fanny would come into ‘very’ close contact with a future emperor.

He was a nephew of Napoleon and the only president of the Second French Republic. With the support of his half-brother Charles de Morny and his mother Hortense de Beauharnais, he was assured of success when he staged his coup d’état in 1851 and became Emperor Napoleon III. Private correspondence indicates that the coup was largely made possible through investments by Fanny Mosselman. The investments were not only for her own wealth and status but also, perhaps even more so, in the future of the family business.

Today, we mainly remember Emperor Napoleon III for one noteworthy achievement: the grand renovation of the French capital, which he outsourced to a cousin, Baron Haussmann. As a result, medieval Paris gave way to a modern metropolis of bombastic boulevards, majestic monuments and picturesque squares. The emperor's Belgian confidante suggested using the modern building material zinc for the new French capital's roofs.



THE WAREHOUSE

THE WAREHOUSE

The exquisite quality and versatility
of a mass product.

When you think of zinc, often nothing better comes to mind than the humble gutter. Baron Haussmann concludes in 1862 that Paris deserves not only zinc roofs but also zinc gutters: an example that is followed worldwide. Though guttering has indeed been essential to zinc's success, it is a material that is easy to work with and can be used with other metals in numerous alloys.

Zinc's versatility is best illustrated by the richness and variety of roof and facade cladding, ornaments, sculptures, everyday applications and striking oddities. Much of what can be seen here could be ordered directly from a catalogue because it was mass-produced and often in stock. The large zinc companies, such as Kraus, Walchenbach & Peltzer from Stolberg near Aachen, F.W. Braat in Delft, and Vieille Montagne in Liège, with its mines in Kelmis, all published their own catalogues. Thus, the wealthy 19th-century public was able to enrich their accommodation inside and out and in all possible styles with zinc.

The natural element zinc can be extracted from various minerals, all of which were previously called *galmei* or calamine. The fact that the village of Kelmis gets its name from the latter (French: La Calamine) speaks volumes about the ground's value. The ancient mine there, traditionally called Altenberg and from which the zinc company Vieille Montagne (English: Old Mountain) derives its name, was regarded as Europe's richest zinc ore ground.

This prosperity has caused diplomatic turmoil, industrial oppression and disturbed landscapes in this part of the world for centuries – with physical and collective psychological effects in our contemporary environments. As a result, a particularly inescapable local melancholy pervades, which the photographic series by Irmel Kamp and later by Filippo Ciriani both capture.

③ The versatility of a mass-produced product Sculptures, architectural components, objects, ca. 1880–1920

Zinc is versatile, easy to produce, available in different shapes, and flexible and easy to handle. Any shape, whether hollow or solid, brittle or firm, is conceivable. Therefore, the material can be used for many applications, ranging from modern telecommunications, small parts in batteries, and metal for coins. Zinc can be used for household items such as buckets, bowls and containers, and has architectural applications such as receptacles, guttering and roof coverings. It can also be applied ornamentally for ox-eye windows and weathercocks. Zinc's use for art objects ranges from decorative vases to animal sculptures and statues of people.

Thanks to the Municipality of Maastricht; Museum Zinkhütter Hof, Stolberg (D); Maison de la Métallurgie et de l'Industrie, Liège (B); De Zinkmeesters, Budel-Dorplein

④ The catalogue of Lorenz Sporer Münchener Metallornamenten & Blitzableiter Artikelfabrik Lorenz Sporer, München, publication, 1905

There is only one book that exceeds the Bible in quantity and distribution: IKEA's annual catalogue. However, in 2021 this changed when the Swedish furniture giant transferred its entire furniture catalogue online. On the website, it remains an extravaganza of mass production and pre-fabrication. The industrial revolution made the product catalogue possible, and it

behaved every 19th-century company to publish its own catalogue. This phenomenon drastically changed the relationship between production and consumption. Showrooms and large warehouses arose, where all possible objects were waiting to be purchased. A new wandering shopping public wanted to customise their homes inside and out – and now they could! The trade catalogue of zinc, copper, and brass manufacturer Lorenz Sporer from Munich gives a good idea of what you could buy.

Thanks to Museum Zinkhütter Hof, Stolberg (D)

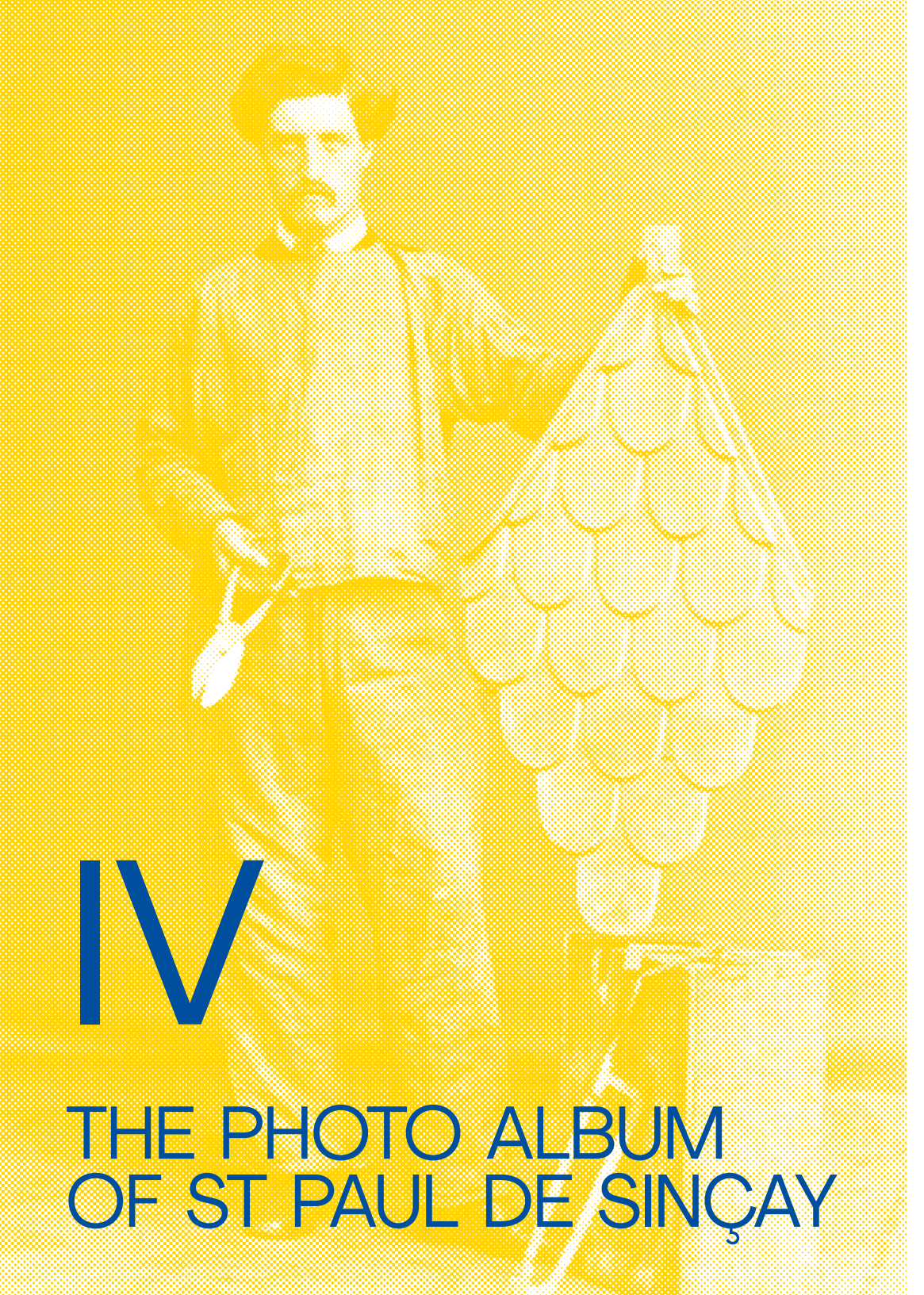
Zinc siding was applied to west-facing walls to protect from wind and rain. About a fifth of these antique facades have been preserved. These zinc facades have become typical of the rolling meadow landscapes of the Butterländchen in the heart of the Meuse-Rhine Euregion, especially in the small villages and on the scattered farmsteads. If you travel east from Liège to Aachen on a sunny afternoon, your journey will be lit by shining sheet metal sidewalls.

Thanks to IKOB – Museum für Zeitgenössische Kunst, Eupen (B)

- ⑤ Zinc-clad Buildings in East Belgium (Mit Zinkblech verkleidete Bauten in Ostbelgien)
Irmel Kamp, photography, 1978–1982



From the beginning of the 20th century, it became fashionable to clad facades with zinc, often in overlapping lozenges. The German photographer Irmel Kamp made a series about zinc-clad houses in the east of Belgium. These images exemplify her architecture-oriented black-and-white photography, which always precisely captures a location's atmosphere. The region's intensive zinc mining made it possible to enhance houses en masse with this material.



IV

THE PHOTO ALBUM
OF ST PAUL DE SINÇAY

THE PHOTO ALBUM OF ST PAUL DE SINÇAY

How life plays out by the grace of
industry and the economy.

The history of the zinc industry begins with Napoleon's bathtub. On the eve of the Industrial Revolution on the European mainland, the Liège scientist Jean-Jacques Dony saw the opportunity to put his first zinc furnace to work. The inventor creates a portable, heated bathtub and presents it to Napoleon. The cold-sensitive Emperor of the French warms to the idea and takes the bathtub everywhere, even to Russia. Impressed by Dony's sales pitch, in 1805, he grants him the right to operate the Altenberg mine.

Though a genius scientist, Dony lacked business acumen. His zinc factories in Saint-Léonard, a wine-growing suburb near Liège, soon had to close due to their environmental impact. The zinc cladding for the roof of the church of St. Barthélemy, a desperate commercial stunt, was to no avail. Dony died penniless, and his zinc company was bought by his companion François-Dominique Mosselman, who turned it into the Vieille Montagne in 1837.

Vieille Montagne soon became a major industrial force, a multinational even, with branches in France, Germany, England, Sweden and Sardinia. Most of its factories were located in East Belgium. Vieille Montagne led the way, and thousands of people made the company prosperous. However, many people had no choice but to work there. The company was an inevitability in these parts. Whether you went to the school for the working-class children, your parents worked at the mines, you

received from the director's St Paul de Sinçay health insurance fund, or you went for a consultation with the company/village doctor, people always had to deal with this business somehow.

Vieille Montagne controlled everything in a person's life. The people were just cogs in the machine. In the neutral, government-free area around the Altenberg mine, it was the company that ruled and shaped society. It was not so much a case of the capitalist oppression of the worker but rather the social provisions and security that the gentlemen directors ensured for their people. The Vieille Montagne workers laboured hard but were also well looked after. The photo album of director Louis-Alexandre St Paul de Sinçay from 1868 shows the employees proud and in full regalia in an almost state-portrait-like manner.

⑥ What does it take to get zinc? Raw materials and attributes, ca. 1870–1920

The Altenberg zinc mine in Kelmis was once Europe's largest. Production grew annually, from 3,631 tons just after its establishment to a staggering 60,846 tons in 1900. The mines, smelters, rolling mills and other factories employed adults and children, many of whom also came from abroad. The work was gruelling and dangerous, and many employees did not live past the age of 40. In the reduction furnaces, the mineral is burned with the zinc ore at a temperature of 907 °C (a relatively low temperature, otherwise the zinc would evaporate). The zinc deposits as white powder on the inside of the cooling pipes called muffles and is removed using large spoons and scrapers. The liquid substance is then used in gal-

vanising other materials or rolled into sheets. This great innovation made Dony's zinc production techniques a worldwide success.

Thanks to Museum Zinkhütter Hof, Stolberg (D) and Museum Vieille Montagne, Kelmis (B)

⑦ Statutes of the Workers' Fund (Statuts de la Caisse des Ouvriers) Société de la Vieille Montagne, publication, 1856

When Charles de Brouckère (named after his father, Limburg's first governor) is the director of Vieille Montagne in the 1840s, he sets up remarkable initiatives to significantly improve the worker's living and working conditions. He introduces

productivity bonuses, communal canteens, savings banks, health insurance and pension funds. The employees manage these funds, where other companies would give them little say. Later directors St Paul de Sinçay (father and son) continue this ethos, building schools for the workers' children and looking after the health and safety of the employees and their families. The company's governance is implemented throughout Neutrál Moresnet, turning the tiny country into a welfare state avant la lettre. When there are massive strikes across Europe in 1902 and 1913, the workers of Vieille Montagne do not participate.

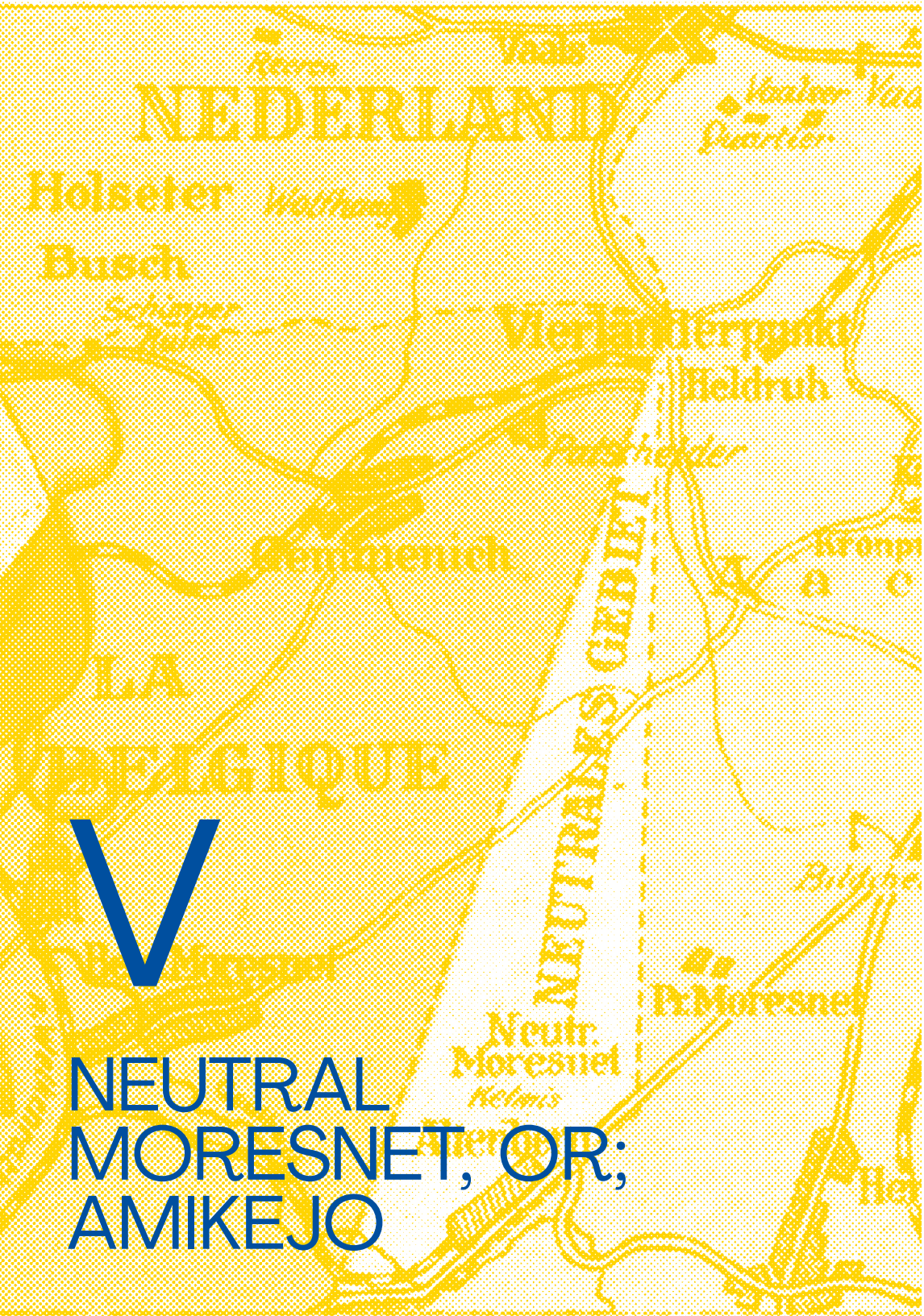
Thanks to the State Archives in Eupen (B), collection Firmin Pauquet



⑧ Albums de St Paul de Sinçay Société de la Vieille Montagne, photography, 1868

Vieille Montagne's employee welfare is pioneering. However, it should be noted that under the influence of socialism in the second half of the 19th century, trade unions also started to form, which the management strictly prohibits. The directors of that time continue to invest in keeping their workers happy by providing exuberant workers' social clubs that generate a strong sense of community. As a result, Vieille Montagne's employees have genuine affection and even pride for their company. This pride is reciprocal. Director Louis-Alexandre St Paul de Sinçay likes to show off his workers' wealth and has a special document made. Where other captains of industry make lithograph albums showing off their individual wealth, St Paul de Sinçay's photo albums depict his many employees in the manner of a state portrait, complete with their name and function, in their working clothes and equipped with their tools.

Thanks to Maison de la Métallurgie et de l'Industrie, Liège (B)



NEDERLAND

Holseter

Busch

Vierländerpunkt

Hieldruh

Patscheider

Gennienich

Kronpr
a c

LA

NEUTRALES GEBIET

Bildner

Pr. Moresnet

Neutr.
Moresnet
Helms
Hiet

V

NEUTRAL
MORESNET, OR;
AMIKEJO

NEUTRAL MORESNET, OR; AMIKEJO

Political struggles and country
design at the Four-Country Point.

The phenomenal underground wealth at Kelmis buzzed all over Europe. Traditionally, the most important brass centres – which require a lot of zinc – in Aachen and Dinant were already close to the Altenberg mine. But after Waterloo, Napoleon's mining concession to Jean-Jacques Dony, the mine's original proprietor, was meaningless. The Altenberg mine was available again. The bickering kings of the Netherlands and Prussia both refused the other the valuable zinc mine. To solve this impasse, an emergency solution was devised. Europe gained a new country as borders were erected around the 256 farmers of Kelmis, who now lived in an autonomous area called Neutral Moresnet.

The small 3.44 km² country was an imperfect unintentionality. Its peculiar triangular shape, whose northern tip formed the fourth border at the Four-Country Point (Vierlandenpunt), lay exactly between the two villages Moresnet (the Netherlands/Belgium) and Neu Moresnet (Prussia/Germany). Though not much was expected of the country and neighbouring countries kept trying to annex it, a people emerged with their own sense of nationality. Its capital was the village of Kelmis, whose mayor became head of state. Its defence force consisted of one field guard. It was a haven for smuggling, tax evasion, gambling and alcohol. And the Grand Deity in this tiny strip of the Euregion? Vieille Montagne.

The zinc business encompassed and controlled everything. The directors provided funds and social facilities, such as a school, doctor, and leisure associations – all of which ensured a community spirit and were implemented on a national scale in Neutral Moresnet. The country and

its culture developed by grace of the company; the people derived their *raison d'être* from zinc. Aachen physician Wilhelm Molly, the village doctor, had higher aspirations, though. His stamp collection hobby grew into a Moresnetter Postal Service. He designed a new currency and even wanted to introduce a new language: Esperanto. Neutral Moresnet, once a hotbed of outcasts and fortune seekers, people who were thrown into the deep out of nowhere by the high powers in Vienna, grew into a breeding ground of idealism and fraternisation. A real Amikejo, or: Place of Friendship.

That is: until the German occupation in the First World War and the Belgian annexation on 10 January 1920.

⑨ Map of Neutral Moresnet (Karte des Neutralen Gebietes Moresnet) Map, ca. 1840

After Napoleon's final defeat at Waterloo, Europe begins to look very different. At the Vienna Congress of 1814–15, France is enclosed by strong buffer zones. The new Kingdom of the Netherlands is put on the map, and France's borders are redrawn. But creating a new country will inevitably lead to border issues with existing countries. Kelmis is one such case. The zinc mine's prosperous reputation and the material's future promises cause diplomatic disagreements between the Netherlands and Prussia. During the negotiations, contradictory agreements are made, and the eternal tug-of-war has to be settled with an emergency solution. On June 26th 1816, a 3.44 km² slice of land is temporarily de-

clared the Undivided Territory of Moresnet, which a special committee should resolve later. However, the committee is never convened. With Belgian independence, a new partner replaces the Netherlands at the negotiating table, but talks with the Germans remain deadlocked. Inadvertently, Neutral Moresnet continues to exist for a century.

Thanks to the State Archives in Eupen (B), collection Firmin Pauquet

⑩ Kelmis as capital: street scenes and postcards
Photography, ca. 1900



Due to zinc's value in the 19th century, a zinc rush occurs, just like a gold rush. Sleepy Kelmis rapidly grows from a farming village of 256 inhabitants in 1815 to a 'capital' of 4000 in 1900. The industry attracts lots of people and with them come lots of problems. Neutral Moresnet gains a reputation as a tax haven and a smuggler's den. Forests are cut down on the Belgian and German sides so that customs officials can operate more effectively. In Moresnet, the trees are spared, and the country's borders are still evident in the Vijlenerbos. In the meantime, the mine is becoming exhausted, and with it, the microstate's *raison d'être* – something both Belgium and Germany are eager to see in their renewed attempts to annex the area. However, Vieille Montagne's social policies improve the quality of life in and around Kelmis considerably. Under all these exceptional circumstances, an awareness of the unique situation these people now find themselves in, without having asked for it, begins to emerge and with it the birth of a real sense of independence.

Thanks to the State Archives in Eupen (B), collection Monika Reuter and to Museum Vieille Montagne, Kelmis (B)

⑪ Tourism at the
Four-Country Point
Postcards, ca. 1900



After the Belgian Revolution in 1830, a new European country emerges and takes over the Dutch co-regency over Neutral Moresnet (although the Netherlands will never officially relinquish the area). Now that the province of Limburg is split, a Four-Country Point (Vierländerpunt) will be created on top of the Vaalserberg hill. It will not only become a tourist attraction that puts Neutral Moresnet on the map (more than the hoped-for casino that was very short-lived in 1902) but also a symbol. By consistently presenting itself as the fourth country, Neutral Moresnet stresses its desire for independence. The postcards of the Four-Country Point also proudly depict cultural and linguistic diversity by showing the inhabitants of the four countries gathered at The Point, the border guards in their different uniforms or groups of tourists enjoying themselves by standing in all four countries at once. On the Vaalserberg hill, the idea of an open, borderless Euregion seems within reach more than ever.

Courtesy of Museum Vieille Montagne, Kelmis (B)

⑫ **Amikayo – Marche, op. 11**
Willy Huppermann, music, 1908

Neutral Moresnet is fundamentally a symbol of the wish for European unification. At the end of the 19th century, the country cherishes its diversity and the peaceful coexistence of different languages and nationalities. The country's tiny size means the converging boundary lines are relatively soft at the Four-Country Point, making the concept of a 'border' somewhat meaningless. The idealist village doctor, Wilhelm Molly, takes this a step further. From his friendship with the French professor Gustave Roy, an extraordinary ambition arises to make Neutral Moresnet the world's first Esperanto-speaking country. It would have been called Amikejo, Esperanto for Place of Friendship. Kelmis embraces the plan, and an anthem is immediately composed, language courses are given, and an Esperanto club established, which still exists. Esperanto never reached such a high density of fluent speakers again as in Kelmis at the beginning of the 20th century. Had the country continued to exist, the Universala Esperanto Asocio headquarters would have been in Kelmis instead of Rotterdam.

Courtesy of Museum Vieille Montagne, Kelmis (B)

⑬ **Complete grammar of Esperanto**
L.L. Zamenhof, publication, 1905

The eye doctor Ludwik Lejzer Zamenhof publishes the basic principles of Esperanto for the first time in 1887, along with its 16 grammar rules and underlying philosophy. As a child growing up in sharply divided multi-ethnic Belostok (now Białystok, Poland), he witnesses how a lack of communication possibilities fuels discrimination, intolerance

and xenophobia. He designs an international auxiliary language and makes it as simple as possible so that anyone can learn Esperanto quickly and easily. The language intends to foster European harmony and international tolerance. Esperanto is accompanied by a genuine culture and peace-loving ideology that values linguistic diversity and equal communication, as established in the Prague Manifesto drafted by UNESCO. After Brexit, according to public sentiment, English, as the official language of the EU, has been on the decline and interest in Esperanto has increased enormously. In 2021 efforts are being made to make Esperanto an official language of the European Union.

⑭ **Proclamation to residents of Neutral Moresnet**
(Proclamation aux habitants de Moresnet-Neutre)
Province of Liège, placard, 1919

Neutral Moresnet is a thorn in the side of the Germans, and they consider Esperanto a threat. German émigrés try to increase their political influence, and the collaborationist mayor Schmetz even sabotages the construction of a new telephone cable to Belgium. Germany then tries to annex the country via the Permanent Court of Arbitration in The Hague, but that only strengthens Neutral Moresnet's resolve for independence. In 1914–15, neutrality came to an abrupt end when the German army finally overran the small country. The Germans laid the railway track to Aachen and built the imposing viaduct that still dominates the landscape. After the war, the Treaty of Versailles decides that the country must be 'returned' to Belgium, which then tries to sell it to the Germans. The suspicions against Belgium must be allayed with this 'Welcome to Belgium'

placard, which explains in a friendly but imperative way that Neutral Moresnet was nothing more than an unsustainable situation that has now finally been resolved.

Thanks to the State Archives in Eupen (B), collection Firmin Pauquet

⑮ The Forgotten Land of Moresnet (Het vergeten land van Moresnet)

Fred Dijks en Bureau Beekvisser,
film, 1990

In 2021, the history of Neutral Moresnet seems more fable than fact. Nowadays, the microstate is barely in the public imagination, and its history is often romanticised. Although delineated by political turmoil and capitalist pursuit of profit, it should not be forgotten that the daily life for the inhabitants of the neutral territory was not defined by this alone. The realisation of the unique situation only dawns slowly and belatedly, but nonetheless with intensity. Today little seems to evoke Neutral Moresnet, but in recent years the topic has seen a revival with the publication of *Moresnet* by Philip Dröge (2016), the boekenweek* essay *Zinc* by David van Reybrouck (2016) and the 2018 reopening of the renovated Museum Vieille Montagne in Kelmis. This documentary by the Dutch filmmaker Fred Dijks, in which former inhabitants of the neutral area show how the land and the mines still resonate with the people in Kelmis, offers an unforgettable picture of Neutral Moresnet.

* Boekenweek is an annual 10-day period dedicated to Dutch literature

The background of the entire page is a halftone illustration in shades of yellow and orange. It depicts a rural landscape with a river or stream flowing through it. In the foreground, there are several figures, possibly people, and some animals. The middle ground shows a bridge or a set of stairs crossing the water. The background features rolling hills and some buildings or structures. The overall style is reminiscent of a woodcut or a halftone print.

VI

THE DEPLETION OF THE EARTH

THE DEPLETION OF THE EARTH

Zinc can make or break
a landscape.

Despite its illustrious history, the Vieille Montagne zinc company had a difficult start. At the beginning of the 19th century, Jean-Jacques Dony's company in Saint-Léonard, Liège, was already confronted with a surprisingly contemporary problem: the environment. Local wine-growers saw their harvests spoiled from zinc dust emitted by the industry's smokestacks and started protests and lawsuits, forcing these first Vieille Montagne zinc factories to prematurely close their gates for good. The similarities with contemporary problems are telling.

Later, zinc proves to have an even more significant influence on nature and the landscape, but not always in a purely destructive way. Centuries of zinc mining in the Euregion have indeed caused considerable pollution to the Geul river. Moreover, its meandering course has deposited large densities of heavy metals in Limburg's soil. The zinc oxide factory grounds of Maastricht and Eijsden, where the surrounding soil is highly polluted, also bear witness to this. Every plot of building land in the area has to be excavated and replaced with 'fresh' soil brought in from elsewhere.

This environment is disastrous for many plants, but one unique flower thrives: the zinc violet, which only grows in the wild in this region. However, the restoration of the local Natura 2000 landscape threatens this flower. Further north, mining has withered and parched the natural surroundings of Budel-Dorplein to such an extent that a unique landscape has emerged. Since no one wants to live there, it has remained intact and can now be protected as a Natura 2000 site.

In 2021, environmental criteria – whether or not enforced – are an essential motive for industrial innovation. The exploitation of the earth is happening at an alarming rate, and mineral depletion is imminent. This possible future scarcity of raw materials calls for careful consideration. Individualistic capitalism (such as the Belgian startup WalZinc's recent ground investigations in the old mining grounds near Kelmis) is increasingly disappearing from contemporary values. Socially and politically, the focus is more so on the symbiosis between people and cultures, but also with nature. Boundaries soften or even disappear, and unity and cooperation bring even the stars a little closer.

⑩ A world without zinc
The Simpsons (S03E16), Bart
the Lover, animation, 1992



just a predictable gutter. Zinc is the world's fourth most used metal and a global industry worth €35 billion. Even though most zinc is mined in Australia, Peru and China nowadays, it is still used worldwide, including in the steel industry or in other alloys, such as brass, whose applications range from doorknobs to musical instruments. The construction industry has never used so much zinc as it does today. Zinc is found in electronic devices, coins, car parts, water taps and pipelines, batteries, photography, and medicines. Notably, since zinc is easily recycled, 60% of all the zinc ever produced is still in circulation! It is also a natural element that improves our immune system. Zinc is therefore essential.

Zinc sometimes seems invisible as it can be an inconspicuous building material. We mainly know it from everyday utensils and building elements, so it often remains under the radar. But zinc is more than

①7 **Concession of the Calamine Mines of Altenberg (Concession des Mines de Calamine de la Vieille-Montagne)**
Imperial Decree, 1805

Let us return to Jean-Jacques Dony's bathtub, with which the inventor convinced Napoleon of zinc's value. The Emperor grants Dony a license to operate the Altenberg (French: Vieille Montagne) mine near Kelmis. In 1809, he processes the mined zinc in the first factories he establishes in the Liège suburb of Saint-Léonard. In the reduction ovens, he uses his invention to obtain the purest zinc of the time, which he rolls into sheets for roofing. Although a success formula, the financial benefits do not materialise. Dony instigates a commercial stunt by replacing the lead roof of the church of St. Barthélemy in Liège in 1811 with zinc. Unfortunately, it was to no avail because of the problems the inventor encounters at his factories. When the Napoleonic era ends, Dony's mining license is useless, and he tries again to start up his zinc industry. He teams up with the wealthy Brussels banker François-Dominique Mosselman. The rest is history.

Thanks to the State Archives in Eupen (B), collection Firmin Pauquet

①8 **Album of Vieille Montagne factory establishments (Album des usines et des établissements de la Société)**
Adolphe Maugendre,
lithographs, 1855

If you build a factory in the middle of a residential area, you will inevitably encounter angry residents. In 19th-century Liège, people are already aware of the dangers of environmental pollution and disruption.

A higher mortality rate and a cholera epidemic in the Saint-Léonard district are attributed to the zinc industry's harmful effects and negative impact on human and animal well-being. The smoke from the chimneys is full of zinc oxide, and when it rains, it falls on the winegrowers' crops, destroying their harvests. Countermeasures are enforced through lawsuits and pleas addressed to King William I. Chimneystacks are raised to keep smoke away, and 'experts' publish health studies in an attempt to appease the locals. Director Charles de Brouckère orders a research trip to England in 1841, which results in new innovations. These ventures are not so much environmentally friendly but rather neighbourly damage control. Vieille Montagne's management hopes to avoid further charges and penalties, but the public unrest continues. The factories in Saint-Léonard are the first to be forced to close.

Thanks to the Maison de la Métallurgie et de l'Industrie, Liège (B)

①9 **The People vs Shell**
National newspapers,
news reports, 2015 – present



The case of the Saint-Léonard factories is surprisingly contemporary and exemplifies how economic considerations are often at the root of social conflict. Vieille

Montagne has had to innovate continuously under public and political pressure. Today such accountability is an almost everyday phenomenon, now that the world's major polluters, such as Shell, Tata Steel and Chemelot, are being held to account for their actions. Campaigning organisations such as Urgenda and Milieudefensie have initiated successful lawsuits on behalf of the people to enforce the monitoring of climate goals through the courts. The ruling in May 2021 forces Shell to drastically reduce CO2 emissions, which is good news for all who care about the climate. But is this also a blessing in disguise for major industries? More than the feared financial blow, this ruling creates the necessity and the incentive to accelerate improvements. The usual course of action might have taken too much account of the stakeholders' financial interests. In any case, such companies are now aware of their legal peril.

⑳ Natura 2000 – The Weenter- and Budelerbergen Map and photography, 2021

NedZink in Budel-Dorplein is the only zinc factory in the Netherlands. It is an excellent example of a community shaped by paternalistic major industrialists. Around NedZink, on the site of the Swiss zinc giant Nyrstar, is a unique landscape. Zinc has been mined in the area for over a hundred years. The extraction of raw materials and fertility-contributing components have depleted the soil, contaminated it with metals and severely dehydrated it. Our understanding would usually define this as landscape destruction. In essence, however, a brand-new landscape has emerged with a characteristic appearance and unique biodiversity. The area is too barren for human habitation, so the landscape has not been affected by building activity. Consequently, the land has been preserved and can now

be protected as a Natura 2000 site, a network of European nature protection areas. As we can see, the zinc industry has undeniably impacted nature, but that does not always mean it is adverse.

㉑ Natura 2000 – Het Geuldal Map and photography, 2021

As the landscape has been cleaned up, the remnants of the zinc industry have been buried under new nature in the Euregion. But the effect of zinc on the landscape can also be felt beyond the former borders of what was Neutral Moresnet. The Geul river was a major transport route for zinc for centuries and, due to its prominent meandering, it deposited high densities of heavy metals in South Limburg's soil. Not only is the Geul still one of the most polluted rivers in the Netherlands today (no less than 50% of the heavy metals that are discharged into the sea by the Maas river come from the Geul), but the metal density in the soil itself is also disastrous for much of the natural surroundings. This has resulted though in a unique flower, the zinc violet, which only occurs naturally in this part of the world. Its presence gives rise to a contradiction because while attempts are being made to clean up the Geul to restore and protect the typical landscape – but without the polluted water – the breeding ground for the unique zinc flora disappears. The zinc violet is under threat from environmental protection.

㉒ The zinc violet Ulrike Rehm & Beate Reinheimer, sculptures, 2021

Say 'zinc', and most people from South Limburg will add 'violet'. This delicate flower is a de facto symbol for the region. How-

ever, many people are unaware of its unique origins. The zinc violet only grows on soil contaminated with heavy metals, mainly due to the flooding of the Geul, an important transport route from Kelmis. The heavy zinc exploitation around Kelmis means the rare zinc violet only occurs naturally in this part of the world. But the zinc flora – zinc sheep fescue, zinc burdock and zinc bladder campion – are now an endangered species. There was only one pollen grain of zinc sheep fescue in the Netherlands left, but a timely intervention, replanting it in Cottessen in South Limburg, saved the plant. The former mining centre of Blieberg (French: Plombières), where a lot of lead was mined, is now a nature reserve. Artists Rehm and Reinheimer symbolically spared these spring bloomers from ruin by immortalising them in zinc.

②3 Silent Canary

Filippo Ciriani, photographic series, 2019



In towns and countries, heavy industry is an intruder with an indelible impact on communities. Vieille Montagne mineral exploitation has left its mark on the Euregion landscape, which, after the closure of the mines, has been carefully restored over several decades. Today, these interventions make it impossible for us to imagine such a radically different past and are silent witnesses in the landscape to Vieille Mon-

tagne's history. Even the ordinariness of the houses and streets of Kelmis, which owed its entire *raison d'être* to industry, commemorate the pervasiveness of this long-gone company. This black-and-white photographic series by Italian photographer Filippo Ciriani ponders an absence, a Vieille Montagne-shaped hole. The people and architecture act as oblique references rather than direct representations. The history of zinc lingers in the local subconscious.

②4 Zinc white and black debris

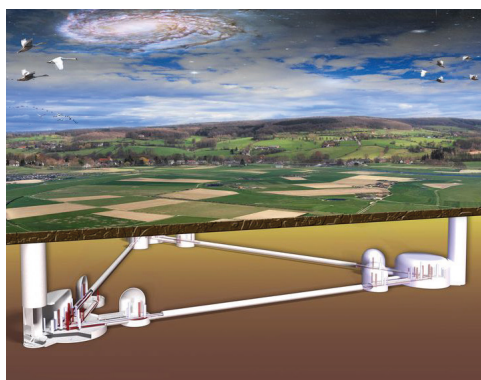
Dear Hunter, installation, 2021

The Meuse-Rhine Euregion is known for its gently rolling landscape with picturesque villages and farms. The soothing relief of the natural hills has been surpassed for more than a century by the humanmade rubble heaps that testify to industrial operations. In Parkstad and around Liège, a preposterous vista of artificial mountains adorns the horizon. The zinc and lead pits around Kelmis and Plombières and the ENCI site in Maastricht are now recreational areas where the nature is reinstated. The landscape is dramatised by industrial influences and is unintentionally made more romantic in reaction to the exploitation and depletion of the past. It is both a memory of the past and a fear for the future, especially in Wallonia, where there is a threat of mining's return. An industrial cowboy such as WalZinc already carried out new soil surveys in 2019! The mineral wealth in and around the former territory of long-gone Neutral Moresnet is still vast: indium and germanium can also be extracted from the minerals, beyond the usual lead, zinc, and cadmium. They are by-products of the old zinc industry. These rare metals are used a lot in the production of modern electronics and telecommunication devices, ranging from

smartphones to electric cars and solar panels. The demand for these rare metals keeps growing, as well as their scarcity, and the ground we live upon in the Euregion is getting more valuable by the minute. How long will it take before the soil underneath our feet is uprooted, exploited, and depleted once more?

25 Einstein Telescope

Nikhef/Marco Kraan, renderings and impressions, 2019–2021



The Meuse-Rhine Euregion is known for its borders: national borders, language borders, community borders. 'Borderless' and 'cross-border' are often mentioned in the same breath. But any notion of a border fades with the exploration of the deep underground. The Euregion is competing for a multi-billion-dollar project. The Einstein Telescope will be an advanced observatory that measures gravitational waves and studies the universe's birth. The project requires an underground construction of three ten-kilometre-long arms at a depth of 200 to 300 meters. This enormous project extends under the Netherlands, Belgium and Germany and is literally crossing borders. The Euregion could be a suitable location because of the robust ecosystem of knowledge institutions and high-tech companies, the

tranquillity and the stable ground – as long as no new mines appear. Thus the fear about the reopening of the zinc, lead and coal mines is not only felt among the local population. Ultimately, strict environmental criteria make a return of mining unlikely, but a remarkable mirroring is emerging. Where there used to be a subterranean silence in the stifling mining tunnels, we are now looking for tranquillity in the vastness of the universe.

Thanks to Nikhef/Martine Oudenhoven



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