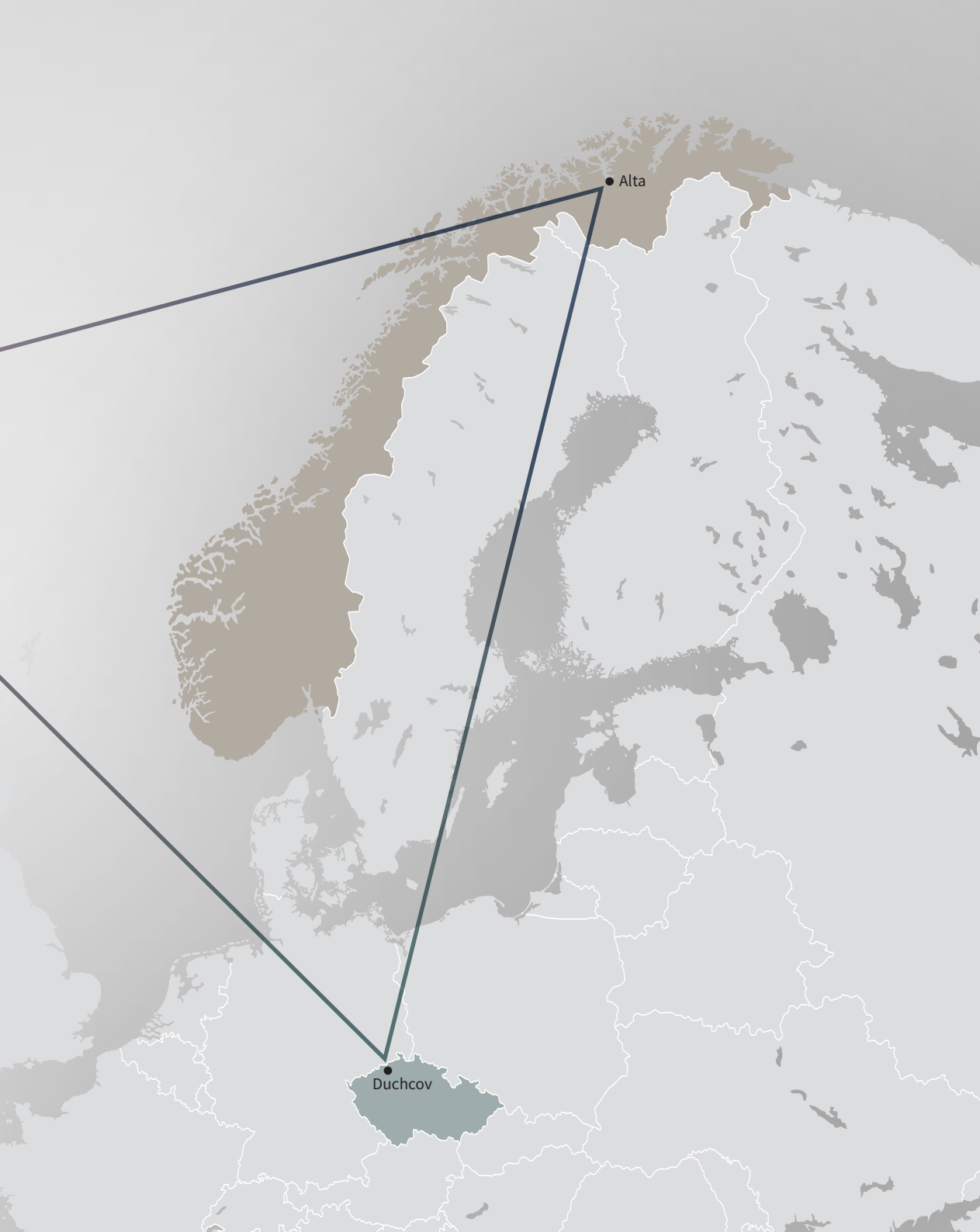


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Seyðisfjörður ●



• Alta

• Duchcov





Tailing pond from the Ledvice power plant with Bořen mountain in the distance, North Bohemia.

Photo: Dagmar Šubrťová





Kárahnjúkar hydroelectric dam in the eastern highlands of Iceland.

Photo: Lisa Paland







Kautokeino, Finnmark, Norway.  
Photo: Alena Kotzmannová

*Of all corners of the world, North is the furthest. It is the most elusive and the least circumscribed, an ill-defined space rather than a delineated place. An old Russian joke has it, that there are no roads in Russia, only directions. Likewise the North is a direction to which the compass needle points but never arrives; the North lacks locality, territoriality, borders and other signs of our rational geometrical civilization.*

Glen Gould,  
*The Idea of North*

*The rules of the universe that we think we know are buried deep in our processes of perception.*

Gregory Bateson,  
*Mind and Nature: A Necessary Unity*



# Distant Shores Everywhere

Dagmar Šubrtová and Miloš Vojtěchovský

This exhibition and the catalogue summarize the results of collective artistic research by artists and curators from Iceland, Norway, and the Czech Republic. All the works and texts were created as a part of the project and were directly or indirectly inspired by the participation of the artists in expeditions to the areas of Finnmark in subarctic Norway, a coal field in North Bohemia, and the highlands of Iceland. Thirty artists and lecturers invited by three independent art organizations, collaborating for the first time. The project became an art/sociology/ research probe into geographically, artistically and socially quite distinct countries. The exhibition and the catalogue demonstrate the large scale and breadth of subjective attitudes, interpretations, strategies, and reactions to specific facts about the various landscapes visited. In some way, the catalogue also offers, besides the artworks, a more general reflection of the questions to which we all are searching some form of an answer.

The initiators of the project have used the principles of collaboration, exchange, sharing and participation to adjust to models matching the current environmental situation. At the same time, *Frontiers of Solitude* is inevitably a part of the problematic situation of the Art World, and thus of the economic and sociopolitical reality which at least some of the participants tried to critically challenge. Three expeditions of 20 people to three “distant shores” in Europe means transportation. But we hope, at least, that we can atone for the carbon footprint through the impact of the project.

The project has been in preparation since the beginning of 2014. During our reflection on its form, and during the project’s gradual realization, a number of expected and unexpected events have taken place, which have influenced both the circumstances and the sociopolitical context of the project on local and global levels.

The expedition to Iceland introduced its participants to recent and planned landscape transformations in the country’s highlands, caused by the harvesting of renewable energy such as hydropower and geothermal energy. The infrastructures and environmental effects of these forms of energy production were observed and discussed, as well as the industrial purposes for which their “green” electricity is used. As an example, the group studied the ecological and sociopolitical relationships between the recently built Kárahnjúkar hydropower plant and its main energy recipient, a new aluminium smelter in Reyðarfjörður. At present, apart from attracting energy-hungry heavy industry to Iceland, the Icelandic government also discusses plans to export energy on a larger scale to countries in Europe. In November 2015, a report was published on a preparatory agreement between the Icelandic and the British governments, stating their intentions to work towards a new high-voltage undersea cable connecting the two islands. This agreement envisions that in the future the cheap and abundant geothermal and hydroelectric power from Iceland could supplement or even replace current energy sources in the United Kingdom. The expected negative impact of a huge increased harvesting of

hydropower and geothermal energy sources on Iceland's sensitive environment has recently been the cause of public protests led by the singer Björk and Andri Snær Magnason, author of the book and the movie *Dreamland*. Both artists called for the solidarity of the international public, fighting for the protection of Iceland's free-running rivers and untouched geothermal fields, and for granting the central highlands the legal status of a National Park.

During the expedition to the Most coal basin, it was the Czech government which was making decisions. This time, the question was whether the ecological restrictions set for the coal mines Bilina and the Czechoslovak Army Mine should be lifted after more than twenty years. The limits were set due to the protests of the citizens, the international public and the management of the Ministry of the Environment of the Czechoslovakia in 1992. The goal was to protect the inhabitants and the rest of the devastated nature against the adverse impacts of the mining in the open cast mines. At the end of October 2015, the government confirmed that the mining limits of the Bilina open cast mine would be broken, and actually, that they had been broken already. Even though the price of brown coal is falling, mining will continue here for next decades. The argument of the government officials, the spokespersons of coal-mining companies, and the union was based on the altruistic proclamations about preserving the employment possibilities for the region's citizens and on the "good will" of providing the consumers with the heat from the burnt coal.

The destruction of the land, which was -together with the militarization and globalization, one of the major plights of the 20<sup>th</sup> century, changed this part of North Bohemia and the surrounding areas of Poland and Saxony into the toxic, infamous "Black

Triangle". Based on the government's decision, the mining and energy companies are allowed to continue mining, however in a more sophisticated manner than was employed during the decades of Cold War. People, living under the totalitarian regime, had no other choice than to move out of the polluted environment. What opportunities to participate in the decision-making about the future of the landscape does the current democracy offers today?

Finnmark, the northwest part of Norway, is at the same time the borderland of Sweden, Finland, and Russia. Close to the border with Russia lies the industrial town Nikel, which by now belongs to the most toxic places in Europe. Via this part of the border immigrants from Asia and the Near East were crossing the Schengen border. The expedition participants were confronted with the intensive mining of precious metals, and deposit of the toxic waste on the bottom of the fjords, as well as with the situation of the indigenous people of Sami. Their culture has been nomadic and pastoral for millennia. The industrialization, brought by Norwegian companies, offers employment. However, at the same time it results in a threat to their lifestyle, which for centuries has been based on symbiosis with the nature to which they have belonged, and hopefully, to which they at least partially still do.

The United Nations conference in Paris, COP 21, took place in the first week of December, 2015. The representatives of the participating countries recommended that limits to the carbon dioxide pollution of the atmosphere should be set. The signatories of the conference conclusions suggested decreasing the burning of fossil fuels. Even though words such as coal, oil, petroleum, or fracking are not directly mentioned in the texts, it is the first gesture of the political representatives

towards the decisions which are conditional for slowing down, if not diverting, the impacts of climate change.

Neither the exhibition's concept nor many of the individual works are based on abstract notions, aestheticization of the questions or attitudes. They are built on the direct encounter with three areas of Europe, on specific people and their everyday issues. It

is possible to see with one's own eyes, and alternatively to hear with one's own ears, the more or less obvious consequences of the economic system forging industrialization on the individual layers of the environment, and gradually also on large landscape structures. What we have learned for years from movies, technical/theory books and mass media, what was usually coming from afar, is maybe now getting near, maybe right behind our doors.

## Za humny a daleké kraje

Miloš Vojtěchovský a Dagmar Šubrtová

Výstava a katalog shrnují výsledky společného uměleckého výzkumu umělců a kurátorů z Islandu, Norska a České republiky. Všechna díla a texty vznikly jako součást projektu a byly přímo či nepřímo inspirovány účastí na expedicích do oblastí Finnmarky v subarktickém Norsku, uhelné pánve v severních Čechách a vysočině Islandu. Třicítka umělců a lektorů byla oslovena a přizvána třemi uměleckými organizacemi a šlo o první formu spolupráce. Projekt se stal umělecko-sociologicko-výzvědnou sondou do geograficky, umělecky i sociálně poměrně vzdálených zemí a výstava a katalog dokládají široké spektrum subjektivních postojů, interpretací, strategií a reakcí, týkajících se konkrétních realit různých typů krajín. V jistém smyslu katalog nabízí vedle dokumentace uměleckých děl také obecnější reflexi otázek, na než hledáme nějakou formu odpovědi.

Iničiátoři projektu vycházeli z předpokladů o spolupráci, výměně, sdílení a participace, tedy z modelů, které by odpovídaly aktuální environmentální situaci. Zároveň je projekt *Frontiers of Solitude* nutně součástí

problematického stavu uměleckého provozu, tedy ekonomické a sociopolitické reality, vůči které se někteří účastníci pokusili kriticky vymezit.

Během uvažování o formě události, připravované od začátku roku 2014 a během realizace došlo k mnoha čekáným i nečekáným událostem, ovlivňujícím jeho okolosti i společensko-politický kontext v místním i globálním měřítku. Expedice na Island se zaměřila mimo jiné na environmentální důsledky vodní přehrady Kárahnjúkar, obstarávající elektřinu komplexu hliníkárný Alcoa. V listopadu byla zveřejněna zpráva o vyjednávání mezi islandskou a britskou vládou o připravované dohodě, která by finančně a energeticky dále propojila oba ostrovy. Geotermální a vodní energie z centrální vysočiny Islandu by měla být v budoucnosti „čerpána“, přeměněna na elektrický proud a následně kabelem po dně oceánu posílána k pobřeží západního Skotska. Vulkanická energie, které má Island „nadbytek“ by posílila, nebo dokonce nahradila stávající energetiku Spojeného

Království. Nebezpečí pravděpodobných vlivů na křehkou islandskou přírodu vzbudilo vlnu občanských protestů: jejich tvářemi jsou Björk a autor knihy a filmu Dreamland Andri Snaer Magnason. Oba umělci apelovali na mezinárodní veřejnost k vyjádření solidarity v jejich boji proti islandské vládě a korporacím, které za ideou energetického obchodu stojí.

V průběhu výpravy do Mostecké uhelné pánve jednala pro změnu česká vláda o tom, zda lze po více než 20 letech prolomit ekologické limity na velkolomech Bílina a Důl Československé armády. Limity byly stanoveny díky protestům občanů, mezinárodní veřejnosti a vedení Ministerstva životního prostředí ČR v roce 1992. Cílem bylo ochránit obyvatele a zbytky okolní devastované přírody před nepříznivými důsledky těžebních činností v povrchových dolech. Na konci října 2015 vláda potvrdila, že těžební limity na dole Bílina budou, nebo spíš již jsou prolomeny. Přestože cena hnědého uhlí klesá, těžba bude pokračovat po další desetiletí. Argumentace vládních úředníků, mluvčích těžařských společností a odborářů vychází z lidumilných proklamací o záchraně možnosti zaměstnání pro obyvatele regionu a o dobrodružném poskytování tepla ze spáleného uhlí spotřebitelům. Drancování země – které bylo společně s militarizací prostoru a globalizací klíčovým symptomem 20. století – změnilo část severních Čech, přilehlé oblasti Polska a Saska v toxický Černý trojúhelník. Díky rozhodnutí mohou těžařské a energetické společnosti pokračovat ve vyuhlování, i když sofistikovanějším způsobem, než tomu bylo v desetiletích po druhé světové válce. Lidé, kteří žili v totalitním státě, neměli jinou možnost, než se ze zamořeného území odstěhovat. Jakou variantu podílet se na rozhodování o krajině, ve které žijí ti, co zde zůstali, nabízí současný stát?

Finnmarka, tedy severovýchodní část Norska, je zároveň pomezím mezi Švédskem, Finskem a Ruskem. Nedaleko hranic s Ruskem leží industriální město Nikel, dnes patrně nejedovatější místo severovýchodní Evropy, a přes tuto část hranice letos přejížděli na kolech imigranti z Asie a Blízkého východu. Účastníci expedice byli konfrontováni nejen s intenzitou těžby vzácných kovů a ukládání toxických odpadů na dno fjordu, ale i se situací původních obyvatel Sámiů. Jejich kultura je po tisíciletí pastevecká a industrializace, importovaná norskými společnostmi, sice nabízí zaměstnání, ale v důsledku ohrožuje způsob jejich života. Ten byl po staletí založen na symbióze s přírodou, které Sámiové byli a dosud snad částečně jsou součástí.

První týden v prosinci 2015 proběhla pařížská klimatická konference Spojených národů COP 21, během níž zástupci zúčastněných států doporučili stanovit limity znečišťování atmosféry oxidem uhličitým. Signatáři závěrů z konference doporučili snížení spalování fosilních surovin. Přestože slova jako uhlí, ropa, plyn nebo frakování v textu nejsou, jde o jedno z prvních gest politické reprezentace směrem k rozhodnutím nutným ke zpomalení, když už ne k odvrácení následků klimatických změn.

Koncept výstavy i jednotlivá díla nejsou většinou postaveny na abstraktních pojmech, na estetizaci otázek a zprostředkovaných postojů. Vycházejí ze setkání s třemi oblastmi v Evropě, konkrétními lidmi, jejich každodenními problémy. Dopady ekonomického systému a industrializace na jednotlivé diskrétní a zjevné vrstvy prostředí a postupně i na krajinné celky lze vidět na vlastní oči, případně slyšet na vlastní uši. To, co jsme se roky dozvídali z filmů, odborných knih, z masových médií, co k nám doléhalo z odlehlých končin planety, je za humny, možná v našich domovech.

*Sever je ze všech konců světa ten nejbudálenější.  
Je nejnepolapitelnější a nejméně ohraničený. Spíš  
než jasně definovatelné území je sever oblastí  
nedefinovatelnosti. Podle starého vtípu v Rusku nejsou  
silnice, ale jen směry. Podobné je to se severem: je  
vždycky tam, kam míří strelka kompasu, ale nikdy tam  
nedorazí. Sever postrádá lokalitu, teritorialitu, hranice  
a podobná označení naší racionální a geometrické  
civilizace.*

Glen Gould,  
*Idea Severu*

*Zákony univerza o nichž jsme přesvědčeni, že je známe,  
leží zatím ponořeny hluboko uvnitř procesů vnímání.*

Gregory Bateson,  
*Duše a příroda: nezbytná jednota*



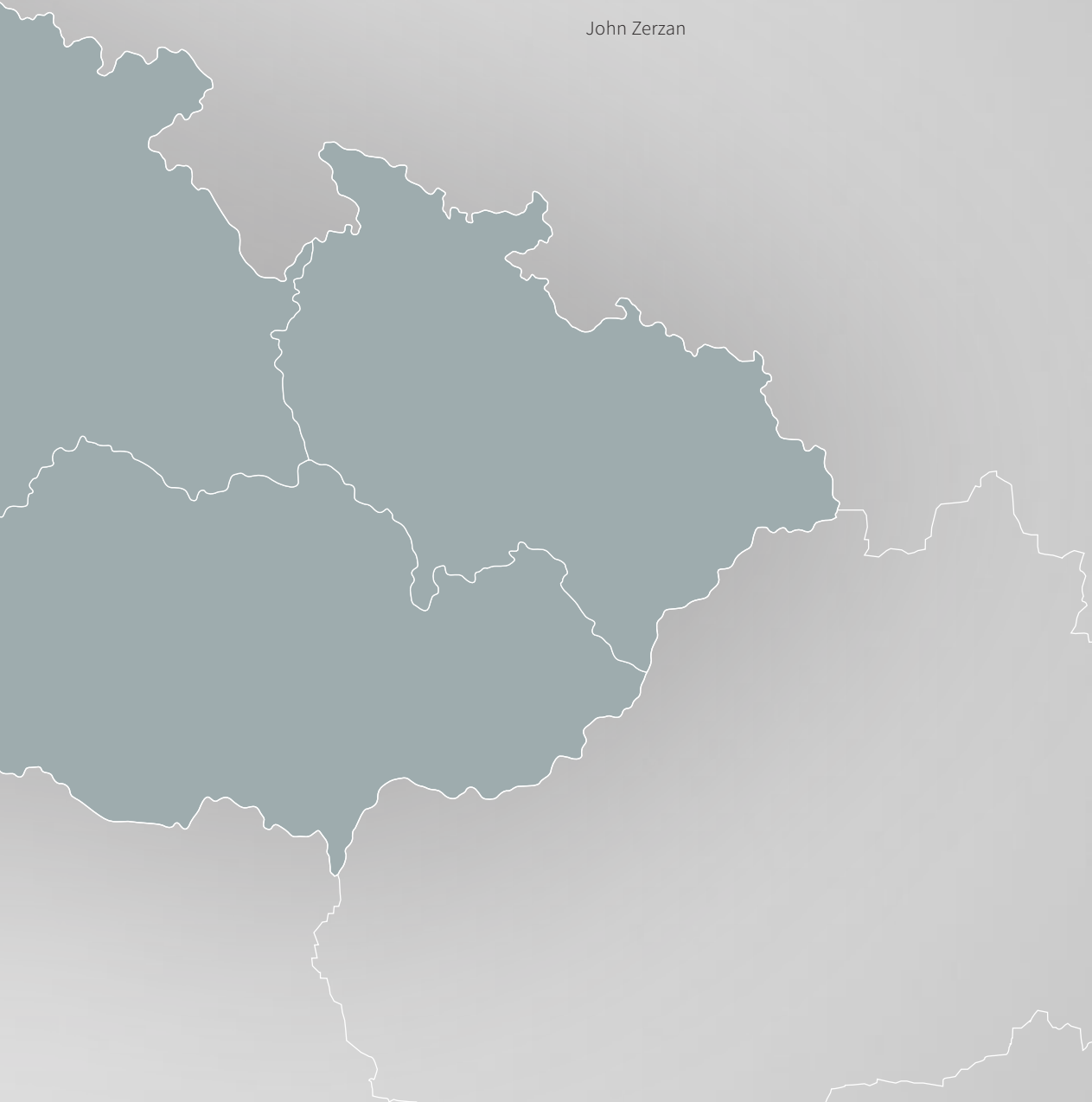


Osek  
Teplice  
Litvínov  
Duchcov  
Jezeří  
Mariánské Radčice  
Most



*Today's symbolic reflects nothing much more than the habit of power behind it. Human connectedness and corporeal immediacy have been traded away for a fading sense of reality.*

John Zerzan







Bílina open pit mine, the deepest point in the Czech Republic.

Photo: Dominik Žižka



Lake Most and the Chemopetrol chemical factory, North Bohemia. Photo: Michal Kindernay

# Into the Abyss of the Lignite Clouds

5 – 25 September 2015

The focus of the expedition and workshops in the landscape around the Most Basin is on current changes in the heavily industrialized landscape, especially with regard to the loss of historical continuity, the transfers of geological layers and social structures, and current discussions about the abolition of territorial limits, as well as the potential for further degradation and exploitation of the landscape by extensive open cast mining. This expedition is based on the idea that it is necessary, both for art and ecology, to consider the interconnections between people and the landscape, with regard to energy resources, animals, plants, history, and the like.

The domains that artists and ecologists share are not simply the realms of the beautiful, the aesthetic, or of pleasure. This thinking spurs a departure from (and rethinking of) the romantic and utilitarian models to which both art and nature have traditionally been subject. Similar attempts to rethink this subject are also occurring in sociology, biology, and philosophy, as well as in the arts. These issues are relevant everywhere, but they are especially pertinent in the Most Basin, which is a unique area with its uncanny combination of its remaining natural niches, a long history of heavy industrial pollution and open cast mining, and recent efforts for environmental recultivation.



# Do hlubiny lignitových mračen

5.–25. září 2015

Tématem expedice Do hlubiny lignitových mračen v Mostecké pánvi jsou změny průmyslové krajiny, ztráta historických souvislostí, převrácení geologických vrstev i sociálních struktur a aktuální diskuse o prolomení územních limitů. Expedice vychází z předpokladu, že pro ekologa i umělce je nezbytné zabývat se problematikou sounáležitosti člověka s krajinou komplexně, tedy včetně tématu energetických zdrojů. Prostředí má být chápáno jako konstrukt sloužící nejen zájmům člověka, ale i přístupu

respektujícímu i životy zvířat a rostlin. Umělec dnes s ekologem sdílí mnohem víc než jen doménu estetického či příjemného. Jak přehodnotit sentimentální i utilitární myšlenkové modely spojení kultury a přírody? Tyto otázky jsou zvláště důležité v Mostecké pánvi – jedinečné krajině, kde najdeme ostrovy původní přírody a archeologická naleziště, avšak obklopené stopami dlouhotrvajícího průmyslového znečištění, i svědectvím pokusů o rekultivaci krajiny.

---

**Účastníci:** Václav Cílek, Peter Cusack, Gunnhild Enger, Þórunn Eymundardóttir, Tommy Høvik, Petr Meduna, Radek Mikuláš, Ivo Přikryl, Kristín Rúnarsdóttir, Vladimír Turner, Jiří Sádlo, Radoslava Schmelzová, Miloš Šejn, Jiří Šlajsna, Robert Vlasák, Jiří Wolf, Martin Zet.

**Organizace:** Dagmar Šubrtová, Miloš Vojtěchovský, Michal Kindernay.

**Dokumentace:** Dominik Žižka.





Jezeří Castle and the ČSA open pit mine, North Bohemia.  
Photo: Dominik Žižka

# The Krušné Hory Mountains and the Podkrušnohorská Basin: A Spiritual and Mining Perspective

Václav Cílek

## Krušné Hory

In Czech, the name Krušné Hory seems ancient, but it did not come into common use until the mid-20<sup>th</sup> century; until then this mountain range was known as Rudohoří [Ore Mountains], and the new name was given in order to distinguish it from the Slovak mountain range of the same name. In the 16<sup>th</sup> century, the Dresden elector Moritz von Sachsen split his territory into two parts, naming one of them Erzgebirgischer Kreis [District of Ore Mines], which later led to the name Erzgebirge. The area was colonized primarily by Germans, and quite early on, during the 13<sup>th</sup>-14<sup>th</sup> centuries, the first mining settlements sprang up, such as Wintersgrün near Boží Dar. Prior to the discovery of the rich silver deposits at Jáchymov in 1515, this area already had a mining tradition of almost three hundred years.

## Technological Transformation

During the second half of the 16<sup>th</sup> century, Europe's population grew from 30 to 70 million! The Czech lands were among the most populous areas in Europe. The pace of work increased. A new, basically capitalist, morality arrived. It is no surprise that Czech mining law was replaced by Saxon law, which in 1548 was incorporated into the so-called

Jáchymov Mining Code. While it did guarantee miners a regular wage, its objective was also to entice large foreign investors. The emphasis on profits led to increases in the efficiency of labour and to the design of better and better machines and mining methods. The Barbora shaft in Jáchymov achieved a length of 11.5 km. Challenging pumping machines were designed, with a system of levers and pistons that was up to 1.5 km long, and capable of pumping up to 20,000 litres per hour!

## Mining Country

The term mining country is used for a functionally interconnected set of mines, old roads, processing plants, and water works covering an area of at least several square kilometers. It also includes minor landscaping work, such as skilfully stacked mortarless walls of a similar type as used in shafts, mining pilgrimage churches, and chapels most often dedicated to specific mining saints such as St. Barbara, St. Procopius, or in the Krušné Hory area, St. Anne. The spiritual component of this landscape are or were mining customs, celebrations, mining bands (usually wind ensembles), and legends. In our country, the best-preserved mining landscapes are in mountain and foothill areas. They are characterized by a certain impassivity, but also solidarity and the special type of semi-“pagan”



religiosity of people living in a dangerous environment who are dependent on the forces of the earth and lady luck, thus God's blessings.

Mining country often incorporates a Czech Catholic element and German, or rather Saxon, Protestantism, and a connection with distant foreign investors such as the Welsers or the Fuggers. Mining country, be it the Krušné Hory, the Slovak mountain ranges with centres in Kremnica, Banská Štiavnica, or in the towns of the Spiš region, or in Braşov, Romania, all have something in common. This is given both by the presence of an international group of miners migrating from deposit to deposit, and by a similar lifestyle, work, and laws. Mining clothing, uniforms, and folklore are also similar. Due to related activities such as logging for shoring materials, charcoal production, maintenance of mining ponds and flumes for ore crushing and processing, as well as the mining and sale of ores and tax collection, these areas had to be much better organized by some sort collective council composed of representatives of several sectors than agricultural or other manufacturing districts.

It is little wonder that a well-managed mining and smelting operation led to feelings of self-confidence and even pride over having managed such complex technical and logistical problems such as pumping water from great depths using the most complicated machines in the kingdom at that time. We are thus not surprised that the Kutná Hora burghers, conscious of the importance of their work, didn't want to build just "any" church, but a cathedral. This region of great economic dimensions is also home to mining experts, legal experts, the first mineralogists, smelting experimenters and alchemists, as well as the ever-present fraudsters and tricksters. Mining districts included blacksmith's shops that every day prepared and sharpened tools,

sometimes horse stalls, and later simple dormitories and miners' pubs.

Mining areas such as karst areas, are more complete and sensationally more complex, because they contain both a day and a night aspect; daily life on the surface as well as an underground world. This is always accompanied by some sort of mystery and tension related both to the hope of finding something valuable, as well as the danger of death due to a fall, a cave-in, or suffocation from carbon dioxide. The emotional range is much greater here. The closest comparison I can think of is marine navigation.

### **Mining and the Birth of Systematic Thought – Hydraulic and Mountain Civilizations**

Three Medieval, and even much more so Renaissance and Baroque, disciplines required the development of a phenomenon historian Tomáš Klimek terms "Medieval systemic thought". The first is cathedral construction, which requires the long-term involvement of not only a theologian, an architect, and workers, but also of sponsors. A cathedral is a project where just the basic structure takes around 40 years to build, and if all goes well, can be finished in around 80 years. A cathedral requires long-term economic and technical planning, which can be best illustrated in the price and complexity of scaffolding and horizontal and vertical transport. It is a project that occupies entire decades.

Another systemic problem is the waging of war, but evidently the most complex of all is ensuring broad-based, long-term development of an ore deposit, quickly building a town of several thousand, transport of food, lumber, and charcoal, and providing this entire logistical complex with laws and security.



Krajina nad Jezeřím, foto Václav Cílek / Sacrificial stone above the Chateau Jezeří. Photo: Václav Cílek

Underground mine development planning requires large investments that may only begin to show returns upon completion of the main “hereditary” adit, thus taking ten years or more. This is then followed by processing, smelting, and the minting of coins or production of ingots. During the Middle Ages, it was possible to think within an evangelical and patristical past, but in this case, it will be the future and multi-factorial analysis that will dominate the thinking.

Egyptologist K. W. Butzer described the “hydraulic civilizations” that developed in Sumer and Egypt because the irrigation of river floodplains required large central projects that had to be measured, planned, and implemented by a class of technically educated priests and scribes. Surprisingly,

most Egyptian papyrus fragments aren’t religious texts, but inventory lists of the administration and even bureaucracy of the day, which we can consider proof of civilization. Centrally managed irrigation projects are even somewhat older than the pyramids themselves. It seems that it was good to first practice the logistics of pyramid construction on an irrigation system.

Perhaps it is just a metaphor, but I would say that the large manufacturing and factory projects of later European civilization were possible only thanks to the development of systemic thought oriented towards a practical, complex future, and a significant role in the creation of this type of modern thought was played by mining projects, especially at Kutná Hora, the Slavkov tin deposits, and Jáchymov.

The road to these were already being paved in the 13<sup>th</sup> century by enterprising Tuscans.

In monographs on the 16<sup>th</sup> century, one constantly comes across several dozen key names that are studied down to the smallest, and I think also pointless detail, mainly artists and theologians. We know all sorts of things about poetry and the painting studios of Florence, but few people realize that the beauty, complexity, and novelty of the mighty pumping machines in the Renaissance shafts of the Krušné Hory region are as great a wonder as Brunelleschi's dome in Florence. The spiritual complexity of the period follows to a significant extent from technology, similar to how Renaissance art is based in skilled craftsmanship. But the injustice resides in the fact that when you are a poet like John Donne and write about your relationship to nude women who will soon die, your work will not age as quickly as Agricola's instructions for mine shoring or Boetti's mineralogical system.

### **The Difference Between Elizabethan England and Rudolf's Prague**

The difference between Elizabethan England and the Prague court of Rudolf II rests in the fact that in Prague, questions of science and substance were more prominent, and these were always less attractive and more easily eroded by time and progress. Fewer people read Kepler's astronomical observations than the theatrical plays of Shakespeare's contemporaries. This caused the Elizabethan era to grow to excessive heights and the Central European contribution was lost. We have much to be proud of, and it isn't just the Golem. For many English and American researchers, the European world consists of Italy, France, and England, and ends at the German border. Beyond this live only barbarians.

Despite this, the London and Prague courts were connected through several personages. One was Giordano Bruno, an Italian who spent three years in England. He lived for some time at the manor of Phillip Sidney, who had visited Prague several times, met with Tadeáš Hájek of Hájek [the personal physician of Rudolph II and an astronomer], and passed on condolences to Rudolf II regarding the death of his father, Emperor Maximilian II. Johann Matthias Wacker von Wackenfels, who served as a "scientific ambassador" at Rudolf's court and whose job was to familiarize the emperor with new scientific developments such as the telescope, was present when Bruno was burned at the stake [in Rome]. According to Kepler, Rudolf II observed the Moon in the same year as Galilei (1610). The emperor also discussed the significance of logarithms for mathematical research with their discoverer, his guest Jost Bürgi, and admired the best measuring instruments in Europe made by another "Praguer", Erasmus Habermehl.

While writing these ponderings on Czech mining (but also Saxon, because they cannot be separated), I keep seeing mining towns in the forests of Krušné Hory, the Slovak Ore Mountains, and Romanian gold-bearing areas, which brought the hitherto most complex technologies of the new era, and with them also a new concept of the world, as we know it from the German Reformation (which, however, has Czech roots), but I also see Hájek's *Annales Bohemorum* [Bohemian Chronicles]. Striking are the roughly twenty years between 1520 and 1540, which represent both the apex of mining in the Krušné Hory mountains and the first formative decades of the Reformation. Likely no one has yet had the historical temerity to connect the discovery of the Jáchymov deposits (1516) with Martin Luther, who in 1517 nailed his reformist principles to the door of a church

in Wittenberg to start a second Renaissance. But what if they both have the same roots in a feeling that the times have fundamentally changed, and that it is once again necessary to reconsider the role of economics or poverty in society as well as in the Church?

In 1511, Luther's father owned several mines and smelters at Mansfeld. Young Luther must not only have experienced the mining boom, but must also have been confronted with mining's fickle wheel of fortune, because in mining one could quickly gain or lose a fortune, as well as with death, which was a constant companion of miners. In addition, in 1505 he experienced the horrors of the plague in Erfurt. In 1517, Luther's path crossed with the business of the influential Fugger mining family, which for a time also controlled the Slovak copper trade. During the last quarter of the 15<sup>th</sup> century, Jakob Fugger had already been investing into silver mines in Schwaz. His three sons, especially Jakob II, expanded the family's business activities to tin from Krušné Hory, but were also involved in global trade with East Indian spices. They gradually also became involved with Church financing. They secretly lent Albrecht of Brandenburg 34,000 ducats so that he could purchase the office of the Archbishop of Mainz. Later the Fuggers financed the Pope's election campaign. Nevertheless, Albrecht had to pay the money back in some fashion, so he came up with a big indulgence campaign. The Dominican preacher Johann Tetzel visited German cities and promised people their sins would be forgiven if they paid a little. Luther was disappointed that "unhappy souls believe that when they buy forgiveness their souls will fly to Heaven from Purgatory the moment when the money lands in the Church's coffers. They think that money can free them of guilt and sin."

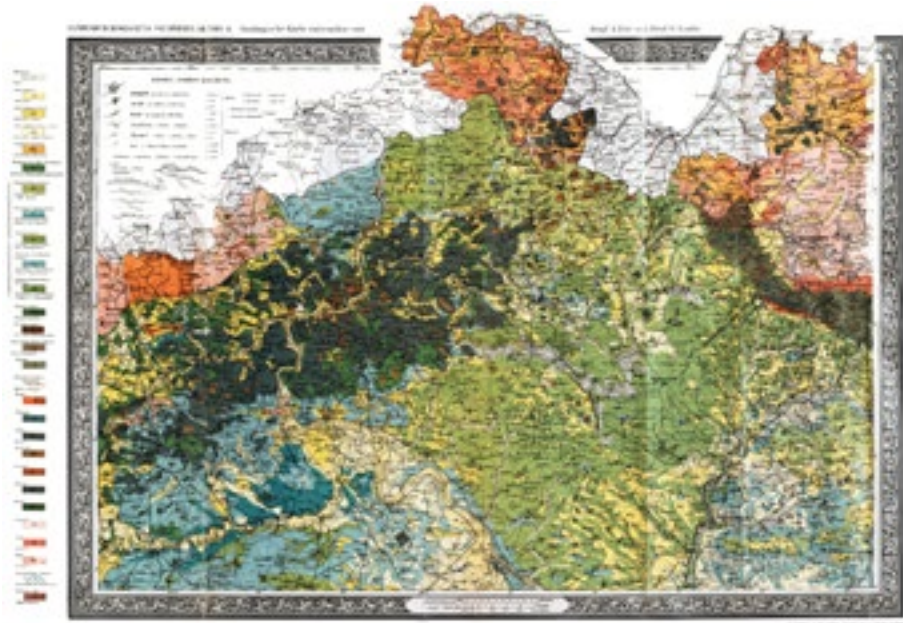
It is probably no coincidence that the beginnings of the second Reformation (the

first Reformation was Hussite and overall did not end well) have so much in common with the capitalistic and technological mining environment. As evidenced by Calvin or Zwingli, it would have occurred in one form or another anyway, but the initial impetus came from the area of mining activities. In his book *Civilization*, Niall Ferguson talks about the work ethic; its purest and simultaneously most complex form, it evolved in mining and smelting centres. I think it was precisely this work ethic that formed the ethic of the second – Luther's – Reformation.

### **The Industrial Revolution is Coal and Iron**

Just below the Krušné Hory mountains, within sight of silver, tin, and uranium deposits, lies the North Bohemian Basin. It is a Tertiary depression that during the Miocene epoch was covered by a shallow lake, more of a wetland, which left behind substantial deposits of brown coal that are still being mined to this day.

The expression "rock" coal had already been coined several centuries earlier, in order to differentiate this substance from the then dominant wood charcoal. Black and brown coal are also designated as hard coal and various types of lignite. Coal is created through a process called coalification, which is the gradual transformation of peat into coal that initially has higher water content and thus a lower calorific value. Gradually, though, overlying layers squeeze out the water and brown coal becomes black coal. The deeper it is, the higher temperatures it is also subjected to. In the Czech Republic, the temperature rises by 1°C every 33 m, so the temperature at one kilometre is about 30°C. This is why lignite is always found nearer to the surface at depths that rarely exceed 300 m. On the other hand, brown coal seams can be up to 40 m thick,



Geologická mapa Čech, od Teplic až po Liberec, prof. A. Frič a prof. M. Laube, 1:200 000, 1895, wikipedie / Geological map of Bohemia; surrounding of Teplice to Liberec, prof. A. Frič and prof. G. C. Laube, 1895, 1:200.000, wikipedia

many times that of black coal, where a three-metre seam is already a very good deposit.

The first verified mention of north Bohemian coal dates back to 1550, when Bohuslav Felix, originally the Jáchymov mining marshal, reported to the Czech vice-regent that, due to the great scarcity of wood, he intended to open a rock coal mine. Some restricted mining is likely to have taken place, because there were exposed coal seams that one could excavate with a pick-axe. In 1613, Hans Weidlich, a citizen of Most, received a fifteen-year permit to use rock coal for alum and lime production. The record indicates that he had discovered several coal deposits on the property of the Osek Monastery and in the vicinity of Most. During the Thirty Years War, reports of mining ceased for a hundred years.

We assume that during the 18<sup>th</sup> century, shallow mining took place using furrows and small shafts at dozens of lignite locations. What we don't know is what the emotional relationship with coal was like. It has been documented that in England people were afraid of rock coal. It seemed unhealthy to them, and they weren't certain that it didn't cause diseases, because it contains significant amounts of pungent sulphur. The use of coal in blast furnaces also encountered resistance for many years. It is therefore possible that there was sufficient minable coal, but that for a long time, people avoided it. In 1800, Count Nostitz began to mine coal in Trmice, as did Thun in Ústí in 1803, as well as the Waldsteins and other feudal nobles. However, mining quickly passed from the hands of the nobility to that of entrepreneurs. The nobility mined

occasionally, were unable to arrange substitute deposits in time, nor the requisite experts, and because they usually kept accounts for their entire property, didn't have a clear idea of the profitability of their mining operations.

When in 1766 the "last Prague alchemist", Christoph [Kryštof] Bergner, asked for permission to build a stove for heating with coal, he was ahead of his time. However, representatives of the "Commercial Collegium" sent to inspect the invention did not approve it, especially due to the great amounts of odorous smoke and the danger of fire. In areas where coal was found and where one could obtain it for free, coal was certainly used here and there for heating, or for example by blacksmiths, but otherwise wood was still preferred. Heating with coal in the open kitchen hearths or in fireplaces was difficult, if not impossible, not to mention chimneys that in rural homes were sometimes even made of wood, or sometimes just a hole in the roof.

At the end of the 18<sup>th</sup> century it was evident that there was interest in coal in neighbouring, thoroughly deforested Saxony, especially in winter of course, when it was possible to use sleds to transport coal all the way to Freiberg. At the beginning of the 1820s, the Labe [Elbe] River route had already been opened. The coal shipping contract remained in force even after the advent of railway transport. We have a record from 1838 according to which two-thirds of north Bohemian coal was being shipped to Germany. It's hard to believe now, but in terms of shipping volume, the harbour in Ústí nad Labem became the largest in the entire Austrian Monarchy, even larger than Trieste! If I were coal-centric, I would write a well-researched essay on the global influence of coal on the development of harbours. Later, more and more shipping volume shifted to railways. In 1858, the first

train left Prague for Teplice, where the line ended. Disputes among mining companies who were afraid of coal from the Most and Chomutov regions lasted almost ten years, during which time they blocked further construction. In 1866, an annual extraction rate of one million tonnes was achieved, but after the completion of the railway across the North Bohemian Basin, in 1874 it was already over five million tonnes!

This was accompanied by technological developments, because mining soon shifted from the surface to underground. The first mention of a steam-powered machine dates as far back as 1810 at the Buquoy mine in Otvice by Chomutov, but a mere fifty years later, over three hundred of these large and complex machines were in operation in the lignite mining district! One more date needs to be mentioned – mining entrepreneur Richard Hartmann opened a large surface mine in Ledvice and in 1844 brought over the first steam-powered excavator from England. Thanks to mechanization, over the course a few short years the price of coal declined by two thirds, putting small mining outfits out of business. By the way, a similar process occurred on a global scale after 1990 as well, and then again in the second half of 2014, when the price of iron ore declined by 45%, which caused immense problems for smaller mines with higher overhead.

The era of joint-stock companies arrived, because opening a mine now cost several million gulden. In 1855, the German company Saxonia was formed, and later in Dresden, the Bohemia mining company was founded. If we look at the mining business in northern Bohemia, at latest from the year 1500 it has a joint Czech-German history in which the notions "Czech" and "German" are so intertwined that they cannot be separated. If

the future of Europe is in de-globalization, or localization, the cross-border phenomenon of the Czech-Saxon Krušné Hory region will rise once again. I would already now introduce mandatory German in schools in northern Bohemia. It is said that even Karl May himself worked at one time as the editor of the German-language magazine *Schacht und Hütte* [Mines and Foundries], which was published only for one year in 1875-1876, in Dresden!

Karl May was allegedly a guest at the Herzig Pension in Birnei [now part of Ústí nad Labem] in 1897, where he wrote his novel *Christmas*. The jagged cliffs in the Průčelská Ravine are said to have inspired him to write some of the scenes in his novel *Winnetou*. In the foreword, he describes his several-day excursion to Bohemia in his younger years, where he visited Sokolov, Aš, and Cheb. Perhaps he thought up some of his adventure stories sitting under the majestic Vrkoč cliff while looking towards Střekov Castle, which enchanted both Richard Wagner and Marlene Dietrich, who was married in Ústí and at the end of the war undertook an adventure-filled trip there to look for relatives.

In 1866 the English founded the important Elbe Colliery Company, but other similar companies such as the Most and North Bohemia mining companies gradually consolidated their power. The initial small numbers of miners grew to tens of thousands. They came from agricultural areas, but also from Příbram, which changed the ethnic mix in favour of Czech-speaking labourers. The greatest depth, 467 metres, was reached by the air shaft at the Alexander Mine (Hrdlovka by Osek). Below that was the basin's bedrock. From the last third of the 19<sup>th</sup> century onward, fatal accidents were frequent, 30 to 40 a year, with a maximum of 140 deaths in 1900. Even the industrial revolution comes at a price.

## Coal and a New World Concept

Currently, the share of coal-fired electricity production is increasing slightly, even in environmentally oriented countries like Germany. Coal is cheap and still plentiful. Unless truly dramatic climactic change occurs, it will be mined for decades longer. But European coal from underground mines is on the whole unable to compete with high-quality Australian coal, which is mined from thirty-metre-thick seams in huge strip mines. As far as lignite goes, which has higher water and ash content and thus lower energy density, long-distance shipping is no longer a consideration today.

During the course of the 20<sup>th</sup> century, England exhausted its coal reserves and closed its coal mines. It experienced centuries of environmental destruction, and today is becoming its steward. The world is following in its footsteps, but with a huge delay. Any financial or energy crisis increases the amount of coal mined, because it's cheap and handy. But because in the end all cheap things are actually expensive, the content of carbon dioxide in the atmosphere will continue to grow, and by the end of the century thermal expansion and thawing will increase the level of the world's oceans not by the expected roughly 40 cm, but by at least double that. Some will die, and some will migrate. Coal and fossil fuels will then – as they already did during the industrial revolution – catalyze a new world concept.

*Note: This text has been abridged and retold from Podzemní Čechy [Underground Bohemia] (Eminent, 2015), by V. Cílek, M. Majer, and M. Korba, which also contains an extensive bibliography.*

# Krušné hory a podkrušnohorská pánev: Duchovně-hornická perspektiva

Václav Cílek

## Krušné hory

Název Krušné hory vypadá prastaře, ale rozšířil se až v polovině 20. století, aby se Krušné hory, dosud nazývané Rudohoří, odlišily od slovenského Rudohoří. V 16. století drážďanský kurfiřt Moritz von Sachsen pro lepší orientaci rozdělil spravované území na dvě části a jednu z nich nazval Okrsek rudných dolů neboli Erzgebirgischer Kreis, což později dalo vznik názvu Erzgebirge. Oblast byla kolonizována zejména z německé strany a poměrně záhy ve 13.–14. století zde vznikaly první hornické osady jako např. Wintersgrün na místě Božího Daru. Před objevem bohatých stříbrných dolů v Jáchymově v roce 1515 měla za sebou tato oblast skoro třistaletou hornickou tradici.

## Proměna technologie

Během druhé poloviny 16. století vzrostl počet evropských obyvatel ze 30 na 70 milionů! České země patřily mezi nejlidnatější evropské oblasti. Zrychlilo se tempo práce. Nastupovala nová, ve své podstatě kapitalistická morálka. Nedíváme se, že české horní právo bylo nahrazeno saským právem, které se promítlo v roce 1548 do tzv. jáchymovského horního řádu. Ten nejen že horníkům zaručoval pravidelnou mzdu, ale zároveň bylo jeho cílem přilákat velké zahraniční investory. Důraz na zisk vedl ke zvyšování efektivity práce a ke konstrukci stále dokonalejších strojů a hutních postupů. Jáchymovská

štolá Barbora dosáhla délky 11,5 km. Byly konstruovány náročné čerpací stroje: délka táhel – tzv. mihadel; složité pákové a pístové soustavy – dosahovala až 1,5 km a jejich čerpací výkon byl až 200 hektolitřů za hodinu!

## Krajina, kde se těží

Pod pojmem hornická krajina rozumíme funkčně propojený soubor dolů, starých cest, úpraven a vodohospodářských děl, který se rozkládá na ploše alespoň několika čtverečních kilometrů. Patří do ní i drobné krajinné úpravy jako jsou dovedně skládané suché zídky podobného typu jako ve štolách, hornické poutní kostely a kaple zasvěcené nejčastěji specificky hornickým světcům jako je sv. Barbora, sv. Prokop či v Krušnohoří sv. Anna. Duchovní součástí této krajiny jsou či bývaly hornické zvyky, slavnosti, hornická hudební tělesa; obvykle dechovky a pověsti. Hornické krajiny jsou u nás nejlépe zachovány v horských a podhorských oblastech. Vyznačují se určitou chladností, ale i soudržností a zvláštním typem napůl „pohanské“ zbožnosti lidí, kteří žijí v nebezpečném prostředí a jsou závislí na silách země a štěstěny, tedy Božího požehnání.

Hornické krajiny v sobě často kombinují český katolický prvek a německý či spíš saský protestantismus a spojení se vzdálenými zahraničními investory, jako byli Welsеровé či Fuggerové. Hornické krajiny, ať se již jedná





Horniny rudonosného krystalinika Krušných hor, foto Václav Cílek / The ore rocks from the Erzgebirge mountains, photo Václav Cílek

o Krušné hory, slovenská pohorie s centry v Kremnici, Báňské Štiavnici či ve spišských mestech alebo v rumunskom Brašove, se sobe něčím podobajú. Je to dáno jak přítomností mezinárodní skupiny horníků putujících od ložiska k ložisku, tak podobným stylem života i práce a právních předpisů. Rovněž hornický oděv, uniforma i folklór se sobe podobají. Hornické krajiny musely být vzhledem k navazujícím činnostem, jako je těžba dřeva na výdřevu, příprava dřevěného uhlí, údržba hornických rybníků a náhonů k puchýrnám a úpravnám rudy i samotná těžba nerostů, prodej rudy a výběr daní, mnohem lépe organizovány nějakou radou složenou ze zástupců více oborů než zemědělské nebo jiné výrobní okrsky. Vždyť jenom hutnění stříbrných rud vyžadovalo dovoz siričků a olova z jiných vzdálených lokalit.

Není divu, že dobře zvládnutý důlní a hutní provoz vedl k pocitům sebevědomí, či dokonce pýchy nad zvládnutím tak složitých technických a logistických problémů, jako bylo čerpání vody z velkých hloubek pomocí nejsložitějších strojů, jaké tehdy v království existovaly. Nepřekvapuje nás proto, že kutnohorští měšťané si při vědomí významu své práce nechtěli postavit jenom „nějaký“ kostel, ale rovnou katedrálu. Do této krajiny velkého ekonomického rozměru zároveň patří horničtí experti, znalci práva, první mineralogové, hutní experimentátoři a alchymisté, i všudypřítomní podvodníci a falšovatelé. Součástí důlních okrsků byly kovářny, kde se každý den připravovaly a ostřily nástroje, někdy stáje pro koně, v pozdější době jednoduché ubytovny a hornické hospody.



Elektrárna Komořany, Severní Čechy, foto Dagmar Šubrtová / Power station Komořany, North Bohemia, photo: Dagmar Šubrtová

Hornické krajiny jsou podobně jako krasové oblasti úplnější a pocitově složitější, protože v sobě obsahují denní i noční tvář, běžný život na povrchu i podzemní svět. S ním vždy souvisí nějaké tajemství a napětí spojené jak s nadějí něco cenného nalézt, tak i možností zahynout pádem do hlubiny, zřícením stropu či pobytem v dusivém prostředí oxidu uhličitého a nebezpečného oxidu uhelnatého. Rozpětí emocí je zde mnohem větší. Nejvíc ze všeho bych je přirovnal k námořnictví.

### **Hornictví a vznik systémového myšlení – hydraulické a montánní civilizace**

Tři středověké a ještě mnohem víc renesanční a barokní disciplíny vyžadovaly rozvoj jevu, kterému historik Tomáš Klímeck říká středověké systémové myšlení. Je to stavba

katedrály, na kterou je nutné dlouhodobě zajistit nejenom teologa, architekta, pracovní sílu, ale také sponzory. Katedrála je projekt, jehož základní hrubá stavba trvá kolem 40 let a dokončení v tom lepším případě kolem 80 let. Katedrála vyžaduje dlouhodobé ekonomické a technologické plánování, což se dá nejlépe ukázat na ceně a složitosti řešení a horizontální i vertikální dopravy. Je to projekt na celá desetiletí.

Jiným systémovým problémem je vedení války, ale zřejmě vůbec nejsložitější je zajistit velkorysou, dlouhodobou otvorku rudného ložiska, zvládnout rychlý vznik města o několika tisících lidech, dopravu potravin, dříví a dřevěného uhlí a tomuto celému logistickému komplexu dát právní řád a bezpečnost. Otvorku hlubokých

dolů je možné naplánovat jen při velkých investicích, které se začnou vracet třeba až po vybudování dědičné stoly, tedy za deset či více let. Následuje pak úpravnictví, hutnictví a vlastní ražba mincí či výroba cínových ingotů. Ve středověku šlo myslet do evangelijní a patristické minulosti, ale v tomto případě to bude budoucnost a multifaktoriální analýza, která ovládne vaše myšlení.

Egyptolog K. W. Butzer popisoval vznik „hydraulických civilizací“, které se v Sumeru a Egyptě rozvinuly, protože zavlažování říční nivy vyžadovalo velké centrální projekty, jež musely být rozměřeny, naplánovány a realizovány třídou technicky vzdělaných kněží a písařů. Většina zlomků starých egyptských papyrů kupodivu nejsou náboženské texty, ale inventurní soupisy tehdejší administrativy, či dokonce byrokracie. Byrokracii můžeme považovat za důkaz vzniku civilizace. Budování centrálně řízených zavlažovacích projektů je ještě o něco starší než samotné pyramidy. Vypadá to tak, že logistiku stavby velké pyramidy bylo vhodné si nejprve nacvičit na zavlažovacím systému.

Možná to je jen metafora, ale řekl bych, že velké manufakturní a tovární projekty pozdější evropské civilizace byly možné jen díky vzniku systémového myšlení obráceného do praktické složité budoucnosti a že při vzniku tohoto typu moderního myšlení sehrály významnou roli báňské projekty zejména Kutné Hory, slavkovských cínových ložisek a Jáchymova. Cestu k nim ukázali již ve 13. století hlavně podnikaví Toskánci.

Když procházím monografie týkající se 16. století, tak neustále narážím na několik desítek hlavních jmen, které jsou studovány do nejmenšího, a myslím, že i zbytečného, detailu. Jedná se hlavně o umělce a teology. Víme kdesi o poetice a malířských dílnách ve

Florencii, ale málokdo si uvědomuje, že krása, složitost a novost mohutných čerpacích strojů na renesančních šachtách v Krušnohoří je stejně tak velkým divem jako Brunelleschiho kopule ve Florencii. Duchovní komplexita té doby značným dílem pramení z techniky, podobně jako renesanční umění má své řemeslné pozadí. Nespravedlnost však panuje v tom, že když jste básník jako John Donne a píšete o vztahu k nahým ženám, jež brzy zemřou, tak vaše dílo nezestárne tak rychle jako Agricolovy návody na důlní výztuž nebo Boetiovův mineralogický systém.

### Rozdíl mezi alžbětinskou Anglií a rudolfinskou Prahou

Rozdíl mezi alžbětinskou Anglií a pražským dvorem Rudolfa II. je v tom, že v Praze se víc řeší otázky vědy a matérie, které vždy byly méně atraktivní a snáz byly erodovány časem a pokrokem. V Keplerových astronomických pozorováních si počte méně lidí než v divadelních hrách Shakespearových současníků. Alžbětinská doba pak v našich očích vyroste do neúměrné výše a středoevropský vklad se ztratí. Máme se čím pyšnit a není to jen golem. Pro mnoho anglických a amerických badatelů ostatně evropský svět sestává z Itálie, Francie a Anglie a končí na německých hranicích. Dál už žijí jen barbaři.

Přesto londýnský a pražský dvůr propojovalo několik osobností. Jedním z nich byl Ital Giordano Bruno, který strávil v Anglii tři roky. Pobýval i na panství básníka a vyzvědače Phillipa Sidneje, který několikrát navštívil Prahu, sešel se s Tadeášem z Hájku a v roce 1577 tlumočil Rudolfovi II. kondolenci k úmrtí otce, císaře Maxmiliána II. Brunovu upálení byl přítomen Jan Matouš Wacker z Wackenfelsu, který na Rudolfově dvoře zastával funkci „vědeckého vyslance“, jehož pracovní náplní bylo seznamovat císaře s vědeckými

novinkami, jako byl třeba dalekohled. Podle Keplerova svědectví Rudolf II. totiž pozoroval Měsíc ve stejném roce jako Galilei (1610). Císař rovněž diskutoval význam logaritmu pro matematická bádání s jejich objevitelem, pražským hostem Joostem Bürgi a obdivoval nejdokonalejší evropské měřicí přístroje dalšího „Pražana“ Erasma Habermehla.

Při psaní tohoto zamyšlení nad historií českého (ale rovněž saského, protože obojí se nedá oddělit) hornictví se mi neustále vrací obraz hornických měst v lesích Krušných hor, slovenského Rudohoří i rumunské zlatonosné oblasti, které přinášejí tehdy nejspložitější technologie nové doby, a s nimi přichází i nové pojetí světa, jak je známe z německé reformace (jež má ovšem české kořeny), ale také Hájkovy Kroniky české. Nápadných je dvacet let zhruba ohraničených léty 1520–40, které představují vrchol jak krušnohorského hornictví, tak prvních formujících desetiletí reformace. Asi nikdo zatím neměl tu historickou drzost spojit objev jáchymovských ložisek (1516) s Martinem Lutherem, který v roce 1517 přibíje své nápravné teze, jimiž začíná druhá renesance, na dveře kostela ve Wittenbergu. Ale co když má obojí stejný kořen v pocitu, že doba se od základu změnila a že je nutné znovu promyslet roli ekonomiky či chudoby ve společnosti i církvi?

Lutherův otec v roce 1511 vlastnil několik dolů a sléváren u Mansfieldu. Mladý Luther musel zažít nejenom rozmach důlního podnikání, ale také byl konfrontován s kolem báňské štěstěny, protože v dolech se dalo rychle získat i ztratit jmění i se smrtí, která horníky doprovázela. Navíc v roce 1505 zažil v Erfurfu morovou ránu. Lutherovy osudy se v roce 1517 zkrížily s podnikáním vlivné báňské rodiny Fuggerů, která načas ovládala obchod i se slovenskou mědí. Jakob Fugger již v poslední čtvrtině 15. století investoval

do stříbrných dolů ve Schwazu. Jeho tři synové, zejména Jakob II., rozšířili obchodní aktivity na krušnohorský cín, ale podnikali i na globální úrovni s východoindickým kořením. Postupně se zapletli i s církevními financemi. Tajně půjčili Albrechtovi z Brandenburgu 34 tisíc dukátů, aby si mohl koupit úřad arcibiskupa v Mainzu. Později Fuggerové financovali papežovu volební kampaň. Nicméně Albrecht musel peníze nějak vrátit, tak vymyslel velkou odpustkovou kampaň. Dominikánský kazatel Johann Tetzel obcházel německá města a sliboval odpuštění hříchů, pokud si lidé za to trochu připlatí. Lutherovi přišlo líto, že „nešťastné duše věří, že když si koupí odpuštění, tak jejich duše vyletí k nebi z očiště, v tu chvíli, kdy se peníze octnou v církevní pokladně. Myslí si, že peníze je mohou osvobodit od hříchu a viny“.

Nejspíš není náhoda, že druhá reformace (první reformace byla husitská a vcelku nedopadla dobře) má ve svých počátcích tolik společného s kapitalistickým a technologickým důlním prostředím. Příklad Kalvína či Zwingliho ukazuje, že by k ní v nějaké formě došlo tak jako tak, ale první impulz vyšel z prostředí báňských aktivit. Niall Ferguson v knize „Civilizace“ hovoří o etice práce. Ta se ve své nejčistší a zároveň nejkomplicovanější formě rozvíjela v hornických a hutnických centrech. Myslím, že to byla právě tato etika práce, jež formovala etiku druhé – Lutherovy – reformace.

## Průmyslová revoluce je uhlí a železo

Hned pod Krušnými horami na dohled od stříbrných, cínových a uranových ložisek leží Severočeská pánev. Jedná se o třetihorní sníženinu, která byla v miocénu pokryta mělkým jezerem, spíš mokřadem, který po sobě zanechal pozoruhodné zásoby dodnes těžného hnědého uhlí.



Obětní kámen nad Jezeřím, foto Václav Cílek / Sacrificial stone above the Chateau Jezeří, photo: Václav Cílek

Výraz kamenné uhlí byl vymyšlen již před několika staletími, aby tuto hmotu odlišil od tehdy převládajícího dřevěného uhlí. V českém prostředí se hovoří o černém a hnědém uhlí, ale v angličtině se hovoří o „hard coal“ (černém uhlí) a různých druzích lignitu. Uhlí vzniká procesem, kterému se říká prouhelnění. Je to pozvolná přeměna rašelinné organické hmoty v uhlí, které má zpočátku hodně vody, a proto nižší výhřevnost, ale postupně je tlakem nadložních vrstev voda vypuzována a z hnědého uhlí se stává uhlí černé. Navíc čím je uhlí hlouběji, tím je vystaveno vyšším teplotám. V České republice roste v průměru na každých 33 m hloubky teplota o 1 °C, takže v jednom kilometru panuje zhruba teplota kolem 30 °C. Hnědé uhlí proto nalézáme vždy nehluboko pod povrchem v hloubkách, které málokdy přesahují 300 metrů. Zato mocnost hnědouhelných slojí může být až 40 m, což je

mnohonásobně víc než u černého uhlí, kde třímetrová sloj už představuje velmi dobré ložisko.

První ověřená zpráva o severočeském uhlí pochází z roku 1550, kdy Bohuslav Felix, původně jáchymovský báňský hejtman podává zprávu českému místodržícímu, že následkem velké nouze o dříví hodlá otevřít důl na kamenné uhlí. Nějaká omezená těžba je pravděpodobná, protože uhelné sloje vycházejí až na povrch, takže je bylo možné kopat motykou. V roce 1613 obdržel mostecký občan Hans Weidlich oprávnění po patnáct let využívat při provozu kamencové hutě a pálení vápna kamenné uhlí. Ze zápisu vyplývá, že objevil několik uhelných ložisek na pozemcích Oseckého kláštera a v okolí Mostu. Za třicetileté války zprávy o těžbě na sto let utichly.

Předpokládáme, že v 18. století probíhala mělká těžba pomocí rýh a šachtic na desítkách hnědouhelných lokalit. Nevíme však, jaký byl emoční vztah k uhlí. Z Anglie je doloženo, že lidé se kamenného uhlí báli. Připadalo jim nezdravé a nebyli si jisti, zda nezpůsobuje nemoci, protože obsahuje hodně čpavé síry. Rovněž použití uhlí ve vysokých pecích naráželo na mnohaletý odpor. Je proto možné, že těžitelného uhlí byl dostatek, ale lidé se mu dlouho vyhýbali. V roce 1800 začal hrabě Nostic těžit uhlí v Trmicích a od roku 1803 Thun u Ústí nad Labem a ve stejné době i Valdštejnové a další feudálové. Těžba však rychle přecházela ze šlechtických do podnikatelských rukou. Feudálové těžili příležitostně, nedokázali včas zajistit náhradní ložiska ani patřičné odborníky, a protože obvykle vedli účty za celý statek, tak ztráceli přehled o ekonomice těžby.

Svoji dobu předběhl „poslední pražský alchymista“ Kryštof (Christof) Bergner, když si roku 1766 v Praze zažádal o privilegium na stavbu kamen na topení uhlím. Zástupci „Komerčního kolegia“, vyslaní ke komisionálnímu ohledání vynálezu, to však neschválili, zejména pro velký zápach hustého kouře a nebezpečí požáru. V lokalitách s výskytem uhlí, kde si ho bylo možno opatřit zadarmo, se tu a tam jistě uhlí užívalo k topení nebo třeba u kovářů, ale jinak se stále dávala přednost dřevu. Topení uhlím v tehdejších otevřených kuchyňských ohništích či krbech by bylo svízelné, ne-li nemožné, nemluvě o komínech, které v selských chalupách bývaly i dřevěné nebo je nahrazovala díra ve střeše.

Už na sklonku 18. století se ukázalo, že o uhlí je zájem v sousedním, pořádně odlesněném Sasku, a to pochopitelně nejvíc v zimě. Tehdy bylo možné využít saní, které vozily uhlí až do Freibergu. Na začátku 20. let se již otevřela labská cesta. Plavební smlouva

o dopravě uhlí z roku 1821 fungovala i po zavedení železniční přepravy. Z roku 1838 máme údaj, podle kterého se dvě třetiny severočeského uhlí vozily do Německa. Později došlo k neuvěřitelné situaci, kdy se přístav v Ústí nad Labem stal podle množství přepravovaného nákladu největším přístavem celé rakouské monarchie, tedy větším než Terst! Kdybych byl uhlocentrický, napsal bych dobře podloženou esej o globálním vlivu uhlí na rozvoj přístavů. Později se doprava stále víc přesouvala na železnici. V roce 1858 projel první vlak z Prahy do Teplic, kde trať končila. Skoro deset let trvaly půtky mezi těžaři, kteří se báli konkurence mosteckého a chomutovského uhlí, a tak blokovali další výstavbu. V roce 1866 dosáhla roční těžba jednoho milionu tun, ale po dokončení železničního tahu severočeskou pávní to bylo už v roce 1874 víc jak pět milionů tun!

Souběžně se vyvíjela technika, protože těžba záhy přešla z povrchové do hlubinné fáze. První parní stroj je uváděn již roku 1810 na buquoyanském dole v Otvicích u Chomutova, ale o padesát let později jich v hnědouhelném revíru pracovalo víc jak tři sta! Jednalo se přitom o velké a složité stroje. A ještě jedno datum je nutné zmínit – důlní podnikatel Hartman otevřel velký povrchový důl v Ledvicích, kam již v roce 1884 dovezl z Anglie první parní rypadlo. Během několika let spadla díky mechanizaci cena uhlí na třetinu. To zničilo malé těžaře. Mimochodem podobný proces se v globálním měřítku odehrával i po roce 1990 a potom opět v druhé polovině roku 2014, kdy cena železné rudy klesla o 45 %, což způsobilo obrovské problémy menším a drahým vyrábějícím dolům.

Nastává éra akciových společností, protože otevření dolu už stojí několik milionů zlatých. V roce 1855 se ustanovuje německá společnost Saxonia a později v Drážďanech vzniká důlní

společnost Bohemia. Málo platné, pokud se díváme na hornické podnikání v severních Čechách, tak nejpozději od roku 1500 se jedná o společnou, česko-německou historii, ve které jsou pojmy „české“ a „německé“ tak propojené, že se nedají oddělit. Pokud budoucnost Evropy spočívá v de-globalizaci, či lokalizaci, tak opět povstane přeshraniční fenomén česko-saského Krušnohoří. Již teď bych ve školách severních Čech zavedl povinnou němčinu. Udává se, že i samotný Karl May působil jeden čas jako redaktor německy psaného časopisu „Doly a hutě“ neboli „Schacht und Hütte“, z něhož však vyšel pouze jeden ročník 1875–1876, a to v Drážďanech!

Karl May se měl údajně zdržovat v Ústí-Brně v penzionu Srđičko (Pension Herzig in Birnei) v roce 1897, kdy měl psát román Vánoce. Rozeklané skály v Průčelské rokli jej prý měly inspirovat k některým scénám románu Vinnetou. V předmluvě zde líčí svůj několikadenní výlet do Čech v mladistvých letech. Byl např. v Sokolově, Aši a Chebu. Některé dobrodružné příběhy snad promýšlel pod majestátním Vrkočem při pohledu na Střekov, který okouzliil Richarda Wagnera i Marlene Dietrichovou, jež se v Ústí vdávala a koncem války zde podnikla dobrodružnou výpravu, při které pátrala po příbuzných.

Angličané založili v roce 1866 významnou Elbe Colliery Company, ale další podobné podniky, jako byla Mostecká a Severočeská uhelná společnost, postupně ve svých rukách soustředily moc. Zpočátku malé počty horníků rostly na desetitisíce. Přicházeli ze zemědělských oblastí, ale také z Příbrami a tím se měnilo národnostní složení ve prospěch česky mluvících pracujících. Největší hloubky bylo dosaženo na větrné jámě dolu Alexander (Hrdlovka u Oseka), a to 467 metrů. Hluběji již leželo podloží pánve. Od poslední třetiny 19.

století docházelo často ke smrtelným úrazům, kterých bylo 30–40 do roka s maximem 140 úmrtí v roce 1900. Ani průmyslová revoluce není zadarmo.

## Uhlí a nové pojetí světa

V současné době podíl uhlí na výrobě elektřiny mírně roste, a to i v environmentálně smýšlejících státech, jako je Německo. Uhlí je laciné a je ho stále dost. Pokud nedojde ke skutečně dramatickým klimatickým změnám, bude se těžit další desítky let. Evropské uhlí těžené hlubinným způsobem však vesměs není schopné konkurovat například kvalitnímu černému australskému uhlí, které se z třicet metrů mocných slojí těží obrovskými povrchovými lomy. U hnědého uhlí, které obsahuje víc vody a popela a tím i menší hustotu energie, se o dálkovém transportu dnes již neuvažuje.

Anglie během 20. století vyčerpala svá uhelná ložiska a zavřela uhelné šachty. Prošla si celými staletími ničení životního ovzduší a dnes se stává jeho ochráncem. Svět ji následuje, ale s obrovským zpožděním. Jakákoliv ekonomická nebo energetická krize zvýší množství těženého uhlí, protože je laciné a je po ruce. Ale protože všechny laciné věci se časem prodraží, obsah oxidu uhličitého v atmosféře dál poroste, termální expanze a tání ledu zvýší do konce století hladinu světového oceánu ne o očekávaných zhruba 40 cm, ale nejméně o dvojnásobek. Někdo umře a někdo se přestěhuje. Uhlí a fosilní paliva pak budou – jako již za průmyslové revoluce – katalyzovat nové pojetí světa.

*Poznámka: Tento text je zkrácen a převyprávěn z knihy V. Cílka, M. Majera a M. Korby „Podzemní Čechy“ (Eminent, 2015), kde je uveden i obsáhlý seznam literatury.*

# Coal and Petrochemical Soundscapes in North Bohemia: Some Personal Thoughts

Peter Cusack

For the last 100 years the part of Bohemia around Most in the Czech Republic has been one of the country's main energy hubs. Beginning with brown coal mining early in the 20<sup>th</sup> century, the petrochemical industry was introduced during the second World War. Oil, brought thousands of kilometers by pipeline, is refined here, too. The effect on the landscape has been dramatic. It is a beautiful area of wooded hills and much remains so today. But around the industries huge changes have taken place. Vast open cast pits are excavated to expose and extract the coal, valleys are filled with the soil removed to create hills that did not exist before, many villages and whole towns are demolished or buried to make way for the expanding mines, churches have been picked up and placed elsewhere, brand new lakes are created in the chasms after the coal has been used up. The whole area is being sculpted around the needs of the energy industry – a process that continues unabated today. However much of the rich history also remains, stunning ancient monasteries and castles stand on the edge of the brown coal pits, and paths of pilgrimage are re-routed to avoid the encroaching mines. Old villages and the people who live there have no choice but to adapt to the 24/7 drone of machinery. Children grow up with these sights and sounds as their personal legacy. For an outside visitor like myself, it can be fascinating, horrific, beautiful and depressing in quick succession.

As a sound artist and sound recordist with a long interest in environmental issues, I have travelled to this area twice to record, explore and to experience, as far as is possible in a few days, the sounds of the landscape, which is undergoing a slow, but relentless, transformation to satisfy the energy and petrochemical demands of economic policies made in distant capitals and populations far from the region itself. It is possible to think of our sound environment as a connected series of 'sonic places'. A sonic place is characterized by everything we can hear within range of our ears at any moment, the details of which are constantly changing. It is a relationship between sounds, ourselves, the physical and ecological landscape, and events, big and small, that occur in the place. One of the fascinations of North Bohemia is the amazing variety of its sonic places. They range from those in towns and villages through those of the countryside to those dominated by the region's industries. Here are a few of the sonic places discovered and recorded during my short visits. They, and more, can be heard at <http://favouritesounds.org/?projectId=48>.

## **The demolished village of Libkovice (Sept. 12, 2015)**

*a) Underwater sounds in the derelict fountain of Libkovice*

The village of Libkovice was cleared and demolished in the 1990s to make way for the



expanding Bílina mine. Only traces remain, like earthworks, outlines of houses and an orchard still bearing fruit. The village fountain still exists but is now smothered in trees and water plants. Dragonflies patrol up and down a shady patch of water. I use a hydrophone (underwater microphone) to listen below the surface. There are tiny bubbly and scraping sounds. I have no idea what makes them.



Libkovice, photo: Peter Cusack

*b) Sounds of opencast mining, Libkovice*

I sit recording amongst the rubble of one village building. Except for the machines in the mine near by and a small red plane that drones overhead, it is very quiet. Small birds and insects are occasionally audible. Every now and again the atmosphere is interrupted by empty trucks passing by, bumping and shuddering on the uneven dirt road, their engines grinding up a small hill en route to the mine. It is not really threatening, but I find this sound disturbing and can only relax again after it disappears into the distance. I wonder if the people living here, who must hear this everyday, are able to ignore the sound.



Bílina mine, photo: Peter Cusack

**On the edge of Bílina mine  
(Sept. 12, 2015)**

The Bílina open cast mine is huge. Standing on the edge one can only be impressed by the size of the area carved from the ground. Yellow earth is exposed into the distance and at its deepest, the dark brown coal seams are visible. There is always low-key activity. It is a 24/7 operation. The perpetual drone of conveyor belts carrying earth and rock from the digging machines for kilometers across the mine is a constant presence not only at the mine edge, but in the surrounding villages, too. A siren regularly sounds as machines stop and start. Distant trucks rumble. But there is wildlife, too. A kestrel hovers and small birds call. Two deer leap through crackly bushes. Whilst recording at dusk a magnificent wild boar makes its way from down below, up the cliff and away across the dry landscape. As night falls, twinkling white lights outline some of the machinery.



Záluží industrial park, foto Peter Cusack

### Beside Unipetrol Záluží u Litvínova (Sept. 13, 2015)

This place is just outside the Unipetrol petrochemical factory at Litvínov-Záluží. The landscape is crossed by lines of metal pipes, some rusty and broken, others still in use. At one point near the village of Kopisty a whole series of pipes end abruptly and gobs of hot (50°C), evil smelling, black water blast from them into an open concrete channel that runs down the hill for 100 meters before disappearing into another building of unknown purpose. This building creates deep drones and slight ripples. The polluted water is under pressure and the sound is powerful enough to make normal conversation difficult. Steam rises from the hot pipe and the smell is choking and sulphurous. This must be illegal.

We listened to the flow of the liquid inside the pipes using contact microphones. You hear the water jetting along, the sound resonant to the dimensions of the interior. It is scarily musical and I entitled the recording “Evil Liquid, Evil Sound”.

### The Sound Barrier outside the village of Mariánské Radčice (Sept. 12, 2015)

The historic village of Mariánské Radčice lies approximately a kilometer and a half from the current edge of the Bílina mine. Normal life continues even though it is potentially under threat if the mine boundaries are expanded. The beautiful baroque Cistercian monastery there has been renovated in recent years and we were very hospitably allowed to stay in its rooms for the days of our visit. The monastery is guarded by a number of dogs; one in particular took his job very seriously and barked loudly and often. He was pretty intimidating and his deep sound reverberated around the monastery corridors on every occasion.

Even though it is some distance, the constant drone of machinery from the mine is ever present in the village. With particular wind directions it can be quite loud. The mining company has attempted to protect the town from the noise by building a sound barrier just outside the village boundary. It is a bizarre construction; a giant piece of green painted scaffolding about 100 meters long and 20 meters high. The idea was that plants would grow thickly all over this frame and that the



Mariánské Radčice, Sound Barrier, photo: Peter Cusack



Radovesické údolí s elektrárnou Ledvice, foto Peter Cusack  
Radovesice valley with Ledvice power station,  
photo: Peter Cusack

vegetation would reduce the sound from the mine. In any event, the unusually hot summer meant that nothing grew and no sound was blocked. As a sound shield it is a spectacular failure but it takes its place as a curious addition to the already surreal landscape of the region.

### **Radovesické údolí (Sept. 11, 2015)**

In a photograph this place looks like a normal, natural grassy hillside overlooking the town of Bílina. But it is not. The whole area has been completely reconstructed and landscaped anew. Once it was a steep valley, now it is the opposite, a hill created from 40 years of soil and earth dug from the Bílina mine. Somewhere underneath is a buried village Radovesice with houses, a church, streets and a square. No visible trace remains. One now sees fields, a stony track lined by poplar trees, conifer plantations and a small fishing lake with reeds around the edge. From the top, the different coloured apartment blocks of Bílina appear and further in the distance, columns

of steam merge with clouds above the huge cooling towers of the power station Ledvice associated with Bílina mine.

The soundscape is quiet. Leaves flutter in the light wind and small birds call occasionally. Distant machines still creating this landscape can be heard, as can the voices of my friends as they climb the hill. My breathing and pounding heart become audible when I do the same. The atmosphere is strange and somewhat melancholic. I think about the buried village and its people forced to make lives elsewhere. Perhaps I am standing directly above it. One of my favourite pieces of music is *La Cathédral Engloutie* ('The Submerged Cathedral') by Claude Debussy. It depicts the mysterious underwater life of the sunken cathedral with its great bell that still tolls in stormy weather. It is impossible to imagine such ghostly events ever happening here with the church crushed under tons of soggy dirt and rubble.

[petercusack.org](http://petercusack.org)



Jezero Most, v pozadí chemické závody Unipetrol v Záluží u Litvínova, foto Michal Kindernay / New Lake of Most with the industrial park Unipetrol in Záluží u Litvínova, photo: Michal Kindernay

# Voda v hornické krajině Mostecka

Ivo Přikryl

## Voda překáží

Voda v hornictví pomáhala (například při rýžování zlata), ale mnohem častěji vadila, především kvůli zaplavování důlních děl. U těžby hnědého uhlí naprosto převažuje druhá alternativa. V úbočí hor se do určité míry dalo vhodným vedením chodeb docílit jejich odvodňování samospádem, ale na ploše pánví to nešlo. Netýká se to jen dešťové vody dopadající do lomů, ale i vody přitékající po povrchu i v podzemí z Krušných hor. Velikost povrchových lomů proto byla až do poloviny 19. století silně limitována schopností čerpat z nich vodu. Teprve výkonná technika od poloviny 20. století učinila z odvodňování lomů jen nákladovou položku.

Hlubinná těžba respektovala cesty, potoky, obce a vyhýbala se jim. Proto i po rekultivaci propadlin po hlubinné těžbě může nová krajina působit přirozeně, jako by byla těžbou neovlivněná. Povrchové těžbě však potoky i vodní nádrže nad ložisky uhlí překážely. Bylo nutno je buď vypustit, nebo v případě potoků přeložit. Netýká se to úplně známého Komořanského jezera s rozlohou až 5 600 ha, které bylo definitivně odvodněno v roce 1834 s cílem získat místo bažin plochu vhodnou k produkci sena. Vlastní těžba uhlí na ploše bývalého jezera začala až o desetiletí později. Koryto řeky Bíliny, která Komořanským jezerem protékala, pak bylo v závislosti na postupu těžby uhlí překládáno opakovaně. Později v roce 1955 byla na části bývalého



území jezera vybudována Dřínovská nádrž o ploše přibližně 270 ha, která však byla kvůli postupu těžby zrušena již v roce 1981. V období 1975 až 1985 byl vybudován rozsáhlý vodohospodářský systém tvořený betonovými přeložkami krušnohorských potoků, zkapacitněním toků, poldry a nádržemi, který měl chránit povrchové lomy před zaplavením a současně zabezpečit dostatek technologické vody pro průmysl.

I když jsou lomy chráněny proti přítoku povrchové vody, spousta se jí dostává do lomů při deštích a také průsakem spodní vody z okolí. Proto je voda sváděna do retenčních nádrží v nejnižších částech lomů a odtud čerpána výkonnými čerpadly ven. Po silných deštích mají pracovníci zabezpečující odvodnění plné ruce práce, aby nedošlo k utopení drahých těžebních strojů. I tak je práce na rozbahněném dně lomů nezáviděníhodná. Při povrchové těžbě

uhlí vznikají rozsáhlé a mnoho desítek metrů vysoké výsypky nadložního materiálu. Jejich podloží je nutno kvůli stabilitě důkladně odvodnit. Také vodu z jejich povrchu je třeba odvádět urychleně mimo výsypky. Voda prší a přitéká setrvale, takže problémy s ní spojené se nedají nikdy považovat za vyřešené.

Výsledkem předchozích činností je odvodnění rozsáhlých ploch lomů, výsypek a do určité míry i jejich okolí. Důsledkem je nedostatek vody pro malý vodní oběh a výrazné oteplení povrchu na zasaženém území ve světlé části dne. Teplý vzduch stoupající vzhůru dále omezuje již tak malé množství srážek ve srážkovém stínu Krušných hor.

### **Voda trpí, ale je trpělivá**

Vedle vysušení území ovlivněných těžbou uhlí dochází také ke zhoršení kvality vody. Dešťová voda stékající po svazích lomů unáší

spoustu jílových částic, takže koncentrace nerozpuštěných látek přesahuje až stonásobně limity pro povrchové vody. Ne vždy se podaří čerpanou vodu dostatečně vyčistit. Voda tekoucí ze svahů lomů a z výsypek bývá mnohem více nasycena některými solemi (hlavně sírany, někdy uhličitany), takže i koncentrace rozpuštěných látek překračuje několikanásobně úroveň v běžných povrchových vodách. To lze sice považovat spíše za její přirozenou vlastnost než za znečištění, ale pro některé účely je taková voda již nevhodná. Část vod tekoucí z výsypek a svahů lomů je silně kyselá a rozpouští dobře kovy, takže koncentrace některých může o 2 i 3 řády překračovat limity pro povrchové vody. Výsledná směs důlních vod na Mostecku je však alkalická a vysoké koncentrace kovů se v ní neudrží.

Provedená sledování ukazují, že se s ukončením hornické činnosti a stabilizací terénu předchozí problematické parametry kvality vody zřetelně zlepšují. Kvalita vody tedy není zhoršená navždy, ale i bez jakýchkoli lidských zásahů se samovolně upraví během několika prvních desítek let.

Těžba uhlí je činnost poměrně krátkodobá, typická životnost povrchových velkolomů je kolem 50 let. Poté nastoupí sanace a obnova ztracených krajinných funkcí. Voda, která během těžby vadila, je najednou velmi potřebná. Je proto namístě dřívější zrychlený odtok zpomalit. To se dá celkem dobře na výsypkách i v lomech, třebaže to rekultivační praxe zatím příliš nerespektuje. Přece jen je pohodlnější budovat rovné a opevněné odvodňovací příkopy než vybudovat tok, který se chová přirozeně, transportuje plaveniny a mění samovolně svou trasu. Mnohem obtížnější je odstranit silně opevněné kapacitní přeložky toků a u zbylé říční sítě aspoň částečně obnovit její přirozený

charakter, přestože již ztratily původní funkci ochrany dolů před zaplavením.

Horníci po sobě pečlivě uklízejí, možná až příliš pečlivě. Výsledkem rekultivací jsou v současnosti především lesní porosty, méně zemědělské plochy, zahrádkářské kolonie, lesoparky a sportoviště, nějaké vodní plochy a bohužel také skládky odpadu. Na ukončenou hornickou činnost se brzo zapomíná. Z bývalé „měsíční krajiny“ se rychle stávají „zelené plíce“ republiky. To je výrazný rozdíl hornické krajiny oproti například rozsáhlým středočeským zemědělským plochám a územím velkých měst, logistických center či dálničních tras, kde jsou krajinné funkce poškozené prakticky navždy.

Když porovnáme původní krajinu Severočeské pánve před povrchovou těžbou uhlí s krajinou posttěžební, zjistíme, že přibylo vodních ploch. Ubylo mnoho rybníků a zřejmě i porůčních mokřadů. Místo nich jsou tu ale tisíce jezírek na výsypkách, stovky zatopených propadlin, oprámů a rekultivačních nádrží, řada přehradních nádrží i menších technologických nádrží, nějaká plaviště popílku a několik hlubokých jezer ve zbytkových jámách. Co je ovšem také podstatné, na rozdíl od okolní kulturní krajiny neovlivněné povrchovou těžbou uhlí, je to, že voda ve většině těchto vodních ploch není eutrofizovaná a svými vlastnostmi se blíží kvalitě vod z 19. století.

Ty menší vodní plochy běžná veřejnost příliš neocení, prostě tu jsou. Velká jezera jako Barbora, Chabařovice, Most a další, která vzniknou v budoucnu, ale díky dobré kvalitě vody určitě ocení. V době, kdy v létě rybníky a přehradní nádrže kvetou sinicemi, v těchto jezerech zůstává čistá voda bez sinic s průhledností mnoha metrů. Tomuto cíli se přizpůsobuje rekultivace, aby se maximálně omezil přísun živin z okolí a v jezerech zůstaly



Výzkumné plavidlo Biologického centra AV ČR, foto: Miloš Vojtěchovský / Research boat of the Biologic Center of the Academy of Science, photo: Miloš Vojtěchovský

živiny vázané v sedimentu a nevracely se do koloběhu ve vodním sloupci. Výsledkem jsou po zatopení lomů oligotrofní nádrže. Ty se zanášejí sedimentem rychlostí menší než 1 mm za rok. Metr má 1 000 milimetrů, při hloubce například jezera Most to znamená životnost v měřítku desítek tisíc let. Co budují lidé kromě úložišť jaderného odpadu se srovnatelnou dobou využití? Když sečteme jen užítky z rekreace za tak dlouhé období, budou mnohonásobně větší než užitek z vytěženého uhlí. A za nějakých 100 až 200 let, až se všechny známky bývalé povrchové těžby uhlí vytratí, si lidé možná pomyslí, podobně jako dnes u jihočeských rybníků, jak byli jejich předkové (my) moudří, že takové nádrže postavili.

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Most, likvidované město s Lomem Most, 1978, fotoarchiv Oblastní muzeum Most / Demolition of city of Most with Most mine, 1978, photo archive, Most District Museum

# Water in the Most Mining Landscape

Ivo Přikryl

## The water is in the way

The water in mining sometimes helped (for example, gold panning), but more often it was an obstacle because of flooding in the mining sites. When mining brown coal, the second case absolutely prevails. In the mountains, it is somehow possible for the mining tunnels to self-drain by their appropriate construction in relation to gravity. However, the same is not possible on the coal fields. It is not just the problem of the rain falling into the mines, but also of the water flowing both on the surface and underground from Krušné hory. The size of the surface mines was, based on this fact,

strongly limited until the second half of the 19<sup>th</sup> century by the capacity of pumping the water out. Only by the second half of the 20<sup>th</sup> century, when more powerful technology arrived, the draining of the mines became a mere accounting number.

The underground mining respected paths, streams, and towns, and it avoided their areas. After the recultivation of the valleys, the environment created by the ground falling through can seem natural, as if it were not influenced by the mining. However, both streams and water basins over the brown coal deposits were an obstacle when surface



mining. It was necessary to either drain them, or in the case of the streams, to move them. Nevertheless, it is not exactly the case of the almost 5,600 ha Komořany lake, which was definitely drained in 1834 in order to gain surface for drying hay in place of the former swamps. The actual coal mining on the surface of the former lake started 10 years later. The riverbed of Bilina, which was flowing through Komořany lake, was then shifted several times in relation to the mining. Later on, in 1955, the Dřínov water basin, around 270 ha large, was built on a part of the former lake site. However, it was also closed because of the advancing mining already in 1981. In the period of time from 1975 to 1985 an extensive water management system consisting of concrete relocations of Krušné hory streams, increasing the capacity of the watercourses, polders, and basins, was supposed to protect the surface mines against flooding and at the same time provide enough water for the industry.

Even though the mines are protected against the flows of surface water, still, plenty comes from rain and also from the underground water from the surroundings. This is the reason why the water is gathered to retention basins in the lowest parts of the mines and from there pumped by high-performance water pumps out of the mine. After heavy rains the workers responsible for the draining of the mines have a lot of work in order to take care that the expensive mining machines do not get drowned. The work on the muddy bottom of the mines is nothing to be envied. When surface mining coal, large spoil tips, many meters tall, grow out of the waste material. The surface under them needs to be thoroughly drained to maintain their stability. The water coming from their surface also needs to be drained quickly from the spoil tips. The water rains and flows in continuously,

and the problems related to it can never really be considered solved.

The result of the preceding activities is the draining of large surfaces of the mines, spoil tips, and to a certain extent, also their surroundings. It results in water deficiency for the small water cycle and noticeable warming of the affected surface during the lighter part of the day. The warmer air rises up and further limits the small amount of rainfall in the rain shadow of Krušné hory.



Most, likvidované město, 1978, fotoarchiv Oblastní muzeum Most / Demolition of Most, 1978, photo archive, Most District Museum

### The water suffers, but it is patient

Besides the drying up of the areas affected by coal mining, another issue is the decreasing quality of the water. The rainwater flowing down from the slanted surfaces of the mines carries a lot of clay particles, thus the amount of undissolved material exceeds the limits by a hundred times. It is not always possible to clean the water sufficiently. The water coming from the mine hills and spoil tips is usually much more saturated with some of the salts (mainly sulphates, sometimes

carbonates), so that also the dissolved material exceeds the levels present in regular surface water. It is possible to consider the saturation more of a natural characteristic than a result of pollution; however, it makes the water inappropriate for certain uses. Some of the water is strongly acidic and efficiently dissolves metals, therefore the concentration exceeds the limits set for the surface water 100 to 1000 times. The resulting mixture of mining waters in the Most area is, however, alkalic and does not retain a high concentration of metals.



Most, napouštění Jezera Most, 2011, fotoarchiv Oblastní muzeum Most / Filling of the new Most Lake, 2011, photo archive, Most District Museum

The studies conducted show that, when ceasing the mining activity and stabilizing the terrain, the previous problematic qualities of the water seem to dramatically improve. The quality of water is therefore not worsened forever, and it gets naturally better during the first few decades after the mining has stopped.

The mining of coal is a relatively short term activity. The typical lifespan of the surface

mines is around 50 years. Afterwards, the remediation and restoration of the function of the lost landscape can come. The water, which was an obstacle during the mining, is suddenly needed. It is therefore necessary to slow down the previously sped-up drainage. That is possible both on the spoil tips and in the mines, even though the practice of restoration does not completely respect it so far. It is still somehow more comfortable to build straight and fortified channels than to work on creating a watercourse which would act naturally, transporting the floating mass and spontaneously changing its route. It is even more difficult to remove the heavily fortified relocations of the streams, and at least partially restore the natural character of the remaining network, even though by now they have lost their original function.

The coal miners clean the sites quite thoroughly after themselves, maybe even too thoroughly. The restoration at the moment mainly results in creating forests, and less often in creating agricultural areas, gardening colonies, forest parks and sports fields, a few water basins, and unfortunately also waste disposals. The ceased mining activity is quickly forgotten. “The moon landscape” transforms rapidly into the “the green lungs” of the republic. That makes a significant difference between the mining landscapes in comparison to, for example, large Central Bohemia agricultural and urban areas, logistic centres, or highway routes. In those cases the functions of the landscape are damaged forever.

When we compare the original landscape of the North Bohemia coal field before the surface mining with the landscape created after, we notice that the number of bodies of water has increased. There are fewer water ponds and river wetlands, but they were replaced with thousands of small lakes on the

spoil tips, hundreds of flooded mining valleys and restorative water basins, several dam basins and smaller technological basins, some waste ponds and deep lakes in the remaining voids. What is, however, also important in comparison with the surrounding cultural landscape untouched by surface coal mining, is the fact that most of these bodies of water have not been eutrophicated, and the water is in its characteristics close to the quality of water in the 19<sup>th</sup> century.

The smaller bodies of water are not that much appreciated by the regular population, they are just there. The large lakes such as Barbora, Chabařovice, Most and others, which will be created in the future, will definitely be more appreciated because of the high-quality water. At the times when ponds and water dams flower with blue-green algae, in these lakes water remains without algae and completely transparent until reaching a depth of several meters. These goals are followed also by restoration in order to limit the supply of the nutrients out of the surroundings as much as possible, and to try to keep the nutrients coming from the sediments only in the lakes and prevent them from returning to the water cycle. This practise results in oligotrophic lakes. These have a sediment increase slower than 1 mm a year. One meter is 1000 mm. That means, that with the depth of the Most lake, its life span would be counted in tens of thousands of years. What is the human race building, apart from the deposits of the atomic waste, what would have a comparable time of usage? If we count only the profits coming from tourism during such a long time, it will definitely generate multiple times more profit than the one coming from coal mining. When humans think about it, after the next 100 to 200 years when all the signs of the surface mining disappear, they will most probably have an opinion, similar to the one today when we think of the ponds in



Napouštění Jezera Most, 2011, fotoarchiv Oblastní muzeum Most / Filling of the new Most Lake, 2011, photo archive, Most District Museum

South Bohemia, that their ancestors (us) were very wise to build such lakes. That it would be economically completely impossible without coal mining will not be so important anymore.

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Radovesice dump, small place with ecological succession, North Bohemia.

Photo: Dominik Žižka



Pohled na dolování v okolí Duchcova přes budovu „Bergschule“ po roce 1902. Sbírká fotografií Muzea města Duchcova. Mining around city of Duchcov, in foreground „Bergschule“, after 1902, photo collection of Duchcov Municipal Museum

# Mostecko a stěhovavé památky aneb Zmizelá historická krajinná struktura

Radoslava Schmelzová

Nerostné bohatství Krušných hor přitahovalo člověka od pravěku. Již v době bronzové je evidována nápadná blízkost tehdejších lidí při rudných výchozech. Na několika místech bylo možné získávat cínové a měděné rudy pouhým rýžováním z koryt potoků. Do 12. století se jednalo o řídké osídlenou část hraničního hvozdu, poté se až do 14. století rozvíjí českým králem řízená kolonizace (přenesená na šlechtické nebo klášterní

vykonavatele) vyšších poloh kvůli těžbě bohatých ložisek kovů. Druhá kolonizační vlna začala v 16. století a souvisí s vrcholící těžbou, kdy tu vzniká řada měst a městeček spjatých s rozvojem těžby stříbra a cínu. Dobývání surovin tu sice už proměňuje rozsáhlé prostory krajiny a její vegetační pokryv, ale skutečně dramaticky se vliv člověka na krajinu při těžbě nerostných surovin změnil až v průběhu 19. století.

V Mostecké pánvi v Podkrušnohoří od druhé poloviny 19. století probíhá soustavná těžba (těžební jámy, poddolování sídelních struktur, důlní propadliny zaplněné vodou, výsypky ve tvaru tabulových hor). Od průmyslové revoluce můžeme lidské zásahy srovnávat s působením vnějších geologických činitelů, jako je voda, vítr nebo ledovce. Tyto „antropogenní geologické procesy“ (A. Pavlov) se od přírodních procesů geologického času zásadně liší: Jsou mnohem rychlejší a drastičtější. Když se tu po roce 1948 upřednostnila povrchová těžba na rozsáhlých územích, tak zmizel celý původně plochý až pahorkatinný reliéf (!) pánve a s ním i „historická krajinná struktura,“ (Tereza Golešová, 2008) dlouhodobě vytvářená působením přírodních a antropogenních (lidských) procesů – kulturní krajina svázaná s primární geomorfologií.

Co to však ve skutečnosti znamená, jsem si uvědomila, když jsem v září 2015 přijela na zámek Jezeří v souvislosti s uměleckým projektem Na pomezí samoty / Frontiers of Solitude, jehož účastníci se toulali krajinou mezi Mariánskými Radčicemi, klášterem v Oseku, Mostem a Duchcovem. Kdysi honosné sídlo Lobkowiczů (Eisenberg, 1363–65), stojící na hraně povrchového lomu Československá armáda, bylo vystaveno dlouholetému chátrání, postup těžby předpokládal jeho likvidaci.

Pohled ze zámku do bezedné jámy hnědouhelného dolu názorně ukazuje, jak vypadá plošné odtěžení povrchu krajiny do hloubky 150 metrů. Vidíte nezměrnou devastaci, vymykající se lidské představivosti. Není divu, že odlehčení paty Krušných hor na lomu od 50. let vyvolává obavy z obřích sesuvů na úbočí Krušných hor v okolí zámku. Fantazmatický zážitek nastal v noci, kdy okolní ruchy ustaly a krajinou

znělo nepřetržité monotónní hučení strojů z povrchového dolu. Dívala jsem se do temné jámy a náhle si uvědomila skutečnou hranici samoty. Nebyl to prožitek melancholie, ale individuální bezmoci.

Monotónní hluk periodicky přerušovalo kvílivé skřípění a tupé rány strojů snad o podloží. Takhle vypadá fragment krajiny Severočeské hnědouhelné pánve, kde se měnila koryta řek, potoků a celé hydrologické sítě při povrchové těžbě uhlí. Řeka Bílina až na kratičké úseky byla přeložena do nového koryta. Přerušené vodoteče z Krušných hor byly svedeny do umělých kanálů a potrubí. Obrovský je i zásah do režimu podzemních vod, který je udržován v chodu sítě čerpacích stanic.

Člověk potřebuje hodně představivosti, aby si vyvolal Jezeří za Josefa Maxmiliána Františka z Lobkovic. Tehdy tu pobýval Ludwig van Beethoven. Svému mecenáši věnoval Symfonii č. 3 Es dur původně psanou pro Napoleona. Rakouští a čeští historici se přou, kde byla Eroica poprvé uvedena, zda ve Vídni, nebo na Jezeří. Z nedalekých Teplic sem přijel J. W. Goethe. Hráli tu přední umělci té doby, například Josef Mysliveček, Christoph von Gluck, čeští houslisté bratři Vraničtí, skladatel Antonio Cartellieri.

Tohle „nehmotné“ kulturní dědictví si lze přehrát nebo poslechnout, ale historická krajinná struktura je nenávratně pryč. Podle Terezy Golešové: „Krajiny s vysokou viditelností těchto struktur vykazují hlubokou historickou, kulturní a krajinou paměť a zároveň estetickou hodnotu a ekologickou stabilitu.“ Tady historická krajinná struktura skončila v jámách velkolomů.

*„Je to nenahrazená a nenahraditelná ztráta. Psát o tom městě básně, to už nemohu,“*  
Emil Juliš



Propad poddolovaného terénu v Duchcově s pohledem na cukrovar a děkanský kostel Zvěstování Panny Marie před rokem 1914. Sbíрка fotografií Muzea města Duchcova. / Vertical sinking of shafts in the mining terrain in Duchcov; foreground sugar factory and the church of the Assumption of Our Lady (before 1914), photo collection of Duchcov Municipal Museum

Nejotřesnější je případ města Most, který dokládá, že lze zlikvidovat královské město s více než 650letou historií pro 50 let těžby uhlí, teď už spáleného, i když kvůli těžbě tu zanikly stovky obcí a památek. „Poznal jsem Most ještě před válkou a pak po ní – nebylo mi to sympatické město, vůbec ne. Smrdí to tu Sudetama, myslel jsem si. A v roce 1961 jsem se tam přestěhoval. A pomalu se to město začalo do mě zadírat, až se zadřelo. Vzpomínkami ve mně stále žije – a zažil jsem celé jeho umírání,“ vzpomínal básník Emil Juliš v rozhovoru v roce 1996. O staré, historické části Mostu vláda rozhodla v roce 1964, od té doby bylo město ponecháno bez údržby napospas chátrání. Tehdy se proti likvidaci postavili dva historikové – Václav Mencl a Heide Mannlová. Dokázali, že Most bylo z hlediska historického, urbanistického i architektonického jedno z pěti nejvýznamnějších měst v Čechách. „S vymazáním starého města Mostu z mapy

Čech nastala nepředstavitelná újma celonárodní povahy, kterou již nikdy nelze vyvážit,“ napsal Václav Mencl.

Když vydala vláda roku 1971 usnesení o záchraně jedné z vrcholných staveb pozdní gotiky v Evropě kostela Nanebevzetí Panny Marie v Mostě formou transferu, stal se technicky unikátní přesun dokladem údajně péče socialistického státu o památky. Odvedl však pozornost od skutečnosti, že normalizační režim tu vyhodil do vzduchu středověké město s více než dvaceti zachovanými gotickými měšťanskými domy ze 13. až 15. století. Takový soubor neměly ani vyhlášené městské památkové rezervace, jako je Český Krumlov či Kutná Hora – jen Praha. Královské město Most zmizelo v těžební jámě v 70. letech dvacátého století. Demolice skončily k prvnímu dubnu 1987, z původního města s výjimkou přesunutého kostela (a původní městské čtvrti Zahražany) nezůstalo nic.

Kostel byl přesunut o 841 metrů dál do sousedství gotického kostela sv. Ducha a vedlejšího barokního špitálu na severní okraj nového Mostu, od něhož je oddělen koridorem rychlíkové trati, rychlostní silnice a inženýrských sítí. Těsně po přesunu směla stavba připomínat kostel jen vzhledem, jinak to byl výstavní prostor. Až po roce 1989 sem byl vrácen původní barokní oltář. Tím, že byl kostel posunut po oblouku, posunula se i jeho osa, církev se zdráhala kostel znovu vysvětit, neboť oltář není orientován na východ, nýbrž na jih. Dnes je stavba národní kulturní památkou, ale dojem z chrámu je dost zvláštní. Vytržený z kontextu města působí jako exponát v divně prázdném prostoru. Jakkoli je uvnitř chrám nádherný, postrádá onen těžko definovatelný, ale bohužel zásadní genius loci. Nevím, kolik času bude trvat než, a zda vůbec někdy, se svým místem splyne.





Mine Hartmann near Ledvice town, 1884. Photo: Collection of Duchcov Municipal Museum

Mnoha památkám ve zdejších regionu byl určen stěhovavý osud. V areálu kostela Povýšení svatého Kříže ve Vtelnu vzniklo na přelomu 70. a 80. let 20. století jakési lapidárium, kam byly svázeny zachráněné památky ze starého Mostu a dalších obcí, které byly zlikvidovány při důlní těžbě. Sem byly přemístěny na konci 80. let 20. století i čtyři kapličky z likvidovaných Libkovic. Původně jich bylo sedm a lemovaly poutní cestu z Libkovic do Mariánských Radčic, založenou roku 1725 oseckým klášteřem. Někdejší soubor představující sedm bolestí Panny Marie byl dílem barokního architekta Oktaviána Broggia a je dokladem vývoje barokního sochařství v severních Čechách.



Osek, Johann Georg Vogt, řeholním jménem Mauritius, 1712, archiv autorky / Osek Cistercian Monastery, Johan Georg Vogt, Das jetzt-lebende Königreich Böhmen, Nurnberg, 1712

Historické krajinné struktury obecně představují starší časové horizonty. Někde se vyskytují skryté a jsou často nenápadnými objekty současné krajiny. V okolí kláštera Osek to byly tzv. odpočinkové kameny. Osecký opat Vavřinec Scipio (1650–1691) dal na přístupové cesty ke klášteru osadit čtyřicet osm odpočivných kamenů, které nejen že sloužily

unaveným poutníkům k načerpání sil, ale také pro jejich orientaci v krajině. Kromě kamene dochovaného na rohu oseckého hřbitova je jeden zazděný pod mostem u křižovatky ulic Lidická a Nelsonská. Další dva stojí v atriu muzea v Duchcově, poslední lze nalézt v Domaslavicích u cesty z Křižanova.

Není zcela jasné, zda odpočivné kameny neznamenal také konec životní poutě člověka, což by v případě textu věnovaného nenapravitelným škodám způsobeným dočasnou těžbou uhlí bylo více než symbolické. V říjnu byly prolomeny limity těžby u lomu Bílina, přestože exploatace hnědého uhlí v severních Čechách znamená nadměrné a nevhodné využívání neobnovitelných přírodních zdrojů. Zda to byl komunistický režim nebo lobby těžařů a energetiků, je evidentně dost jedno.

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Most Pražské předměstí a v popředí Lom Most, 1975, archiv Oblastní muzeum Most / Praha district in Most; foreground Most mine, 1975, photo archive, Most District Museum

# The District of Most and its Nomadic Monuments or The Vanished Structure of the Historical Landscape

Radoslava Schmelzová

The fossil heritage of Krušné hory has attracted the human race since prehistory. As early as the Bronze Age, some noticeable human settlements in the vicinity of the ore outcrops were registered. At several sites, it was possible to acquire silver and copper just from simply panning in the local streams. Until the 12<sup>th</sup> century the border woods were sparsely inhabited. Later, in the 14<sup>th</sup> century, the colonisation of the upper areas developed, led by the Czech king (and executed by the nobility and church

executors at that time), due to the mining of rich deposits of metals. The second wave of colonization began in the 16<sup>th</sup> century and is linked with the culmination of mining when many of the cities and towns were created in connection to the development of silver and tin mining. The extraction of raw materials had already changed the character of the landscape and its vegetation. However, the most dramatic influence on the landscape by human mining activity came in the 19<sup>th</sup> century.



Jezeří, Václav A. Berger (1800) / Jezeří Chateau, Václav A. Berger, 1800, <http://www.hrady-zriceniny.cz/>

Since the second half of the 19<sup>th</sup> century, the Most coal field in the foothills of Krušné hory have been subject to the effects of continuous mining: excavation voids, undermining of human settlement structures, valleys caused by mining and filled with waters, spoil tips in the shape of flat-topped hills. Since the industrial revolution, human activity has been equivalent to geologic factors such as water, wind and ice. These “anthropogenic geological processes” (A. P. Pavlov) are completely different from the natural processes over geological time. They are much quicker and more drastic. After 1948, when surface mining was given priority on a large scale, the whole surface of the area, originally of a flat to hilly relief, disappeared together with “the structure of the historical landscape,” (Tereza Golešová, 2008) that had been created by the long-term influence of natural and anthropogenic (human) processes – the cultural landscape is connected with primary geomorphology.

However, I realised what this actually means in reality when I arrived to the Jezeří Chateau to participate in the project *Na pomezí samoty* / *Frontiers of Solitude*. The participants were wandering in the landscape between Mariánské Radčice, Osek monastery, Most,

and Duchcov. The once opulent residence of the family Lobkowitz (Eisenberg, 1363–65), now standing on the edge of the Czechoslovak Army surface mine, has been subject to long-term decay, since the process of mining required its demolition.

The view from the chateau to the bottomless void of the mine is an example of what it looks like to extract the surface of the landscape to a depth of 150 meters. You can see the immense devastation, which reaches beyond human imagination. It is no surprise that the mining of the bottom of Krušné hory, started in the 50s, raises concerns about possible massive landslides in the area of the Jezeří Chateau in the foothills of Krušné hory. A phantasmic experience came at night when other sounds ceased and the landscape was pervaded only by the sound of the continuous, monotonous humming of the machines out of the void. I was staring into the dark void, and suddenly I understood the real frontier of solitude. It was not a feeling of melancholy; it was a feeling of the helplessness of the individual.

The monotonous noise was periodically interrupted by the howling creaks and dense blows of the machines, most probably striking the bedrock. This is what the fragment of the North Bohemia brown coalfield looks like. This is the place where river beds and entire hydrologic systems were displaced because of the surface mining of coal. The whole length of the river Bílina has been shifted almost completely to a new river bed. The streams coming from Krušné hory were cut off and directed into artificial channels and pipes. The rhythm of groundwater is massively disrupted as well and maintained only by a network of water pumping units.

One needs quite a vivid imagination to visualize the Jezeří Chateau at the time

of Joseph Franz Maximilian, the 7<sup>th</sup> Prince Lobkowitz, when Ludwig van Beethoven was his guest. He dedicated the Symphony no. 3 Es dur, originally written for Napoleon, to his benefactor. Austrian and Czech historians dispute whether Eroica was first put on stage in Vienna, or in Jezeří. J.W. Goethe also came to Jezeří from nearby Teplice. Other prominent artists of the time, such as Josef Mysliveček, Christoph von Gluck, the Czech violinist brothers Vraničtí, and the composer Antonio Cartellieri performed at Jezeří, as well.

It is possible to re-play or to listen to this “non-material” cultural heritage, but the structure of the historical landscape is forever gone. According to Tereza Golešová, “The landscape with these highly visible structures shows deep historical, cultural and landscape memory, and at the same time aesthetic value and ecological stability.” In this case, the structure of the historical landscape ended up in the mining voids.

*“It is an unreplaced and irreplaceable loss. To write poems about that town, I cannot anymore,”*  
Emil Juliš

The most dreadful story is the one of Most, despite the fact that there were hundreds of other towns and historical sights destroyed in the same area because of the coal. It proves that it is possible to destroy a royal town with more than 650 years of history in exchange for 50 years of mining coal, which has by now already been burnt. “I got to know Most even before the war and also after – it was not a town that appealed to me, not at all. It stinks of Sudetenland, I was thinking. And then, in 1961, I moved there. And the town started getting under my skin until it got there. It is still alive in my memories and I lived through its death throes,” the poet Emil Juliš remembered

in an interview in 1996. The government decided the fate of the old historical site of Most in 1964. Since then, the city has been neglected. At that time two historians stood up against the city’s demolition – Václav Mencl and Heide Mannl. They proved that from the historical, urbanistic, and architectonic point of view, Most was one of the five most important cities in Bohemia. “The demolition of the old town of Most caused an immense loss on a national scale which will never be able to be compensated,” wrote Václav Mencl.

When the government decided in 1971 to save one of the most important buildings of the late Gothic style in Europe, the Church of the Assumption of the Virgin Mary, by relocating it, the technically unique act stood as proof of the socialist state’s supposed concern about historical sights. In this way, it distracted from the fact that during the period of normalization, the state blew away a town from the Middle Ages with more than twenty



Kláster Osek, Johann Georg Vogt, Das jetzt-lebende Königreich Böhmen, Norimberg, 1712, archiv autorky / Osek Cistercian Monastery, Johan Georg Vogt, Das jetzt-lebende Königreich Böhmen, Nurnberg, 1712 archive of the author

preserved Gothic town houses from the 13<sup>th</sup> to 15<sup>th</sup> centuries. Such an architectural array was not present even in the officially declared historical towns such as Český Krumlov or Kutná Hora, only in Prague. The royal town Most disappeared in the mining void during the 1970s. The demolition ended on April 1, 1987. There is nothing left from the former town, apart from the relocated church (and the original town quarter Zahražany).

The church was moved 841 meters from its original place to the neighbourhood of the Gothic Church of the Holy Spirit and the neighbouring Baroque hospital at



Barokní fara poutního kostela v Mariánských Radčicích, počátek 20. století. Sběrka fotografií Muzea města Duchcova. /Barock parish house of the pilgrimage church in Mariánské Radčice, Early 20th century, photo collection of Duchcov Municipal Museum

the northern border of the new Most. It is separated from the town by an express train corridor, a highway, and underground utilities. After the relocation it was allowed to be used only as an exhibition space, similar to a church only in its appearance. Only after the year 1989 was the original baroque altar returned to its

place. By moving the church along a curve, its axis shifted as well. The Church was hesitant about consecrating it again, as the altar was then oriented to the south and not to the east anymore. Today it is a part of the National Cultural Heritage of the Czech Republic, but the feeling in the church remains strange. Pulled out of the context of the city, it feels like it is on display in a weirdly empty space. It does not matter how beautiful the interior of the church is, it somehow lacks the important genius loci which is so difficult to define. I cannot guess how long it will take before it again blends in with its environment.

Many of the local historical sites were destined to be nomadic. In the grounds of the Church of the Feast of the Cross in Vtelno, a strange lapidarium was created at the turn of the 1970s and 80s. The monuments rescued from the old Most and other towns destroyed during times of mining have been gathered here. Also, four small chapels from demolished Libkovice found their place here at the end of the 80s. Originally, there were seven, and they stood along the pilgrimage road from Libkovice to Mariánské Radčice, founded in 1725 by the Osek monastery. The set, then representing the seven sorrows of the Virgin Mary, was created by the Baroque architect Octavio Broggio, and it is proof of the development of the visual arts during the Baroque period in Northern Bohemia.

The structures of the historical landscape in general represent the horizons of older ages. Sometimes they are hidden, and often they nowadays become inconspicuous objects of the landscape. For example, in the surroundings of the Osek monastery, there were present so-called stones for resting. The Osek abbot Vavřinec Scipio (1650–1691) moved 48 stones to the entrance routes to the monastery, not only for the tired arriving pilgrims to have rest, but also to



Most z Hněvína kolem roku 1961, fotoarchiv Oblastní muzeum Most / Most from Hněvín Hill, around 1961, photo archive, Most District Museum

help them to orient themselves in the landscape. Apart from the stone preserved in the corner of the Osek cemetery, there is one built into a bridge near the crossroads of the streets Lidická and Nelsonská. Another two are standing in the atrium of the Duchcov Museum. The last can be found in Domaslavice at the road from Křížanov.

It is not entirely clear if the stones also meant the end of the human pilgrimage. That would be in this case (writing a text dedicated to the irreversible damages caused by temporary mining activity) more than symbolic. The restrictions on the Bílina mine were lifted in October despite the fact that exploiting the brown coal in Northern Bohemia continually leads to excessive and inappropriate usage of natural non-renewable sources. Whether executed by the Communist regime, or by a lobby of mining and energy companies, it obviously does not matter.

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# artist projects

*Ale před kým nebo před čím máme pak být odpovědní?  
Před sebou samými? Taky, ale taky před svým okolím  
a před přirozeností v jejím celku.*

Zdeněk Kratochvíl

*But to whom or what should we feel responsibility?  
To ourselves? Yes, but also to our environment  
and the whole of nature.*

Zdeněk Kratochvíl

Vertical sinking of shafts in the mining terrain in Duchcov; foreground sugar factory and the church of the Assumption of Our Lady (before 1914),  
photo collection of Duchcov Municipal Museum

Gunnhild Enger  
Þórunn Eymundardóttir  
Tommy Høvik  
Kristín Rúnarsdóttir  
Vladimír Turner  
Robert Vlasák  
Martin Zet

# Þórunn Eymundardóttir

## The Sky Over Libkovice

The Sky series consists of three stacks of postcards; their themes show the artist's renderings of the places where once the towns of Libkovice, Most and Radovesice were situated.

Visitors to the exhibition are welcome to take a postcard with them.

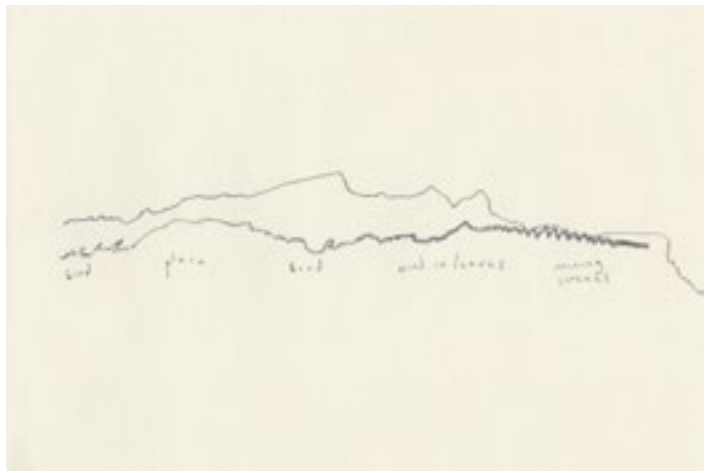


Bed linen in a Prague hotel. Photograph.

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**Þórunn Eymundardóttir** (b. 1979) works in various media, such as installation, performance, video, audio, sculpture, and photography. The exploration of boundaries between the self and the other, and the elevation of everyday life are at the core of her practice. Eymundardóttir's work is usually connected with creating a space or a moment, a form of situationism, often collaborating with other artists where the individual works create a certain flow or harmony with each other. Process and space are vital elements in her work. Eymundardóttir holds a B.A. in visual art from the Iceland Academy of the Arts, and has studied at the Gerrit Rietveld Academy in Amsterdam. She is based in Seyðisfjörður, Iceland, where she is a founding member of artist groups RoShamBo and the Fellowship of the Mountain Woman.

[thorunneymundardottir.com](http://thorunneymundardottir.com)



Drawing of sound, Libkovice.

Clay, Libkovice.  
Photo collage.



Obloha nad Libkovicemi

The sky over Libkovice

Himininn yfir Libkovice

Piarr Eyvinder Jøffer  
2015



Obloha nad Libkovicemi / The sky over Libkovice / Himininn yfir Libkovic.



# Tommy Høvik

## Like a Spiral Jetty Gone Sinister

“We are the first generation to feel climate change and the last to do something about it”, were President Obama’s words at the Paris conference in 2015. The outcome of this year’s conference was a highly optimistic feeling with the ambition of keeping the temperature from rising above 1.5 degrees. Change is definitely approaching, both political and environmental, and time will tell how fast it will happen. Fossil fuels do not belong in the future and hopefully we will witness the global will to sustain the goals that has been agreed upon at these conferences. Personally, I’m not too optimistic, because we have no climate court who will issue reprisals to the nations that don’t follow up on their promises regarding the reduction of carbon emissions. And the total amount of emissions globally is the result of every individual’s consumption and lifestyle. So what can we do in our everyday lives to bring about change? Fly less, drive less, eat less red meat and be more locally and ecologically instead. Recycle, buy less new stuff and more second hand. Decrease our standard of living? Yes to all of this, but will we do this before it’s too late? Our generation is one raised on accelerating consumption. This was the spoken and unspoken promise of science and society, and one that needs reconfiguring. It seems like the average human needs to feel the disaster on their bodies before they wake up and take responsibility for reality.

It’s inspiring to look at countries like Germany and their Energiewende (transition to renewable energy). Over one million small businesses and households have installed solar systems for their own energy needs, and in some cases the excess energy is being sold to the state. In 2014, 18.8 billion euros were invested in renewable energy in Germany. Their ambition is that by the year 2050, greenhouse gas emissions will be reduced 80-95%, and 60% of the energy will be renewable, and 80% of electricity will also be renewable. These are steps in the right direction and examples for other countries to follow, as we are all in the same boat and it’s sinking. Today, coal is the biggest source of CO<sub>2</sub> pollution, and in the Czech Republic, the coal industry is big business. The Czech coal industry predicts that they will continue for more or less fifty more years. The transition to renewable energy needs to take place long before that.

During our ten-day expedition with the Frontiers of Solitude project, we saw several aspects of the coal industry around the city of Most...the gigantic mining fields, energy factories, lifeless nature, ruins of past villages, artificial lakes and mountains, polluted air. Approximately 200 villages have been demolished for the sake of coal, and some were of high cultural heritage and value. For instance, the old city of Most was considered to be the most beautiful baroque city in the Czech Republic, but today there are no traces of these buildings anymore. The entire city was pulled to the ground as the need for coal outweighed the need to preserve cultural and historical sites or the environment. A large artificial lake now covers the gigantic crater that was left from coal extraction.

I remember when I first saw the scenery, I was filled with a strong sense of ambivalence. On one hand it was a spectacular sight, an eery beauty lies in the destroyed landscape, but at the same time a deeply disturbing one. Formally and sculpturally these mining areas provoke the eye, but







also draw you in with its colors, patterns and deep craters. I see them as land art monuments of the slow-churning disaster we are living in and I would keep them like they are today for future preservation. Partly for their qualities as contemporary monuments, but also to construct and preserve a critical focus around the destructive forces in these kinds of industries, and to keep the consequences on display. In this barren landscape you can outline the past, present and future and a certain aesthetic is created by short-sightedness.

The American land-art artist Robert Smithson once said, “The world needs coal and highways, but we do not need the results of strip-mining and highway trusts...” Art can become a resource that mediates between the ecologist and the industrialist. Today’s coal mining profits are waning, by all accounts. Better alternatives exist and new ones are being developed. There has been a shift, but as with all trauma, there is the need to abandon or gloss over. The tradition has been to use landscape architects to re-cultivate these ravaged areas after they have been emptied out, either filled with water to make large lakes out of the craters, or to make artificial mountains of the excess mass of earth. This is also the plan for the areas we visited on our trip.

Hopefully a project like *Frontiers of Solitude* can illuminate these issues for the broader public, to neither abandon nor gloss over the impact of consumption.

*Tommy Høvik, Oslo, December, 2015*



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**Tommy Høvik** works in various media, and in his installations, he often combines the subjective, the existential and the poetic. He deconstructs found materials and narratives, and in so doing, lays down a trail to new ones, either in search of unseen outcomes, or to see existing outcomes anew, often shifting between the past, present, and future. In his recent works, he explores sustainability in its various aspects.

[tommyhovik.com](http://tommyhovik.com)

# Kristín Rúnarsdóttir

## Greyout

2015

Greyout, part of a series of works on paper, reflects on the ongoing transformation of the landscape of the Most Basin in Bohemia, picturing the immense scale of the mining operations, the aesthetic quality of the exposed layers of earth in the open pit mines, and the giant machinery used to move material in order to reach the lignite layer, remaking the landscape.

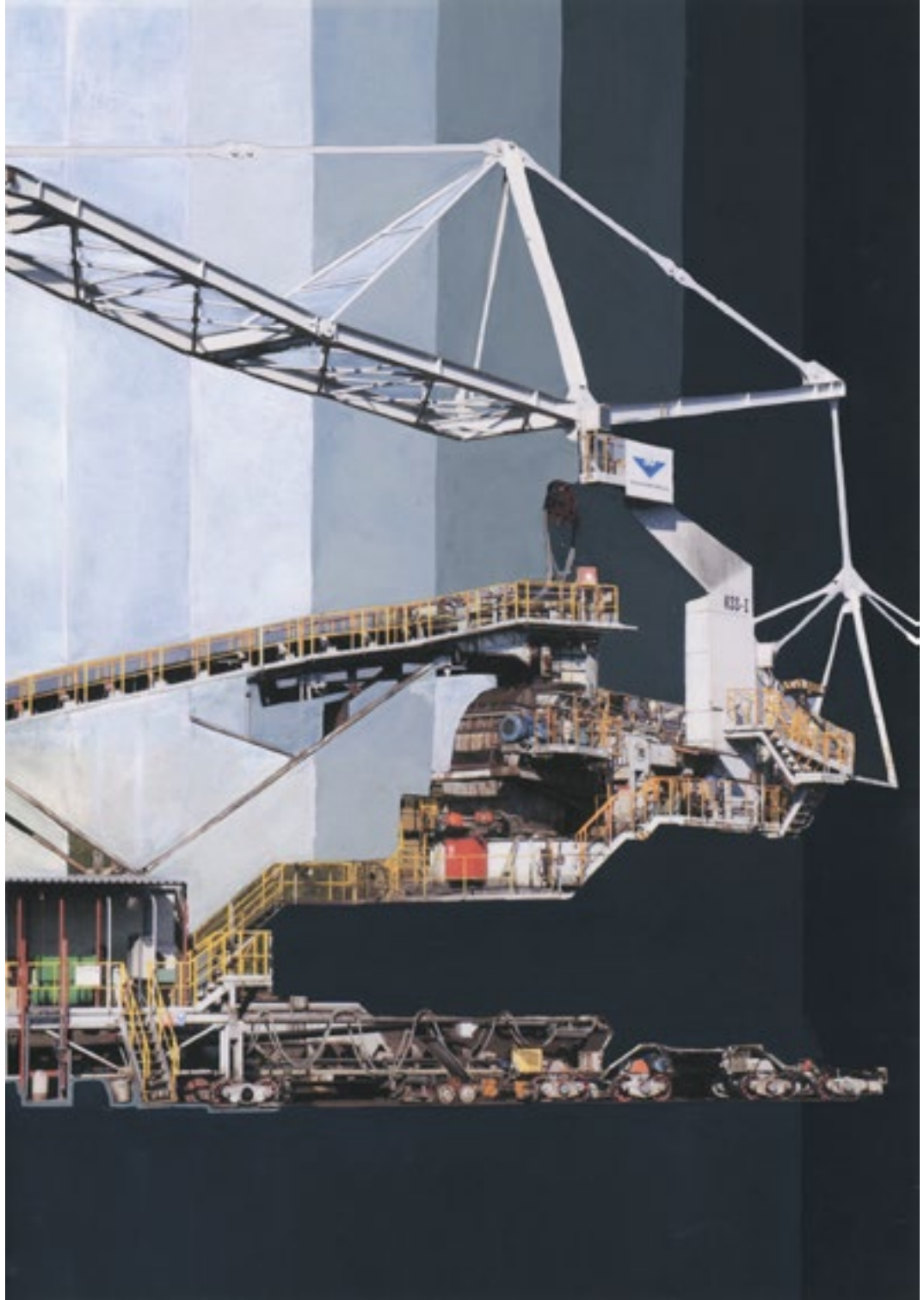
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**Kristín Rúnarsdóttir** (b. 1984) is a visual artist living and working in Keflavik, Iceland. Her work finds inspiration in the curiosities of sign systems, rules, and organization. She holds an M.A. from Bergen Academy of Art and Design, and a B.A. in fine art from the Iceland Academy of the Arts. Rúnarsdóttir has held solo exhibitions at the Living Art Museum, Reykjavik 2015; Reykjanes Art Museum, Keflavik 2014; and Galleri Fisk, Bergen 2012.

[kristinrunarsdottir.com](http://kristinrunarsdottir.com)



Greyout (Pit). Photograph. 29,5×40 cm



Greyout (Apparatus), Gouache on inkjet print. 29,6x20,8 cm

Greyout (Landscape).  
Gouache on inkjet print.  
28,5×15 cm

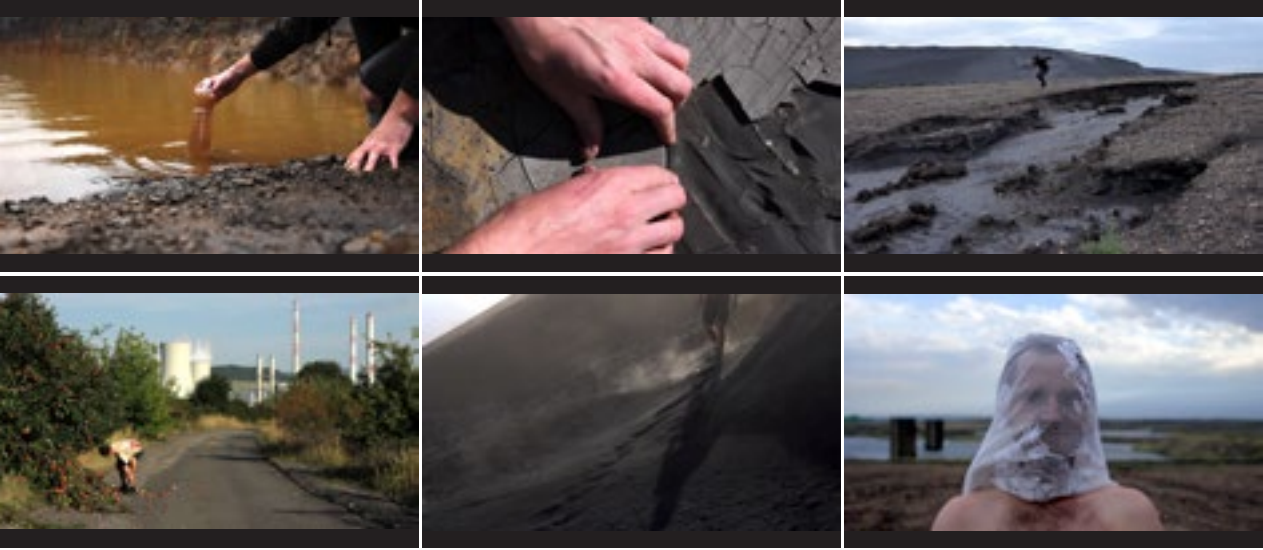


Greyout (Tower).  
Photograph.  
23×35 cm



Greyout (Bulldozer).  
Photograph.  
15×28 cm





# Vladimír Turner

## Funeral

**Colonization, or in other words, fragments from the manual of a post-carbon artist in the coal district.**

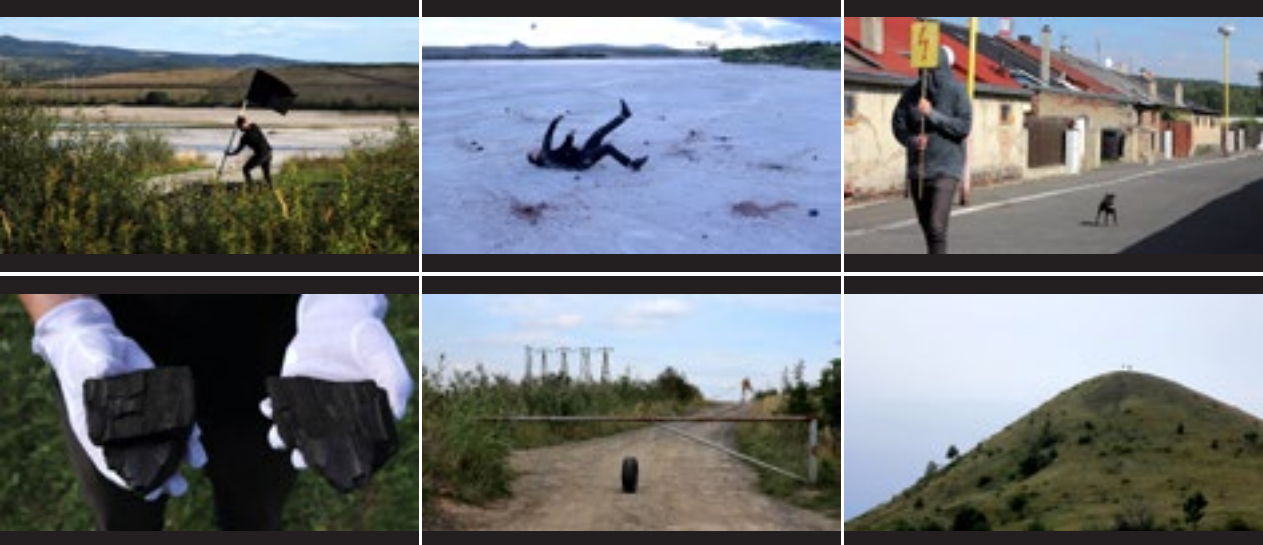
*Motto: Do not source carbon, potassium, silicon, sodium, calcium, or magnesium, from the landscape, but do source art!*

After a stay in the Most brown coal mining district, it can easily happen to you that you just become fond of the landscape. It can simply happen that you will love it in the end, even though you know that it's tortured, uncanny, and unnatural beauty is the direct consequence of brutal and ruthless decisions, the economical interests of the state and the mining companies: today's shady mining magnates. In this movie, it is I who am, as an author and performer in one, playing a supporting role to the landscape. In front of the camera I improvise "post-industrial land-art installations." At the same time, I create and deal with the consequences of situations out of context and free of stereotypes. I am at the same time a real and a fictitious character. I put imaginary funeral celebrations

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**Vladimír Turner** (b. 1986) is a Czech artist and filmmaker. His work can be divided into three basic areas: film documentary related to political activism; art interventions in the public space, including performance art, installations, object interventions; and video works combining physical action with a record of abstract animated or composited forms. His work is to some extent influenced by the author's own history, which goes back to street art and graffiti. Turner does not perceive these fields as separate, and tries to combine them into a whole that he labels an active civic life. His works can be seen around the world in the streets, on film screens and in galleries. Turner graduated from the Film and Television Faculty (FAMU) in the Center for Audiovisual Studies, and the Studio of Intermedia Confrontation at the Academy of Arts, Architecture and Design in Prague. He has done study residencies in Buenos Aires, Valencia, Brisbane, Toulouse and Rotterdam.

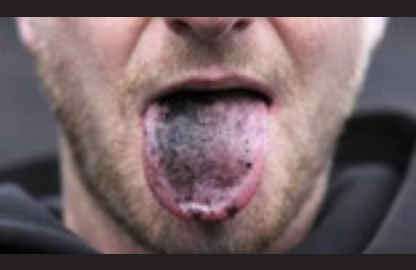
<http://sgnlr.com/>



on stage, for both the “indigenous” people covered in dust, and the Krušné hory foothills pervaded by carbon and cursed by fossils. The soundtrack to the video is a collage composed from field recordings made during the expeditions to the surroundings (Michal Kindernay), and from contact sound and composed music (Martina Vídenová). The earlier activist-ecological concept of the movie was transformed during this intensive stay in the countryside into a surreal collage of ambivalent instructive scenes and live images which only hint at my critical-sentimental commentary on the way humans treat the landscape.

How to find your own (anti)mine and break through or maintain the ecological limits. Instructions: Take over a site in the current mining area (the best time to do this is at night). Demarcate the borders of your site with red and white plastic tape, and set up a board with a text according to your present world view. Clear self-seeding bushes, cut down the trees, split the trunks and branches into logs (you can even use a special wood-chipping tool), rake and gather the leaves into a pile. In the middle of your site dig out a hole at least 2 metres deep in the shape of an oval or a grave. Fill it with the wood and leaves sourced from (your) mine in several layers. Interlay with at least a 10-cm-high layer of the local clay. Pour warm water over, urinate on it, add some red wine (the kind in a box) bought in the nearest supermarket, add 2 handfuls of tobacco from crushed cigarettes (brand Start, alternatively, you can also use one 250 g package of the tobacco Drum) and then add old, damp, crumpled newspaper. Even the surface thoroughly with a sledgehammer and wait until brown coal is created in the hole. You can either start mining the coal for your own needs, or wait and let it age until it is black. You can set and maintain the ecological limits and declare the mine a personal nature reserve for the following ice age.

How to cheaply build and maintain a micro-incineration plant and a private mobile eco-chimney. Instructions: The procedure for a simple imitation of the incineration processes of both poisonous and healthy substances, suitable for the production of smoke and fumes of various colours as well as sample pollution of the natural environment. It is usable for long-term supply, or, eventually, increasing the emissions of carbon dioxide into the air. To build a solid eco-chimney, choose a suitable slanting surface, ideally close to a disposal site, or a dump. Use the metal pipe from a stove, ideally with a diameter of at least 15 cm and a length of 250 cm. Dig a hole into the slope for your micro-incineration unit. On its roof, place a chimney you prepared beforehand and fix it in place with bricks



or stones. If you desire a mobile solution, plant your chimney onto a metal plate opened in the middle and laid on top of a garden cart, to be used as a mobile incineration unit. As cheap fuel for your micro-incineration plant, use objects from the nearby disposal site, such as plastic windows, tires, rags dampened with old oil, or plastic bottles. For ecological burning and smoking the surroundings use special eco smoke bombs and mark the chimney with a red and white sign that says “eco-chimney.”

How to remember a piece of land which will exist anymore in the near future? Pick up a piece of high-quality coal in the Bílina mine. Crush it in your hand into smaller pieces (resembling a pill of bone char in size). Chew the pieces of coal. Swallow a part of it for better digestion and spit the rest into a small container. Rinse the meshed substance with your own urine (a natural disinfectant) and filter. The result is a black liquid you can use to apply a piece of the land to your skin with a tattoo machine. It will stay forever yours. After all the coal in the world is burnt, you will be able to turn your personal coal stain into valuable goods!

## Vladimír Turner

### Funeral

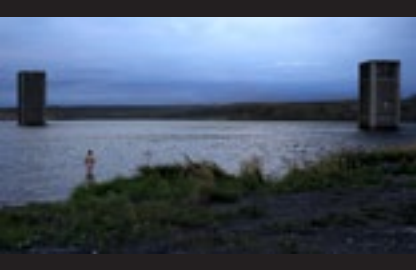
Při delším pobytu v hnědouhelném mosteckém revíru se můžete snadno přistihnout při tom, že vám ta krajina přiroste k srdci, že se vám nakonec opravdu začne líbit. I když jste si dobře vědomi, že ta zmučená, podivná a nepřirozená krása je důsledkem mnoha desetiletí brutálních a nelítostných rozhodnutí, ekonomických zájmů státu nebo těžebních společností a dnes znovu nějakých podivných uhlobaronů. Ve filmu mimo krajinu vystupují také já – autor a performer v jedné osobě. Před kameru napůl improvizuju vymyšlením postindustriálních land-artových instalací, vytvářím a vypořádávám se s následky divných situací, vytržených z navyklých kauzalit a stereotypů. Vystupuju zároveň jako reálná i fiktivní postava a postupně inscenuju pomyslnou pohřební slavnost pro místní zaprášené obyvatele i pro uhlíkem prostoupenou a prokletou podkrušnohorskou krajinu. Zvuková stopa je vlastně koláž z terénních nahrávek, z exkurzí a expedic do okolí (autor Michal Kindernay), z kontaktního zvuku a komponované hudby (autorka

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**Vladimír Turner** (narozen 1986) je audiovizuální umělec a filmař. Vystudoval obor audiovizuální studia na pražské FAMU a ateliér intermediální konfrontace na VŠUP. Absolvoval stáže v Buenos Aires, Valencii, Brisbane, Toulouse a Rotterdamu. Ve své tvorbě se pohybuje mezi dokumentárním filmem, uměním ve veřejném prostoru a sociálním a politickým aktivismem. Tyto obory spojuje v celek, který nazývá aktivním občanským životem. Jeho práce z celého světa jsou k vidění na ulicích, filmových plátnech i v galeriích.

<http://sgnlr.com/>





Martina Vídenová). Původní aktivisticko-ekologický záměr filmu se během intenzivního pobytu v krajině změnil v surreálnou koláž ambivalentních instruktážních scén a obrazů, naznačujících můj kriticko-sentimentální komentář k lidskému zacházení s přírodou a krajinou.

## Vladimír Turner: Kolonizace neboli Poznámky z manuálu pro post-uhlíkového umělce v uhelném revíru

*Netěžít z krajiny uhlík, draslík, křemík, sodík, vápník, hořčík, ale umění!*

1. Jak založit vlastní (anti)velkolom a překročit, nebo zachovat ekologické limity. Zaberte (nejlépe za noci) pozemek ve stávajícím těžním prostoru. Vyznačte obvod červenobilou plastovou páskou a připevněte cedulku s nápisem aplikovaným podle vašeho aktuálního světónázoru. Vysekejte náletové keře, pokácejte stromky, pořežte kmeny a větve na polínka (můžete použít i štěpkovač) vyhrabte, vyfoukejte spadané listy na hromadu. Vykopejte uprostřed lomu krumpáčem jámu minimálně 2 metry hlubokou ve tvaru hrobu nebo oválu. Dřevo a listy z (vašeho) velkolomu naházejte v několika vrstvách, proložených asi 10 cm vrstvou místního jílu do jámy. Zalejte hojně vlažnou vodou, pomozte, přidejte cca litr krabicového červeného vína z nejbližšího supermarketu, 2 hrsti tabáku z rozdrobených cigaret Start (případně lze nahradit jedním 250gramovým balením tabáku Drum) a zmuchlané vlhké staré noviny. Povrch pečlivě udusejte palicí a počkejte, až se v jámě vytvoří hnědé uhlí. Uhlí můžete buď začít těžit pro vlastní potřebu, nebo počkat a nechat uzrát do černa. Lze vyznačit a zachovat ekologické limity a velkolom prohlásit za osobní přírodní rezervu pro příští dobu ledovou.

2. Jak levně postavit a udržovat mikrospalovnu a soukromý mobilní eco-komín. Procedura pro jednoduchou imitaci spalování jedovatých i zdravých zplodin. Vhodné k produkci dýmu a kouře různých barev i pro modelové zamořování životního prostředí. Použitelné pro dlouhodobě udržitelné dodávání zvyšování emisí oxidu uhličitého do ovzduší. Pro stavbu pevného eco-komínu zvolte vhodný svažitý terén, nejlépe v blízkosti skládky nebo smetiště. Použijte kovovou rouru ke kamnům, nejlépe v průměru alespoň 15 cm a délky 250 cm. Vyhlubte ve svahu otvor pro mikrospalovnu a nad jeho stropem umístěte a cihlami nebo kameny upevněte komín. Pro mobilní řešení zasaďte komín do otvoru kovového plátu, položeného na korbu kovového kolečka, používaného jako mobilní spalovna. Jako levné palivo do mikrospalovny použijte předměty z nejbližší skládky jako plastová okna, pneumatiky, hadry namočené v mazutu, petláhve. Pro ekologické spalování a zadymění okolí použijte speciální eko-dýmavnice a označte komín červenými a bílými pruhy s nápisem eco-komín.

3. Jak si zapamatovat kus země, který již brzy nebude. Seberte kus nejkvalitnějšího uhlí v lomu Bílina. Nalámejte si jej v ruce na menší kusy (rozměrem připomínající dražé živočišného uhlí). Tyto kousky uhlí rozkousejte. Část spolkněte pro lepší zažívání. Část vyplivněte do malé nádoby. Tuto kašovitou hmotu propláchněte vlastní močí (přírodní desinfekcí) a přefiltrujte. Nyní máte černou tekutinu, kterou si pomocí tetovacího stroju můžete pod kůži naždy zanést zlomek krajiny. Zůstane navždy vaše a až uhlí nebude, bude se vaše osobní uhelná skvrna snadno komodifikovat!

# Robert Vlasák

## Conveyer Belt

The experience from the expedition in north Bohemia suggests to me the acceptance of an ambivalent approach. On one hand, the level of devastation of this particular landscape is striking. On the other hand, questions arise concerning its renewal, involving questionable methods of recultivation that draw upon exceptional technical and economic resources, in order to make possible the transport of an enormous volume of material.

In the complexity of the mining systems, which have become a permanent feature of this region's present and future, we find a multilayered network of ancient geomorphic processes of sedimentation folded together with the current realities of an energy-based economy. This includes an obscure web of particular financial and economical interests. In considering the consequences of these processes, any pragmatic approaches that have been offered seem inconclusive. In addition, the quantity of matter to be transported strains belief, not only in terms of its massive scale, but also its duration. This barely comprehensible framework leaves a feeling of ambiguity towards the claimed efficiency of coal mining as a business.

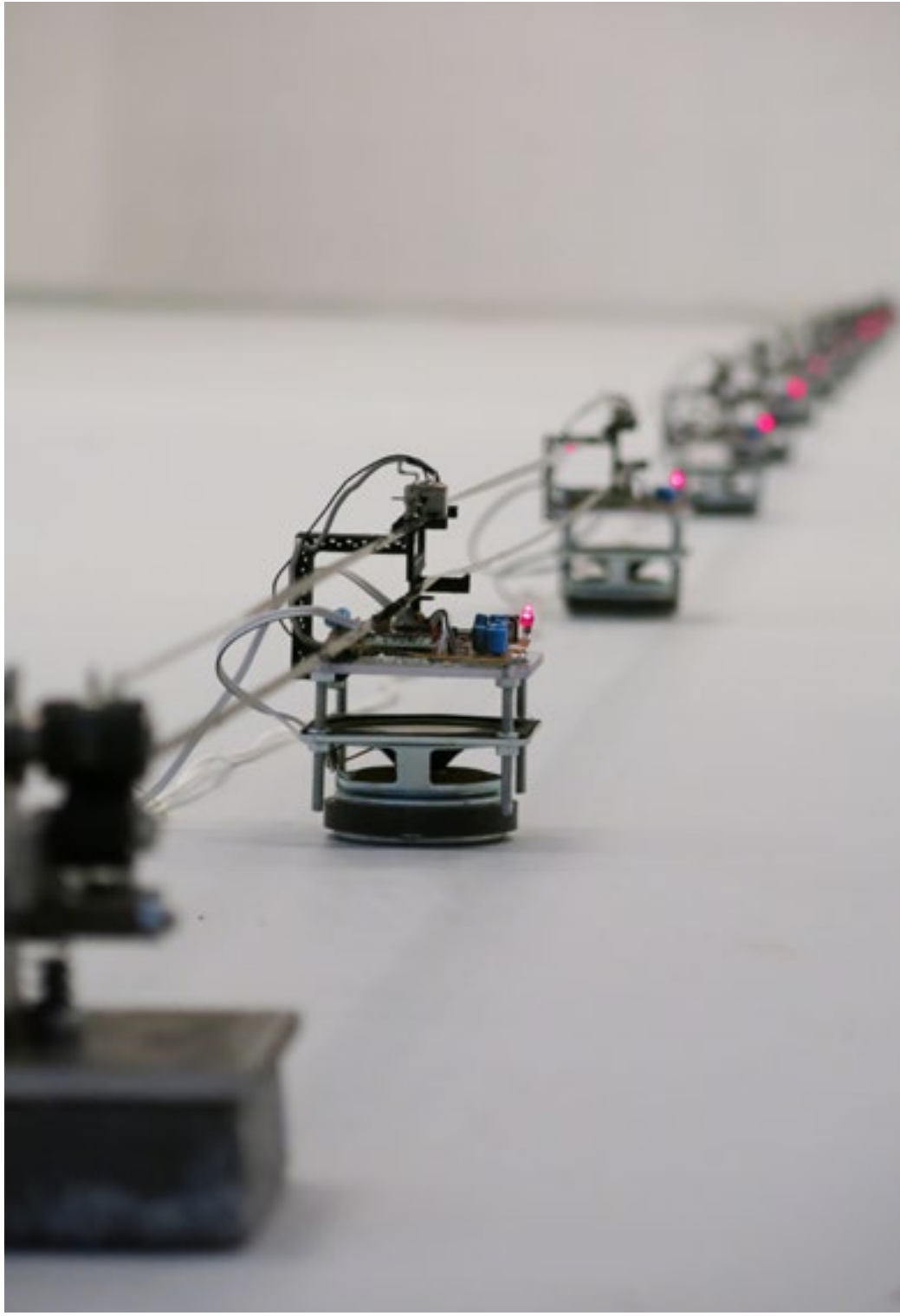
For me, the main inspiration comes from the multiple technical solutions involved; the efficiency derived from connecting single components chained into monstrously complex mega-machines. The fundamental concept of the project is to observe, and hopefully to understand, the principles of these technological parts and assemblies, and attempt to alter their scale. People usually observe this landscape in transition from above – regarding it from a distance, which alters the perceptions of its proportions, and brings into it the phenomenon of remoteness. The open-cast mine reminds me of a bizarre model of a sandbox, with tiny moving mechanisms far down below.

The process of researching, comparing and absorbing all of this information spurs a rearrangement of deep-rooted notions into new configurations. The personal experience of a specific place, not limited to its visual aspects, influences a broad array of thoughts. This will be the starting point of my project, but apart from this, I will also reinterpret several existing works of mine. The context will have a decisive effect.

The typical machine for the large-scale transportation of material is a conveyer belt, a system of interconnected single belts that function cyclically, controlled by a central system. Junctions are created between individual mining machines, and despite their seeming passivity, it reminds me of an anachronism: the teleportation of coal. The landscape is disassembled, transported, and reassembled in different place.

One of the working principles for me is the inspiration drawn from a conveyer belt, with the idea of scaling it down. I will make use of the sound of the machine recorded onto magnetic tape. The tape is at once an audio track, and at the same time, a symbol of the endlessly moving belt, taking the form of a modular and variable kinetic and sound installation.





Pásově dopravníky / Conveyor belt, magnetofonový pásek, reproduktory, motory, elektronika / magnetic tape, speakers, electronics  
110x70x70 mm / variabilní rozměry / dimensions variable, 2015



Dopravník, Důl Bílina / Conveyor belt, Bílina mine, photo: Robert Vlasák

The kinetic object *Ecce Electricitas/Ejhle elektřina* is conceived as a model that refers to a real phenomenon or its strata. A steel sphere is connected to a high-voltage source of electricity, and its electrostatic field rotates tiny propellers on the surface. For the viewer, the cause of the movement is hidden. If one accepts the perceptual scale, the sculpture can be seen as a model of a buzzing planet, including its energy systems, which remind us the propellers of wind generators. But its meaning is difficult to understand, just like many of our ways of dealing with energy sources.

*Robert Vlasák, October 2015*

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**Robert Vlasák** (b. 1978, Kladno) is a visual artist and sculptor. He works as assistant professor at the Studio of Natural Materials at the Faculty of Art and Design at the J.E. Purkyně University in Ústí nad Labem. Vlasák's work inquires into the physical qualities of different materials and situations. He is interested in the concept of equilibrium, which he explores by means of visualisation and sonification. Vlasák is also interested in the mechanical and optical aspects of objects, sometimes implemented as electronic and sound-producing elements.

# Robert Vlasák

## Pásové dopravníky a Ecce Electricitas

Povrchová těžba v Severočeské uhelné pánvi znamená destrukci tvaru původní krajiny. Invazivní metoda získávání uhlí vyvolává řadu otázek, včetně těch o použitých metodách a pokusech o „navrácení do původního stavu“ po jejím ukončení. Množství přesunované hmoty se vymyká lidským měřítkům v objemu a v časovém horizontu a stěží uchopitelná soustava jednotlivostí je schopna měnit krajinné horizonty.

Na expedici mne zaujala řada používaných technických řešení. Většinou jsou založeny na principu propojování množství modulárních aparátů v prostoru a v konstruování rozsáhlých a neustále se proměňujících funkčních, kinetických a hlukových řetězců. Pokoušel jsem se porozumět jak těmto principům, tak i jednotlivostem. Při vymýšlení projektu jsem vzal v potaz také to, jak jako diváci většinou pozorujeme podobně se přetvářející krajinu: hledíme z okraje velkolomu směrem dolů, do jeho středu, což je pozice definující změnu proporcí a perspektivu. Povrchový velkolom v rozloze několika desítek čtverečních kilometrů pak vypadá jako bizarní obří pískoviště, na jehož dně se pohybují miniaturní mechanismy.

Nástrojem pro transport velkého množství hmoty je pásový dopravník – komplexní soustava vzájemně propojených strojů. Systém pracuje v nepředvídatelných časových vzorcích a pracovních režimech, ovládaných z neviditelného řídicího centra. Mnohakilometrové gumové pásy obklopují a propojují jednotlivé oblasti povrchového lomu a některé segmenty běží v permanentním provozu. Krajina je pomocí sofistikované těžební technologie postupně rozebírána na prvky, roztříděna podle užitečnosti, přesunována a znovu uložena kdesi za okrajem.

Modulární a variabilní kinetická a zvuková instalace Pásové dopravníky kombinuje interpretaci a model funkcionality nepřetržitého pohybu a hluku pásového dopravníku. Posunující se smyčka magnetické pásky je nosičem autentického zvukového záznamu z velkolomu a miniaturizovaný nekonečný transportní pás distribuuje akustickou materii ve výstavním prostoru.

Podobně jako Pásové dopravníky je socha Ecce Electricitas, pojata jako model odkazující k nějakému konkrétnímu jevu nebo k vrstvě skutečnosti. Ocelová koule je připojena na zdroj vysokého napětí, jehož elektrostatické pole roztáčí vrtulky na jejím povrchu. Pro diváka je příčina pohybu neznámá. Přijmeme-li percepční model, můžeme se na sochu dívat jako na obraz podivné zvující planety, jejíž energetické systémy připomínají větrné elektrárny. Jejich smysl nám uniká, podobně jako je tomu u mnoha lidských způsobů čerpání a spotřeby energie.

Robert Vlasák, Ústí nad Labem, listopad 2015

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**Robert Vlasák** (narozen 1978 v Kladně) je výtvarník a sochař. Pracuje jako odborný asistent v ateliéru Přírodní materiály na Fakultě umění a designu Univerzity J. E. Purkyně v Ústí nad Labem. Ve své tvorbě Vlasák experimentuje s fyzikou různých materiálů a situací. Zajímá se o jevy, jako je například pohyb a rovnováha, o mechanické a optické vlastnosti věcí, často o jejich elektronické a zvukové aspekty.



Elektrárna Ledvice, pásový dopravník, Důl Bílina / Power station Ledvice, conveyor belt, Bílina mine  
photo: Dominik Žižka

# Martin Zet

## Tears

*Video, 3:18, 2015 (Camera: Dominik Lukács Žižka)*

When unhappy my life was being engulfed by rationality,  
ready to renounce received knowledge and enter into a phase of directed forgetting, to refuse  
storing new

information, searching for and testing out new connections, I came  
first to the edge and then to the bottom of a crater;

the promising sensuality, vulnerable and childlike, while  
seduced from afar by ferocity and scale, tried  
to blind me: it is enthralling, thrilling, beautiful, whether good  
or bad, helpful or harmful. Attractive from a distance, from close up  
burning. The body prevents gazing upwind; the seat of intellect  
closes its eyes.

With no excuses it forbids recognition,  
understanding, feeling. A sidelong glance  
only.

When eyelids refuse to stay open, fingers hold them.  
Thoughts devise prevention, what to map out  
in order to cover, shield,  
obstruct, to make looking impossible.

The dust makes me cry; I don't know nor do I see, eyes shut with tears.

*Martin Zet, October 2015*

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**Martin Zet** (b. 1959, lives in Libušín) is an insight miner. In his performances, videos, installations and texts he examines the relationship between concentration, formulation and action. He prefers confrontation, personal involvement. He likes dealing with things that seem meaningless.

English translation: Jeff Buehler

[martin-zet.com](http://martin-zet.com)





# Martin Zet

## Slzy

Ve chvíli, kdy nešťasten z racionality pohlcující můj život, hotov zřící se dosavadních vědomostí, řízeně zapomínat, do paměti nové neukládat, hledat a zkoušet jiná propojení, jsem přijel na okraj a později na dno krátera,

slibná senzualita, zranitelná a bezprostřední, z dálky sváděná dravostí i měřítkem, zkoušela zaslepit: je to úchvatné, strhující, krásné, ať dobré nebo špatné, prospěšné nebo škodlivé. Z odstupu přitažlivé, zblízka palčivé. Pohlédnout proti větru tělo nedovolí, sídlo rozumu zavře oči.

Bez odmluvy brání poznání, pochopení, procítění. Pohlédnout lze jen oklikou. Co víčka odmítnou, udrží prsty. Čím zabránit, přemýšlí myšlení, co předestřít, čím pokrýt, zaclonit, jak znemožnit.

Prachem pláču, nevím ani nevidím, oči zavřené slzami.

*Martin Zet, říjen 2015*

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**Martin Zet** (narozen 1959, žije v Libušíně) je horník vhladu. Ve svých performancích, videích, instalacích a textech prověřuje vztah mezi koncentrací, pojmenováním a akcí. Dává přednost konfrontaci, osobní účasti. Rád se zabývá věcmi, které se zdají být nesmyslné.

Foto: Dagmar Šubrtová, 2015

[martin-zet.com](http://martin-zet.com)







*Maðurinn er frjáls. Vélin þjónar manningum.  
Ef vélinn þjónar ekki manningum er best að  
slökkva á henni. Undanfarin misseri hafa  
menn horft á vél fara ur böndunum.*

*Andri Snær Magnason, Draumalandið, 2006*

*Man is free. The machine is there to serve  
man. And if the machine fails to do this, it is  
best to switch it off. Over the last few years  
we have watched on as a machine has run  
out of control.*

*Andri Snær Magnason, Draumalandið, 2006*





Víti Crater, Iceland.  
Photo: Diana Winklerová







Krafla, Iceland.  
Photo: Pavel Mrkus

# Fieldwork and ecology

Julia Martin

Through the work of artists, scientists, philosophers, and other creative practitioners, *Frontiers of Solitude* explores the close connections between our post-industrial civilization and what we call „nature“. The project's observations focus on the cultural geography and morphology of three specific areas in central and northern Europe: The Most Basin in Czech Republic and its brown coal mines, the riversystems and geothermal landscapes of North and East Iceland and their use for energy production, and the Finnmark region in northern Norway with its open pit mines and territorial disputes with indigenous populations.

The aim of this project is to foster collaboration and an exchange of experiences between individual artists, researchers and initiatives, and to explore and interpret recent and long-term human transformations of the landscape, in the wider context of the global ecological crisis unfolding as climate change.

So far, the *Frontiers of Solitude* project has been developing through three phases:

In the first phase, three multinational groups of artists were sent on short expeditions to selected sites in the Czech Republic, Norway, and Iceland. The expeditions intended to introduce the artists to locally observable relationships of conflict between human land use and ecological systems. They looked at the ecological, social, and aesthetic costs of mining, hydropower, large scale industrial production, the infrastructure of energy production and consumption, and the physical transformations inflicted upon

landscapes, settlements, and ecosystems by our unsustainable use of resources. In addition to the site visits, several workshops and talks with invited local artists, scientists, and activists provided the artists with further contextual knowledge and gave the groups an opportunity to exchange personal reflections, feelings and thoughts.

In the second phase, the project participants spent three months developing their individual artistic responses, in dialogue with the local curators in each country. During this time, they had the chance to compare their fieldwork experiences, the problems presented by the three expedition sites, and their individual artistic approaches to these sites. The focus points of these short expeditions on local environmental concerns were thereby gradually expanded and interconnected, and the project began to widen the outlook from individual experiences and observations to translocal and global ecological concerns.

The third phase focuses on exhibition, publication, and discussion, starting with the *Frontiers of Solitude* pilot exhibition in Prague, accompanied by this catalogue and a two-day interdisciplinary symposium.

By bringing the project into a wider critical discourse about ecology, art, and agency, it is hoped that it will productively engage diverse audiences and challenge them, as well as the project participants, to create new ways of seeing, thinking, and working, and to make a change in the world.

## The Iceland expedition – reflections on fieldwork and ecology

The expedition through Iceland, which took place in August 2015, led participants to various locations in the South, East and North of the country, where the untapped sources of renewable energy – water, steam, and wind – as well as the impacts of hydro- and geothermal power plants on the landscape and on local micro-economies, can be observed.

The main emphasis of the Iceland expedition lay on the contextual exploration and „tracing“ of a large ecological transformation that happened in East Iceland from 2003 until today: the construction and operation of Kárahnjúkar Hydroelectric Project and its interrelated sites and infrastructures. We visited the largest rockfill dam in Europe, Kárahnjúkar dam, as well as the aluminium factory for whose energy supply it was built, the evolving towns in the region, and the two river systems affected by the project. During the expedition the participating artists met with experts from other disciplines, learned about the history of eco-art in Iceland, and were introduced to the ecological, political and socioeconomic aspects of the studied sites. The program aimed for a critical and informed debate regarding the observation and documentation of case-specific ecological co-dependencies, and the means and ends of renewable energy.

Adding a self-critical angle to Frontiers of Solitude’s “artist-as-fieldworker” approach, we also discussed the possibilities and limitations of artistic fieldwork, specifically when investigating long-term ecological and economic relationships. Our conversations brought up questions considering the problem of aesthetic distancing, activism versus spectatorship, the role of the artist, the application of discipline-based versus

interdisciplinary knowledge, and the challenges of grasping ecology as a concept and reality.

## Field and context

Iceland, with its strong investment in geothermal and hydroelectric energy, appears to be in a situation of endless abundance regarding „clean“ and renewable energy – in contrast to the rest of Europe, which is still largely dependent on fossil fuels and nuclear energy. However, the harvesting of “green” energy in Iceland has also already come at a heavy price for the country’s local and translocal ecologies: The construction of Kárahnjúkar Hydroelectric Project for example resulted in the flooding of 60 square kilometers of vegetated land in the Eastern Highlands, the destruction of Lagarfljót river’s aquatic diversity, the socio-economic and social transformation of communities in East Iceland, and a heavy financial burden for the Icelandic taxpayers – it has in fact been argued that the Icelandic financial crash in 2008, which almost bankrupted the country, was fast-forwarded by the immense costs of Kárahnjúkar Hydroelectric Project. A closer investigation of the purposes for which the project’s “clean” energy is used reveals economic dependencies and contingent decision-making which further contradict or even counteract hydropower’s environmentally friendly image.

The Kárahnjúkar project has been a highly controversial topic in Iceland’s public discussion throughout its development and is still dividing opinions today. Despite the widespread criticism and the visibly negative effects and questionable sustainability of mega-dam projects worldwide, stakeholders such as Iceland’s national energy company, certain politicians, and engineering companies seem to regard Kárahnjúkar as a pilot project: Instead of avoiding similar large-scale destruction of the highlands from now on, they

are promoting their further utilization in the same style. Under the current government, plans for several additional hydroelectric dams are being discussed, which would provide cheap energy for additional aluminium smelters, silicon factories, and for export via an undersea cable to the UK. These plans would include two high voltage power lines and maintenance roads across the uninhabited interior of the island – which is today still the largest untouched area in Europe. An intensified “harvesting” of all the country’s large free-running rivers, and of all its delicate geothermal areas would destroy precious wetlands, waterfalls, breeding grounds for birds, unique geological formations, and landscapes of outstanding beauty. The promise of cheap „green“ energy and a minimum of environmental red tape openly aims to attract energy-hungry heavy industry to Iceland, not seldomly in the form of ruthlessly exploitative multinational companies. The ecological degradation of Iceland’s river systems and hot spring areas, and the emission of greenhouse gasses from the new factories, their products, and from the hydroelectric reservoirs themselves, remain largely unobserved concerns.

These current plans are being protested by some of the most respected artists, scientists, and intellectuals in Iceland, such as singer Björk Guðmundsdóttir, writer Andri Snær Magnason, and journalist Ómar Ragnarsson, as well as the organizations Landvernd and Heart Of Iceland. Thanks to their readiness to speak out publicly the urgent need for a stricter protection of the highlands and other ecologically sensitive areas in Iceland are slowly becoming part of a broader public discussion. Saving the highlands might also depend on the support from Iceland’s second largest industry today: tourism. Although not without its own threats for the country’s undisturbed wildernesses and small settlements, the tourism industry

could play a significant role in the campaign to create a large National Park in the heart of Iceland. Eager to meet the expectations of paying visitors, coming to experience “unspoiled Nature”, it could help to convince political decision makers that the value of the non-utilized land and its beauty is more than “merely” an ideological or romantic value – it sustains livelihoods, both nonhuman and human.

## Responses

The works that were produced in the weeks following the Iceland expedition present a wide spectrum of artistic responses, loosely revolving around the experiences and reflections that developed during and after our journey.

Some works picked up on a strong sense of idiosyncrasy in our current human behavior, on our desire to protect what we love and to consume and destroy it at the same time. Other works refer to notions of human power-play and risk-taking by which we challenge the natural processes and raw forces that surround, threaten, and sustain us. There are precise observations of systemic patterns and analogies at the micro- and macro-level reinterpreting the notion of landscape via a shifting of scale, and there are highly visual abstractions projecting the deep feeling of and for a spectacular land. The awareness of limited individual agency in the face of overwhelming environmental change, as well as the difficult interplay of detachment and belonging while perceiving nature, are reflected as profoundly human experiences of ecological relationship in and with the world.

*Program: Julia Martin*

*Participants: Finnur Arnar Arnarson, Karlotta Blöndal, Pavel Mrkus, Greg Pope, Ivar Smedstad, Diana Winklerová*

# artist projects



Kárahnjúkar hydroelectric dam in the eastern highlands of Iceland. Photo: Pavel Mirkus

# Finnur Arnar Arnarson

About liking and disliking at the same time  
About being schizophrenic, ignorant and happy

I love toasted bread.

I hate power plants.

I love driving in the highland.

I hate destroying pure nature.

I love Coke.

I hate aluminium plants.

I love watching Formula 1.

I hate pollution.

I love greenhouses.

I hate the greenhouse effect.

I love economic growth.

I hate large enterprises.

I love my new computer.

I hate mining.

I love Christmas lights.

I hate electric lines.

I love traveling abroad.

I hate too much tourism.

I love myself.

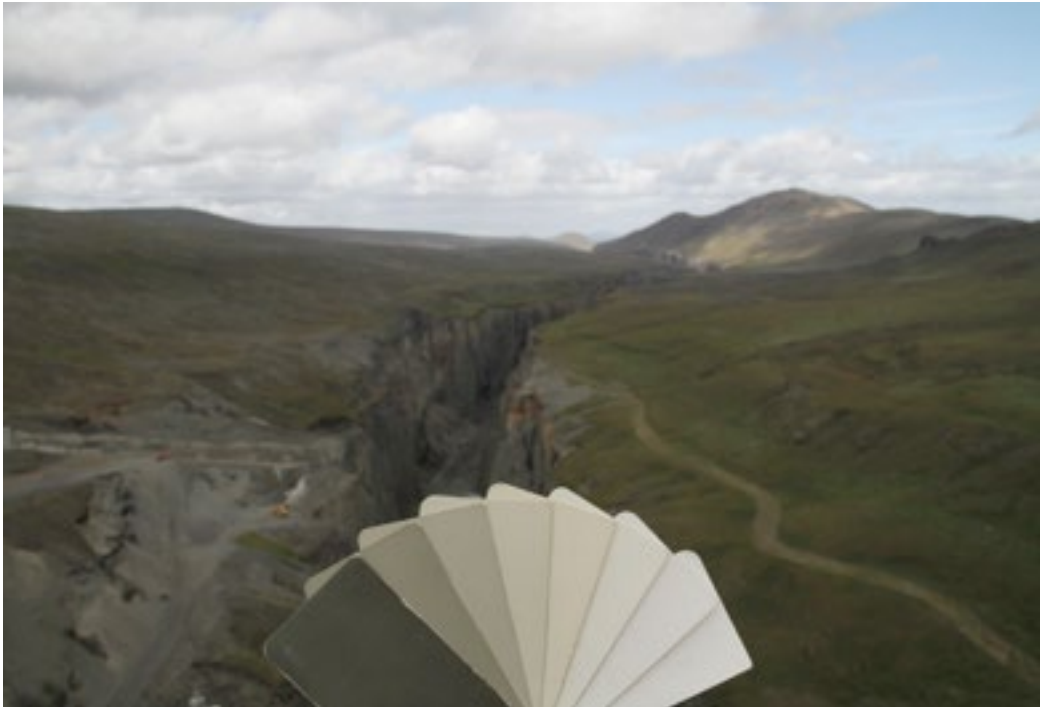
I hate myself.

*video, 6 min*

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**Finnur Arnar Arnarson** (b. 1965) works with video, text, and installation, finding his inspiration in familiar reality. Themes in his work include alienation from the environment, the objective and subjective experiences of time and space, and technology as an extension of human will and determination. Arnarson studied sculpture and mixed media at the Iceland College of Art and Crafts. He has worked as a stage and set designer at the Iceland Drama School, and has taught at the Iceland Academy of the Arts.

finnurarnar.com



About liking and disliking at the same time. Details of video stills.

# Karlotta J. Blöndal

## Frontiers of Solitude (mediation/union)

*Frontiers of Solitude (mediation)* consists of a short video loop displayed on a smart phone through social media. It is individually presented to the visitor by the artist herself, or by a gallery worker. The work invites reflection on the multiple layers of communication explored and utilized in the Frontiers of Solitude project: Communication between the presenter and the perceiver of a work of art, between humans and nonhuman forces such as geothermal steam vents or the energies that create and transform landscapes, and the communication technology employed by individuals and society to mediate experiences and productive outcomes with instant accessibility, enabling their quick and easy consumption.

*Frontiers of Solitude (union)* is a table flag whose fabric has been replaced with aquarelle painting on paper. It can be regarded as the flag of the Frontiers project, and also as a kind of non-flag, whose colors and lines resemble biological residue, organisms, or even skin tones. It might express the very vulnerable, conflicted, but influential position, and the self-positioning of humankind within nature.

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**Karlotta J. Blöndal** (b. 1973) works in a variety of media, including drawing, painting, publications, installations and performances. Her work often uses found documents, exploring the tension between presentation, re-presentation and value in the art object. Blöndal studied at the Iceland College of Art and Crafts and holds an M.A. from Malmö Art Academy. She has been involved in artist-run initiatives such as the Living Art Museum in Reykjavik and Signal Gallery in Malmö, and was co-editor and publisher of the Icelandic art magazine Sjonauki.

[this.is/alphabet](http://this.is/alphabet)



Frontiers of Solitude  
(mediation)  
11 sec. video loop displayed  
on smart phone through  
social media.



Frontiers of Solitude  
(union), detail  
Flag pole, aquarelle on  
paper.  
Size variable.



# Julia Martin

## Exchange 1–5

*Exchange 1–5* shows five performative actions on three interrelated sites in east Iceland: the Kárahnjúkar hydroelectric dam, the aluminium smelter in Reyðarfjörður, and the Héraðsflói estuary where the two rivers affected by the dam flow together before entering the sea.

There can be various possibilities and limitations for artistic agency in response to concrete ecological concerns, all starting with a notion of exchange. Exchange usually requires openness, position, direct involvement, and critical distance at the same time. It can occur as fieldwork, as sharing of information, as open discourse, as artistic rendering of experience and subject matter, as juxtaposition of realities, as material exchange, as detachment, or as direct confrontation.

*video, 11 min*

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**Julia Martin** (b. 1976) is an artist and landscape architect from Berlin, living in Seyðisfjörður, Iceland. She holds a Ph.D. in Art from Goldsmiths, University of London, an MFA from Edinburgh College of Art, and a Master in Landscape Architecture from Technical University Berlin. Her performative actions, drawings, photocollages, installations, and writings investigate relationships between objects and agents in space and time, and have recently focused on developing her concept of hyperextended ecological objects.

juliamartin.de



Exchange 1-5. Video still, 2013.



Exchange 1-5. Video still, 2013.

# Pavel Mrkus

## The Fall

Cosmic gravitational forces pull all matter toward the center of the Earth. Water coming from above searches for cracks and openings in the top layers of hard rock, and flows through crevasses over the surface. The energy of falling water is constant, independent of time, the environment, aesthetics, or human-oriented time scales that contain an individual life. Gravity's proof is the existence of cosmic mechanisms as elemental power that holds everything together, a concentrated force with the precise equilibrium of clockwork. An adequate supply of falling matter – in this case water – is the only variable in the calculations of the power generated, and quickly changing conditions for the existence of life.

The energy of collapse is a paradox.

The Fall brings an explicit model of confrontation to hydro power in its raw and abstract form. The work consists of a multi-channel video installation assembled from footage taken during an expedition in Iceland. The video frames have been through post-production, mainly to correct the speed and brightness of the video. The video is accompanied by a multichannel soundtrack composed of field recordings, which is modulated according to the speed of individual channels.

*Pavel Mrkus, September 2015*

*The Fall, 2016, videoinstallation, duration: 6 min*

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**Pavel Mrkus** (b. 1970) is an audiovisual artist who makes use of digital moving images and sound often in relation to specific space. He graduated from the Academy of Arts, Architecture and Design in Prague. His interest in Religious Studies together with experience of four years teaching position at Toyama City Institute of Glass Art in Japan lead him to unique mixture of cultural paradigms within his work. After showing at 50th Venice Biennial in 2003 he participated in many group and solo shows around world. Together with Daniel Hanzlik they established Time-Based Media studio at Faculty of Art and Design at J. E. Purkyne University in Usti nad Labem. He was awarded a Personality of the Year 2012 for his exhibition Next Planet in The Brno House of Arts.

mrkus.ixode.org



# Pavel Mrkus

## The Fall

Kosmická gravitační síla stahuje veškerou hmotu ke středu Země. Voda pramenící ve výškách vyhledává praskliny a spáry v povrchu tvrdých vrstev hornin, stéká ze skalnatých srázů a proudí po povrchu kamenů. Energie padající hmoty je konstanta nezávislá na změnách v čase, prostředí, estetickém postoji, či aplikaci měřítek v rámci života člověka. Energie gravitace je prověřená existencí vesmírných mechanismů, elementární vazba, která drží vše pohromadě, soustředná síla s precizní vyvážeností hodinového stroje. Dostatečný přísun padající hmoty – v tomto případě vody – je jedinou proměnnou ve výpočtech generované energie a také rychle se měnících podmínek existence organismů.

Paradox energie kolapsu.

Instalace Pád vizualizuje explicitní model konfrontace člověka s vodní energií v její surové a abstrahované formě. Je to vícekanálová videoinstalace sestavená ze záznamů pořízených během expedice po Islandu. Obrazové záběry prochází postprodukčním zpracováním rychlosti videa a světelných korekcí. Videoprojekci doprovází vícekanálový zvuk komponovaný z terénních nahrávek.

*Pavel Mrkus, září 2015*

*The Fall, 2016, videoinstalace, 6 min*

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**Pavel Mrkus** je audiovizuální umělec, který využívá digitální obrazové a zvukové prostředky často ve spojitosti s konkrétním prostorem. Vystudoval Vysokou školu uměleckoprůmyslovou v Praze, jeho studium religionistiky spolu se zkušeností čtyřletého pedagogického působení na japonském Toyama City Institute of Glass Art jej přivedly k unikátnímu mixu kulturních paradigmat, který se projevuje v jeho tvorbě. Po účasti na Benátském bienále v roce 2003 byl prezentován na řadě mezinárodních skupinových i samostatných výstav v zahraničí. Společně s Danielem Hanzlíkem založili ateliér Time-based Media na Fakultě umění a designu Univerzity J. E. Purkyně v Ústí nad Labem. Za výstavu Next Planet v brněnském Domě pánů z Kunštátu byl vyhlášen Osobností roku 2012 za nejvýraznější počín.

mrkus.ixode.org



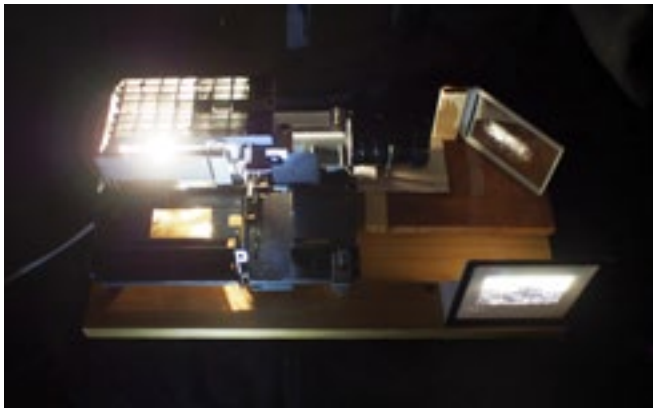
# Greg Pope

## Lagoon

A simple series of repeated actions builds up sonic and visual imagery in a live performance utilizing an adapted slide projector, contact mics, guitar pick-up and modified shutter system. The performance brings together “pure” images of the Jökulsárlón lagoon in Iceland with the raw intervention of a live, inscribed, drawing with light.

An idealized and untouched view of nature is gradually invaded by crude abrasions and real time intervention – what at first begins as a touristic take on an iconic landscape ends as a brutalist lesson in creation through destruction.

*Running time: 20 mins.*



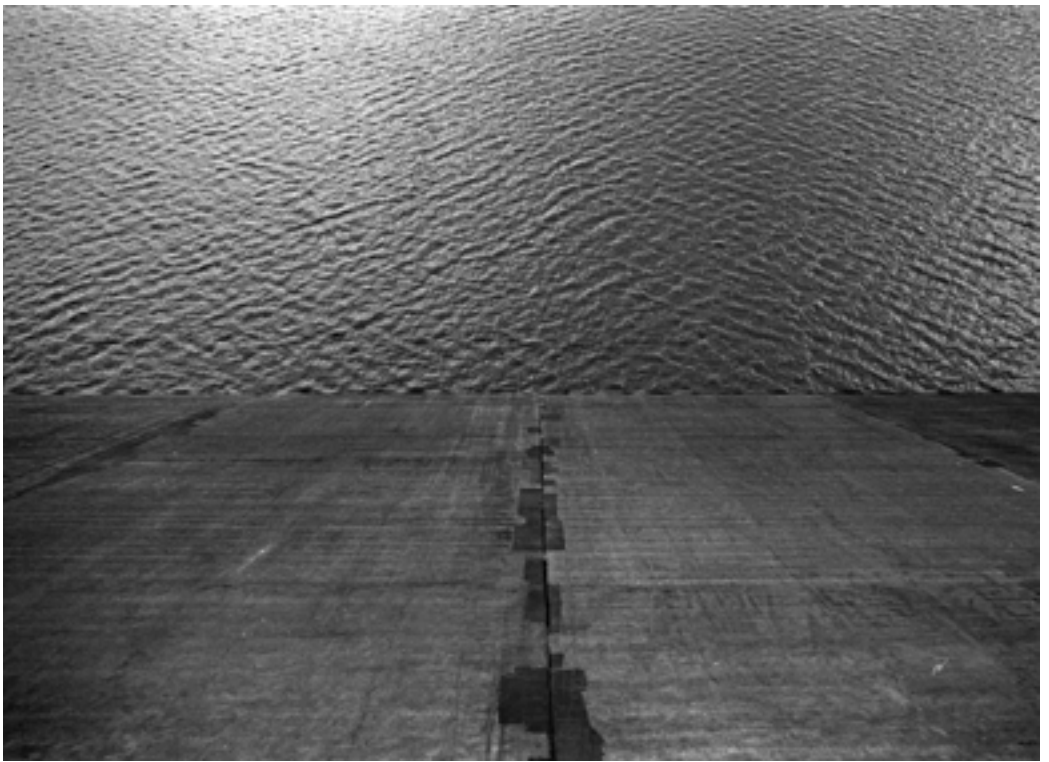
Icelandic landscape machine, 40×20×15 cm, 2016, archive of author

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**Greg Pope** is a British media artist and filmmaker who currently lives in Norway. After dabbling in punk rock bands and absurdist performance, Pope founded the Brighton-based super-8 film collective Situation Cinema in 1986, and afterwards, Loophole Cinema in London, 1989. Using 16mm, super-8 and video, Loophole Cinema were self-styled shadow engineers performing at numerous events around Europe. They produced the International Symposium of Shadows in London in 1996. Working collaboratively and individually, since 1996, Pope has created video installations, live art pieces and single screen film works. Recent works include live cinema performance pieces Light Trap and Cipher Screen, as well as the 35mm film productions Shadow Trap and Shot Film. He is active teaching, projecting, programming and making film.

[gregpope.org](http://gregpope.org)









Greg Pope: Lagoon, 2015, photo

# Ivar Smedstad

## Marble Warble

Marble Warble is an audiovisual work recorded in one take at the grave of Maria Georgsson, born Wathne (1. 3. 1885 – 28. 12. 1912), in Seyðisfjörður, Iceland. The marble structure, overgrown with moss, has the feeling of an ice landscape through the macro recording. Through restructuring the real time recording and juxtaposing of sounds and images related to thermic energy, the piece creates a pastiche of image and sound. The different layers of warbling sound affects separate sections of the image, thus suggesting a dissection that exposes an inner nerve.

*Running time: 4:21. Color, stereo.*

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**Ivar Smedstad** (b. 1961, Oslo) studied fine arts at the San Francisco Art Institute and received his degree in performance/video in 1988. Smedstad has been working with video art and electronic media since the early 1980s and has participated in numerous international and national video art exhibitions, screenings and festivals. He was Technical Director at Electronic Arts Intermix in New York and has held various teaching positions, including a fellowship from The Academy of Media Arts in Cologne and department chair at Trondheim Academy of Fine Arts. Smedstad is currently the Artistic Director of Atelier Nord.

[pixelpunks.com](http://pixelpunks.com)



# Diana Winklerová

## Only in Fragments

Only in fragments are we able to perceive the world around us. Our senses face towards a fraction of reality which, beyond that, is filtered by the urge of the mind. If we were to see all aspects as interrelated, as humankind we would most probably interact with our surroundings in a very different way.

Based on the experience of the expedition in Iceland, in this work I am trying to touch upon questions of a fragmentary perception of the environment. How large of a footprint do we leave behind and how large an impression does the environment leave on us? Is there a relationship between amazement at the beauty or sublimity of the perceived and responsibility for these phenomena?

This collection of works depicts fragmentary impressions of the natural environment in relation to different mental frameworks.



At the End of a Waterfall. Digital print, photomontage of sequential shots of Dettifoss waterfall. Reflection on the existence of the seen.  
21×230 cm

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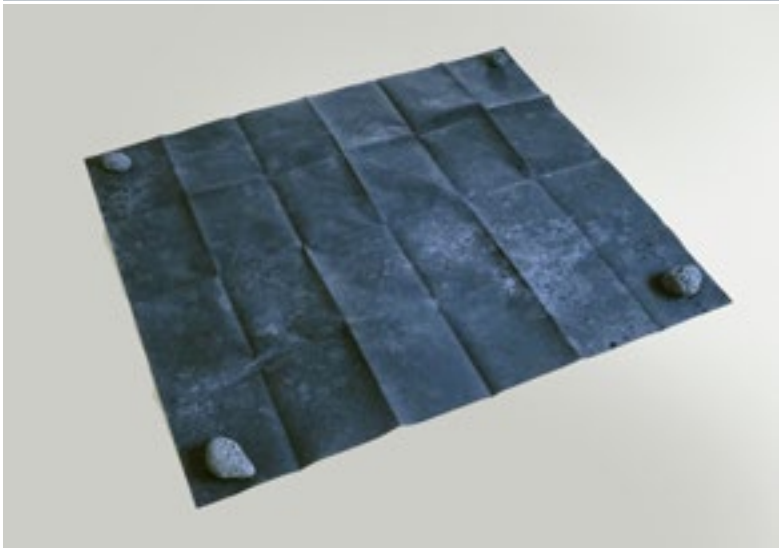
**Diana Winklerová** (b. 1983) is a sculptor and musician living and working in Prague. She graduated from the Academy of Arts, Architecture And Design in Prague from the sculpture studio under Prof. Kurt Gebauer. She actively participates in the cultural scene in both visual arts and music, teaching modeling at the Academy of Arts, Architecture And Design in Prague. In her installations she uses various media, and her works mostly take the form of sculpture, objects, digital photos, video or computer manipulations.

dianawinklerova.cz

Captured. Video and audio loop.  
Motion image of a flying bird  
in a nature reserve, which is  
infinitely monitored within the  
frame of the screen. A constant  
playback of a recollection. Loop  
after 01'30"



The Black Map. Black paint on  
folded paper with lava stone  
weights. The map does not  
include a scale, therefore it may  
be a disturbing reflection on the  
possible size of the recorded  
area. 105×115 cm



Stream. Iron construction  
profile, photomontage of  
a glacial river in sections.  
8×4×300 cm



# Diana Winklerová

## Only in Fragments

Okolní svět jsme schopni vnímat skrz jednotlivosti. Smysly směřují ke zlomkům reality, která je nadto ještě přefiltrována potřebami mysli. Kdybychom byli schopni vnímat všechna hlediska propojeně, asi bychom se jako lidský druh chovali ve svém prostředí jinak.

Na základě prožitků z expedice na Islandu se pokouším v prezentovaných dílech dotknout otázky vnímání přírodního prostředí skrze jednotlivé oddělené dojmy. Jak velký otisk zanecháváme my a jak velký otisk zanechává prostředí v nás? Existuje vztah mezi údivem z krásy či vznešenosti vnímaného a zodpovědností za tyto jevy?

Soubor děl zachycuje fragmentární dojmy z přírodního prostředí ve vztahu k různým myšlenkovým rámcům.

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**Diana Winklerová** (narozená 1983) je sochařka a hudebnice, žije a pracuje v Praze. Absolvovala Vysokou školu uměleckoprůmyslovou v Praze, kde studovala v ateliéru veškerého sochařství pod vedením prof. Kurta Gebauera. Aktivně se podílí na kulturním dění v oblastech vizuálního umění i hudby. Vyučuje modelování na VŠUP v Praze. Ve své volné tvorbě zachází s různými typy médií, jako je socha, instalace, objekt, digitální fotografie, počítačová manipulace a video.

dianawinklerova.cz





The Alu-mission. Black and white photomontage, aluminum frame. 42×28 cm



Far from the Real. Digital photography, acrylic glass. The effort and limitation of capturing and transmitting an image. One of the strongest impressions from the expedition. Bioluminescent jellyfish at low tide in the dock at Seydisfjörður. 40×70 cm

*Our grandchildren won't understand that our generation sorted our recycling with great diligence, but chose to dump toxic waste into the fjords that we get our food from. Our grandchildren won't understand why 100 jobs in a polluting and non-renewable mining industry are more valuable than 100 jobs in the renewable reindeer husbandry sector.*

Aili Keskitalo, President of the Sami Parliament of Norway in her 2016 New Year speech.





Hammerfest ●

● Reppar Fjord

● Alta

● Sydvaranger Mines

Karasjok ●

Kautokeino ●





Sydva Brudd Ore Mine, Kirkenes, Finnmark, Norway.  
Photo: Alena Kotzmannová





Biedjovággi mine, Finnmark, Norway, photo Alena Kotzmannová

# Living Through the Landscape

Ivar Smedstad

20 – 30 September 2015

The Norwegian part of the Frontiers of Solitude project encompassed a 10-day expedition/workshop with artists from all three participating countries in the country of Finnmark in northern Norway, from September 20 to 30, 2015.

The expedition focused on mining activity in the region and its effect on the local landscape. Both the current and previous Norwegian governments have funded initiatives aimed at surveying mineral deposits and their suitability for mining ventures, resulting in heated debates over the renewed interest in the exploitation of minerals, especially in the north.

Recently, plans to allow the waste from a proposed mining operation to be deposited in the Førde fjord in the west of Norway have made headlines in both the Norwegian and international press. Elsewhere, such as in Biedjovággi in Finnmark, the ecological damage from open-pit mining is still being felt 40 years after the closure of mining operations. Plans to once again start mining in Biedjovággi as consequence of soaring gold prices highlight the complexity of issues relating to the exploitation of minerals and a globalized economy, covering intersecting social, economic and ecological concerns.

Similar debates have arisen in regard to the Reppar fjord, also in Finnmark. Waste from nearby underground mining was dumped into the fjord in the early 1970s, causing damage to fish stocks, thereby affecting the livelihoods of local fishermen. Renewed interest in mining copper in the area has started new debates on the environmental impact of depositing waste in the fjord.

On one hand, mining companies need to keep costs down to stay competitive, and rural communities are often in dire need of jobs and investment to bolster the local economy. On the other, such initiatives have frequently caused extensive environmental damage and infringement of the rights of indigenous populations. By visiting the region and meeting with locals as well as experts, the Norwegian expedition aims to contribute to a public awareness of environmental and cultural issues that are both local and globalized.

Frontiers of Solitude is an extension of Atelier Nord's previous engagement with issues related to the north of Norway in the video program *Beyond Horizons*.

*Program: Ivar Smedstad*

*Participants: Gunhild Enger, Iselin Linstad Hauge, Vladimír Merta, Alena Kotzmannová, Elvar Már Kjartansson, Monika Fryčová.*



# Žít jinou krajinou

Ivar Smedstad

20.–30. září 2015

Norská část projektu spočívá v expedici/ workshopu pro umělce zúčastněných zemí do oblasti Finnmarky v severním Norsku, která proběhla v září 2015. Tématem výpravy byly těžební aktivity v regionu a jejich dopad na zdejší krajinu. Současná i předchozí norská vláda financovaly aktivity zaměřené na průzkum ložisek nerostných surovin a jejich potenciální využitelnost pro těžbařské společnosti. To vedlo k vášnivým debatám o problematice využívání nerostných surovin, zejména v oblastech severního Norska.

Aktuálně byly zveřejněny například plány uložení odpadu z navrhované těžby ve fjordu Førde na západě Norska – tedy událost, reflektovaná v norském i mezinárodním tisku. V Biedjovággi jsou ekologické škody způsobené povrchovou těžbou zlata pocítovány i 40 let po jejím ukončení. Plány obnovit těžbu v Biedjovággi z důvodu rostoucích cen zlata obnažují problematiku využívání minerálů v prostředí globalizované ekonomiky, kde se setkávají společenské, ekonomické a ekologické zájmy.

Podobné debaty se objevily také v souvislosti s fjordem Reppar ve Finnmarce. Odpady z nedaleké hlubinné těžby byly začátkem roku 1970 deponovány na dno fjordu, kde způsobily rozsáhlé škody na rybí populaci a tím negativně ovlivnily živobytí místních rybářů. Obnovený zájem o těžbu mědi v této oblasti otevřel další diskuzi ohledně ukládání odpadů ve fjordu a dopadech na životní prostředí arktické krajiny.

Těžební společnosti hledají způsoby, jak udržet nízké náklady, aby byly konkurenceschopné; lokální komunity bývají motivovány zoufalou potřebou pracovních míst a slibem investic, které by oživily hospodářství. Zároveň však tyto iniciativy způsobují rozsáhlé škody na životním prostředí a ohrožují práva domorodých obyvatel.

Expedice si klade za cíl přispět prostřednictvím návštěvy regionu a možnosti setkání s místními obyvateli i odborníky ke zvyšování obecného povědomí o důležitosti životního prostředí a kulturních otázk. A to jak v místním, tak globálním kontextu.

Frontier of Solitude je pokračování předcházejících projektů Atelieru Nord realizovaných na severu Norska, jako byl například videofestival Beyond Horizons.

*Program: Ivar Smedstad*

*Účastníci: Gunhild Enger, Iselin Linstad Hauge, Vladimír Merta, Alena Kotzmannová, Elvar Már Kjartansson, Monika Fryčová.*



A photograph showing three people sitting on the ground in a field, having a picnic. One person is wearing a red and white patterned hat. A dog is lying down in the foreground. In the background, a white truck is parked on a grassy hill under an overcast sky.

# artist projects

Picnic with Ol Johan Gaup, close to Biedjovággi mine, Finnmark, Norway, Photo: Alena Kotzmannová

Gunhild Enger  
Iselin Linstad Hauge  
Vladimír Merta  
Alena Kotzmannová  
Elvar Már Kjartansson  
Monika Fryčová

# Gunhild Enger

CZ06 and Pukk

*The distance from this sentence to your eyes is my sculpture.*

Ken Friedman, 1971

In Norway, there are a few mountains that have been declared “high risk areas”, meaning that they could collapse at any minute. The implications could be staggering. The media has followed this story and put up 24/7 streaming webcams to catch this spectacular forthcoming event. Watching a mountain has now become something of a national sport, as people gather around their computers during breakfast, lunch or dinner, hoping they will catch the fall of a mountain in real time. The idea of looking at a massive wall of stone hoping that something spectacular will happen is born. The coal mining industry creates mountains in reverse, digging enormous holes in the ground. If you look, you’ll see the changes in real time.

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**Gunhild Enger** (b. 1980) earned her BA from Edinburgh College of Art, UK, and her MA from the School of Directing in Gothenburg, Sweden. She is working as a filmmaker and visual artist, screening films in festivals around the world as well as exhibiting in galleries. Enger’s work often deals with the balance of humour and absurdity in serious and existential subject matters.



CZ06, 2016, videoprojection



Pukk, 2016,  
photography with sound



CZ06, 2016,  
videoprojection



# Monika Fryčová

## Joik

Joik is a personal composition considered as audiovisual poem, which captures the story of a hunter from Kautokeino and the Girl on the Bridge between Kirkenes and Murmansk.

The joik is a unique form of cultural expression for the Sami people. This type of song can be deeply personal or spiritual in nature, often dedicated to a human being, an animal, or a landscape as a personal signature.

*video, Finnmark 2015, 5:45 min*

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**Monika Fryčová** (b. 1983, Czechoslovakia) is an audiovisual artist, performer, and writer based in Seyðisfjörður, Iceland. She frequently deals with mixed media and untranslatable experiences, trying to perform under their own rhythms – the Here and the Now – the search for the primal source constantly found, only to be deserted again. Her work evidences the behaviour of certain nonlinear dynamic systems, the relationships between the seen and the indicated (unseen), the constantly in motion and the ephemeral, via symbols, aesthetics and the lens of history. She has been exploring intercultural issues and border culture, exotic minorities and experimental languages. Currently works on permanent project Fantasy versus Discipline, The Artist as an Ethnographer, and organizes vivid dialogue between Iceland, Portugal and Mauritius. Fryčová holds a M.A. in visual arts from the Fine Arts Faculty at Technical University in Brno, and has studied at the Academy of Arts in Reykjavík, Iceland. Since 2003 she has been touring and exhibiting her work around the world.

[monikafrycova.net](http://monikafrycova.net)





Joik. Video stills 1–4, HDV and DV video (5:45 min), remixed audio. Finnmark, 2015.



Joik. Video stills 1–4, HDV and DV video (5:45 min), remixed audio. Finnmark, 2015.



Joik. Video stills 1-4, HDV and DV video (5:45 min), remixed audio. Finnmark, 2015.

# Iselin Linstad Hauge

## Sojourn

If one looks at life as a complex arrangement of form and matter, everything heard, seen, smelled, touched or tasted, is life. If one wants to distinguish, one can try to make separations in an attempt to explain what makes something a living thing. In this process, human is defined as one living thing, nature is defined as something else. Logic and reasoning arises, and the gap between us and the surrounding world slowly takes form.



Stills from *Sojourn*, 4 min, 2015

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**Iselin Linstad Hauge** (b.1981) works in the media of film, text, photography and performance. Her work aims to develop a more sensitive awareness, highlighting the relationship between society and nature, with an emphasis on the human-animal interaction. Hauge's work has been exhibited at film festivals and galleries around the world, including Nordic Outbreak, N.Y., Hors Pistes at the Centre Pompidou, Paris, the Moscow International Film Festival, and the Museum of Contemporary Art in Oslo. Hauge attended the European Film College in Denmark, the National Academy of Arts in Oslo, and the masters program in film at Valand Academy in Gothenburg. Since 2009, she has been co-editor and publisher of the nordic art publication *Spesial Nord*. Hauge lives and works in Oslo.

[iselinlinstadhauge.com](http://iselinlinstadhauge.com)



Kvalsund / RepparCorden, 29.09.2015



Kirkenes / Sydvaranger, 26.09.2015

# Elvar Már Kjartansson

## Splitting Birch, Crushing Birch

*Splitting Birch and Crushing Birch* captures the sound and materiality of birch wood that is put under two different types of stress. The action of splitting works with the grain of the wood, exploiting its weaknesses while preserving the wood's structural strength. The action of crushing works against the wood's grain and against its plane of strength, leaving the material jagged and fragmented.

Birch wood has been of particular cultural importance for the inhabitants of the Northern regions. It has been used for the construction of shelters, for medicinal purposes, and in religious ceremonies.



Crushing birch. Documentation of process work, 2015.  
video / sound documentation of working process, 20:56 min

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**Elvar Már Kjartansson** (b. 1982) is a sound craftsman and explorer. Under the name of Auxpan he creates musical experiences in which soundbites, rhythmic patterns produced by self-developed devices, and field recordings come together in an experimental and highly personal sound experience. Kjartansson has performed at numerous festivals in Iceland and abroad, and created commissioned work and exhibitions, exploring the myriad of properties and characteristics of sound. He is based in Reykjavík and Seyðisfjörður, Iceland.

[www.laton.at/artists/auxpan/](http://www.laton.at/artists/auxpan/)

Splitting birch.  
Documentation of work  
process, 2015.



# Alena Kotzmannová

## Upside-down on Earth

*Gal dan oažžu jáhkkit, gii dáhttu*

*The one who wants to believe it, may well do so\**

The journey led north. “North” keeps shifting. For residents of Oslo, north is somewhere in the middle of Norway in Trondheim, for residents of Trondheim it is somewhere in Alta, and in Alta it has shifted even further to the north. Kautokeino. This is where our expedition starts, although residents of Oslo rarely make it this far.

This is the land of the original Sami. Here, the map is turned upside-down. It is a land of reindeer herders and fishermen, with an average of 0.3 residents per square kilometer. When, thanks to a presentation by Ol Johan Gaup, we learned more about their history, culture, and current traditions, I began to see confirmation of how far our contemporary way of life is removed from theirs. Things that have always been natural suddenly strike us as eccentric. Is it cold? Start a fire and cover yourself in reindeer skin. Are you hungry? Kill the oldest reindeer. Feel like a treat? Make yourself some reindeer blood pancakes (we tried some). Want to take your dog for a walk? Go ahead, but be careful that your dog isn't carried off by an eagle. And so on. I feel like I'm on a different planet. I am amazed at the local awareness and natural respect for nature, which is something all of us should possess. I learn that reindeer paws are soft and adapted so that when the animals take a step, the weight is spread out and the plants bend only slightly under their weight. Reindeer are also missing their front teeth, so that when they chew something they only nibble on it gently with their gums. Nature is loved here, and the dependence on nature is more than clear. And its disturbance through resource extraction and its serious impacts on the original environment stands out in even greater contrast. The landscape of abandoned mines in Kautokeino resembles the landscape of another planet on which nobody expects to find any more life.

Cut. We are traveling further north towards one of the last places on our expedition – Kirkenes on the Russian border. In this region, the latest technologies are used to mine iron ore, oil, and natural gas. Every year, the waste products from this wealth of resources – on average, two millions tons of toxic waste – are “inconspicuously” deposited on the bottom of the sea. As a result of this mining, the landscape here is upside-down not only on land, but also beneath the surface of the ocean. A mining pit becomes a mountain, and a mountain of waste is transferred to the bottom of the sea. Contaminated fauna and flora. Why doesn't anyone stop it? Again, I am amazed at how people can forget their original relationship to nature. Again, I feel like I'm on a different planet, a planet of inverted models of behavior.

Not far from here in Games, an expansive territory not near the Kirkenes airport, the Nor Terminal mining company has decided to start drilling for oil and gas. However, the first exploratory drilling unexpectedly came up with prehistoric stone carvings, and so it had to be stopped. Maybe, in an





instinctual act of self-preservation, the planet has begun to defend itself? The exciting question arises: Can prehistoric paintings stop mining? If only art could be used as a defensive weapon.

The series of photographs and video sequences are directly inspired by this question, by the motif of “inversion/reversing,” and by presenting people’s relationship to the Earth through the eyes of an extraterrestrial. The individual shots – close-ups as well as full landscapes – combine to form a mosaic of various places from the north of Norway. They do not make any direct references to specific locations, instead presenting a general view of the Earth as seen through an inverted hierarchy of values and a reversed polarity of interest. One important aspect when creating the visuals is the question of time in the sense of duration and temporariness – the landscape is shaped over the long term, and this time influences man’s relationship to it. Despite this, other people treat the landscape with such force and with such short-term goals as if they were going against time in leaps and bounds.

For me, the expedition’s name “Frontiers of Solitude” took on new meaning after having been on it. I found myself on the boundary of a rupture in space-time. The original person remained standing and the landscape all around was shifted in time and in space. I see the photographic series and video sequence as an ideal medium for capturing this inversion, flowing, and stoppage of time.

*Jodí lea buoret go oru*

*Time Is a Ship That Never Casts Anchor \**

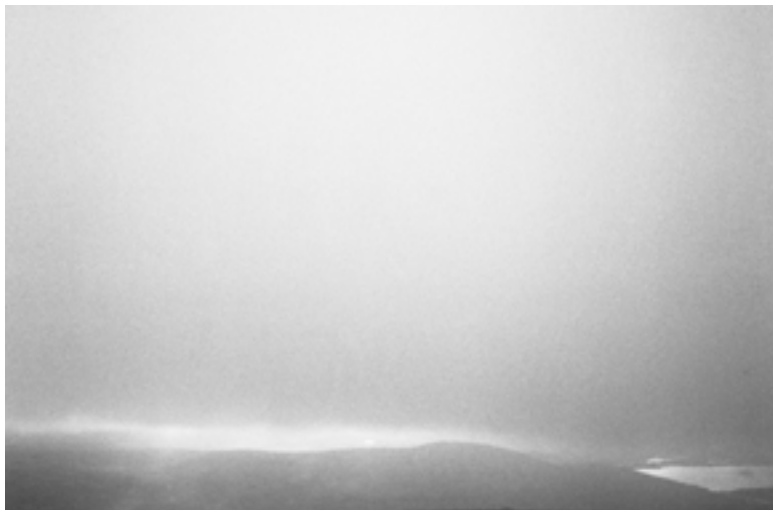
\* From the publication *Jodí lea buoret go oru – Sátnevdjasat*, Harald Gaski (ed.), ČálliidLágádus, 2003. (Sami proverbs collected by J. Qvigstad, 1922).

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**Alena Kotzmannová** (b. 1974) is a visual artist and photographer living and working in Prague. In her predominantly black-and-white photographs, Kotzmannová deals with the possibilities and paradoxes of the medium. She evokes an atmosphere imbued with theatrical decorativeness and horror, often bordering on a visual fictions, which are achieved primarily through a refined play of light and shadow. She reveals the fine line between reality and the unreal. She often hints that a story has taken place which can no longer be retold, having gone into the past. Only the expressiveness of the photograph offers any clue. Her work is also distinguished by a refinement, elegance and sensitive depictions of reality. In 2014, Kotzmannová received a Ph.D. from the Faculty of Education of the Charles University. In 1998, she graduated from the Academy of Arts, Architecture and Design in Prague from the Studio of Conceptual and Intermedia Works under Adéla Matasová, and the Studio of Photography under Pavel Štěcha.

kotzmannova.cz

ze série Na Zemi vzhůru  
nohama, fotografie, 2015  
from the series Upside-down  
on Earth, photographs, 2015



# Alena Kotzmannová

## Na Zemi vzhůru nohama

*Gal dan oažžu jáhkkit, gii dáhttu*

*Kdo chce věřit, uvěří \**

Cesta vedla na sever. Sever se posouvá. Sever pro obyvatele Osla je někde uprostřed Norska v Trondheimu, pro obyvatele Trondheimu je někde v Altě, v Altě se posouvá ještě dál na sever. Kautokeino. Tam začínala naše expedice, sem ale obyvatel z Osla málokdy dojde.

Tady je země původních „Samiů“ a mapa zde je otočená vzhůru nohama. Žijí tu pastevci sobích stád a rybáři, v průměru 0,3 obyvatele na km<sup>2</sup>. Když jsme se blíže seznámili s jejich historií, kulturou a současnými tradicemi díky přednášce Ola Johana Gaupa, začalo se mi potvrzovat, jak moc je dnešní způsob našeho života vzdálený od jejich počínání. To, co bylo vždy přirozené, nám najednou připadá jako výstřední. Je ti zima? Rozdělej si oheň a přikryj se sobí kůží. Máš hlad? Zabij nejstaršího soba. Máš na něco chuť? Udělej si palačinky ze sobí krve (také jsme ochutnali). Chceš se projít se psem? Běž, ale dej pozor, ať ti psa neodnese orel. A tak dál. Připadám si jako na jiné planetě. Žasnu nad zdejší uvědomělostí a přirozenou ohleduplností k přírodě, která by nám všem měla být vlastní. Zjišťuji, že dokonce i sobi mají tlapy měkké a uzpůsobené tak, že se při nášlapu váha rozloží a rostliny pod jejich vahou se jen lehce ohnou. V tlamě jim navíc chybí přední zuby, takže pokud něco okusují, jemně to jen škubou dásněmi. Tady je příroda milovaná a závislost na ní zřejmá. O to více v kontrastu vyvstává její narušení formou těžebních aktivit, které jsou drastickým zásahem do původního prostředí. Krajina opuštěných dolů v Kautokeino připomíná krajinu jiné planety, na které se s životem už nepočítá.

Střih. Brázdíme sever severu až do jednoho z posledních míst naší expedice, do Kirkenes na hranicích s Ruskem. Cestou nejmodernějších technologií se v této oblasti těží železná ruda, ropa i zemní plyn. Jako odpad z tohoto bohatství se ročně v průměru 2 miliony tun toxického odpadu „nenápadně“ vyváží na dno moře. Nejen na zemi, ale i pod mořskou hladinou je krajina v důsledku těžby vzhůru nohama. Z jámy v dole je hora, hora odpadu přemístěná na dno moře. Kontaminovaná fauna a flóra. Proč to nikdo nezastaví? Znova žasnu nad tím, jak se na původní vztah k přírodě dokáže zapomenout. Připadám si opět jako na jiné planetě, na planetě převrácených vzorců chování.

Nedaleko odtud v Games, rozsáhlé oblasti poblíž letiště v Kirkenes, se rozhodla těžební společnost Nor Terminal zahájit těžbu ropy a plynu. Při prvních výkopech se však nečekaně objevily prehistorické rytiny na kamenech a těžba musela být pozastavena. Že by se planeta svým vlastním pudem sebezáchovy začala bránit? Vyvstává napínavá otázka: můžou prehistorické obrazy zastavit těžbu? Kéž by se dalo umění použít jako obranná zbraň.

Série fotografií a videosekvence jsou přímo inspirovány touto problematikou a motivem „otočení“ a představuje vztah člověka k Zemi jakoby pohledem mimozemšťana. Jednotlivé záběry skládají dohromady mozaiku z různých míst na severu Norska, poukazují na detaily i krajinné celky. Jednotlivé záběry neodkazují přímo ke konkrétním lokalitám, ale v obecnější rovině představují

pohled na Zemi v módu převrácené hierarchie hodnot, přepólování těžišť zájmů. Důležitým aspektem při přípravě vizuálního výstupu je otázka času ve smyslu délky trvání a dočasnosti – krajina je utvářena v dlouhé době a tato doba ovlivnila vztahy člověka k ní. Navzdory tomu jiný člověk zachází s krajinou takovou silou a s tak krátkodobými cíli, jako by šel mílovými kroky proti času.

Název expedice Na pomezí samoty pro mě po jejím absolvování nabyl nového významu – ocitla jsem se na hranici zlomu časoprostoru –, původní člověk zůstal stát a krajina kolem byla posunuta v prostoru i v čase. Fotografická série a videosekvence jsou pro mě ideálním prostředkem, jak převrácení, plynutí a zastavení času zachytit.

*Jođi lea buoret go oru – Čas je loď, která nikdy nekotví \**

\* z publikace *Jođi lea buoret go oru – Sátneváđjasat*, Harald Gaski (ed.), ČálliidLágádus, 2003. (Přísluví Samiů shromážděné J. Qvigstadem, 1922).



ze série Na Zemi vzhůru nohama, fotografie, 2015  
from the series Upside-down on Earth, photographs, 2015

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**Alena Kotzmannová** (narozena 1974) je vizuální umělkyně a fotografka. Žije a pracuje v Praze. V roce 2014 ukončila doktorské studium na Pedagogické fakultě Univerzity Karlovy v oboru výtvarná výchova. V roce 1998 absolvovala v ateliéru konceptuální a intermediální tvorby u prof. Adély Matasové a v ateliéru fotografie Pavla Štechy na Vysoké škole uměleckoprůmyslové v Praze.

Ve svých převážně černobílých fotografických obrazech se Alena Kotzmannová zabývá možnostmi a paradoxy tohoto média. Skrze tyto možnosti nám evokuje různé nálady prostřednictvím až divadelní dekorativnosti či hororových prvků. Často pak zachází až do fiktivní vizuality, jíž dosahuje převážně rafinovanou hrou světla a stínu. Ukazuje nám, jak úzká může být hranice mezi naší realitou a čímsi neskutečným. Mnohdy nám dává tušit, že se zde udál příběh, jež však již nemůžeme zastihnout. Je pryč. Pouze z výrazu fotografie o něm máme tušení. To vše v jejích fotografiích doprovází jemná elegance a smysl pro citlivé zobrazení skutečnosti.

kotzmannova.cz

# Vladimír Merta

## The Immigrant

“When the mountain arrives with the river, the art slowly starts to go back against the stream.”

In 2002, the centennial flood carried and transported along the banks of the Vltava a jumble of various segments and layers of the landscape, together with the debris of civilization. Among various invaders, there arrived the huge trunk of poplar tree, kidnapped by the water and drifting for few dozen kilometers downstream to come to rest at one of Prague’s islands, which used to be a hunting park for wildlife. This giant tree root captured the attention of Vladimír Merta to such an extent, that he decided to turn it into a sculpture. The photo sequence recapitulates the reconstruction that the artist undertook to find out about the genealogy of this wooden guest.

Every visitor to a different culture, is to a greater or lesser degree an immigrant. It just depends on the reason, the motivation, the method and duration of the visit. At night during a brief encounter at the bar the Arctic Circle some Sami men sang me a song in the Jojko style. For me to understand, to show the immigrant his pride and his strength: ancient weapon ancestors is still alive.

Sami: original inhabitants of Northern Scandinavia

joik (or yoik, luohiti, vuolle, leu’dd, juoiggus) is a traditional way of singing in Sami culture

immigrant: Vladimír Merta, a participant of the expedition in Finnmark

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**Vladimír Merta** (b. 1957) lives and works in Prague and belongs among the influential figures of the Czech Action art scene since the 1980s. Merta has created many performances in the landscape. At the beginning of the 1990s, he exhibited a series of spatially conceived paintings, objects and installations, in which he combined symbols with traditional and unconventional materials. Later he replaced living wood with a stone fossil in a composition using the ground plan of a temple (*The Stone of the Right Moment*, 1999). Merta also created an event where a tree appears to float against the current of the River Vltava for the Kampa Museum in Prague (*Immigrant in Memory of the Flood of 2002*). In 2009, a large exhibition entitled “ErRors” at the Gallery of Critics, was devoted to Merta, and introduced his cycle of large-format pictures, which combined painterly and media visions on TV screens made to appear defective. In 2010, Merta created a series of abstract pictures, *Painting by Wind*, which referred to his *Drawings by Wind* from the end of the 1980s. The work was painted using contact-free acrylics by means of a brush moving freely across the canvas at the whim of the wind. He exhibited these pictures at his most recent exhibition in the Museum of Jindřichův Hradec, drawing attention to the synthesis of his natural and painterly vision, both in art and in the sphere of cultural ecology.

[www.mertavladimir.cz](http://www.mertavladimir.cz)

1. Václav Cílek took this photo immediately after the floods in 2002 as part of his job, which was to document the effects of the flood on the buildings. The Vltava River company cut the poplar tree trunk into small pieces and left the pieces on the ground on Štvanice island.
2. I discovered the piece "The Immigrant" on the right bank of Štvanice island in 2004, and arranged to transport it as a work of art for the exhibition Certain Traces in Karlín.
3. One of the ways the river moves drifting objects over large distances. I saw the gentle Lužnice river, carrying an entire house.
4. During the Certain Traces exhibition I started to think how to return the trunk of the tree "back home". I asked Václav Cílek to provide expertise as to where the tree grew. Cílek came, tasted the dirt, sniffed the stones and tentatively said that the tree arrived from a spot somewhere between Všenory and Řevnice on the Berounka. In a few days, I received by mail a letter with an official report with the stamp of the Academy of Sciences, confirming the original estimation, accompanied with a geological map of the area. I was absolutely thrilled. Later I really found this place.
5. Back upstream: "The Immigrant" was located in a public space on the riverbank near the Sovovy Mlýny Gallery, facing in the direction of the Berounka river, in direct contact with the river.
6. Waiting. In addition to Václav Cílek's identifying the place of the "Immigrant's" birth, a horse also helped me
7. This is a nest, this is home.



1. Fotografie pořídil Václav Cílek bezprostředně po povodních v roce 2002, v rámci své profese, jako dokumentaci následků velké vody na vodní stavby. Povodí Vltavy kmen topolu rozřezalo na menší díly a zřejmě vlastními silami a intuitivně fragmenty rozmístilo na ostrově Štvanice.
2. Na pravém břehu ostrova Štvanice, v roce 2004, jsem tento fragment „Imigranta“ – kořenový systém topolu – objevil a nechal přemístit jako umělecké dílo na výstavu Certain Traces v Karlíně.
3. Jeden ze způsobů, jak řeka přemísťuje – driftuje předměty na velké vzdálenosti. Viděl jsem mírnou řeku Lužnici, jak odnáší dům.
4. Na výstavě Certain Traces začal pokus vrátit zbytek stromu „zpět domů“. Požádal jsem Václava Cílka o odborný posudek na téma, kde nohl vyrůst? Cílek přišel, ochutnal hlínu, očíchal kameny, posoudil a předběžně mi sdělil, že strom žil někde mezi Všenorami a Řevnicemi v povodí řeky Berounky. Po několika dnech mi přišel poštou oficiální posudek s razítkem Akademie věd, potvrzující původní odhad, doplněný geologickou mapou výskytu hornin daného území. Naprosto mě to nadchlo. To místo jsem posléze opravdu našel.
5. Zpět proti proudu: „Imigrant“ byl umístěn na náplavku vedle Muzeu Kampa do veřejného prostoru, otočen do směru Berounky. V těsném kontaktu s řekou.
6. Čekání. Kromě Václava Cílka mi v identifikaci místa narození „Imigranta“ pomohl kůň
7. Tohle je hnízdo, tohle je domov.

# Vladimír Merta

## Imigrant

Až s řekou přijde hora, umění se pomalu začne vracet zpět proti proudu.

Stoletá povodeň odnesla a přemístila v roce 2002 podél břehů Vltavy změt nejrozličnějších segmentů, vrstev krajiny a civilizačních relikтів. Mezi různé vetřelce patřil i vzrostlý kmen topolu, který divoký živel přenesl několik desítek kilometrů po proudu a nechal odpočívat na jednom z pražských ostrovů, který kdysi sloužil jako obora pro divokou zvěř. Jeho monumentální kořen zaujal Vladimíra Mertu do té míry, že jej proměnil v sochu. Fotografický příběh rekapituluje rekonstrukci, kterou autor podnikl, aby se dozvěděl něco o genealogii dřevěného pražského hosta.

Každý přichází do jiné kultury je větší či menší mírou imigrant. Záleží jen na důvodu, motivaci, způsobu a trvání návštěvy. V noci během krátkého setkání v baru za polárním kruhem mu zazpíval jeden Sami píseň ve stylu jojki. Aby porozuměl, aby ukázal imigrantovi svoji hrdość a sílu: prastará zbraň předků je stále živá.

Samiové: původní obyvatelé severní Skandinávie

jojk: (nebo yoik, luohiti, vuolle, leu'dd, juoiggus) je tradiční způsob zpěvu Samiů

imigrant: Vladimír Merta, účastník expedice do Finnmarky

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**Vladimír Merta** (narozen 1957) je výrazná osobnost československého akčního umění. Po performancích v krajině a jejich záznamech vystavoval na počátku 90. let prostorově pojaté obrazy, objekty a instalace, v nichž propojoval přírodní a civilizační symboly v kombinaci tradičních a netradičních materiálů, typických a atypických prvků. Zaujímá se o archetypy přirozeného světa a o schémata virtuálního vnímání. Vytvořil například skulpturální objekt *Veřejná geometrie* (1991), šibenici, jež byla vyrobena z prken přírodního kmene stromu, s běžícím monoskopem prázdné televizní obrazovky. Na počátku nového století realizoval akci se stromem „plovoucím“ proti proudu řeky Vltavy k Museu Kampa v Praze pod názvem *Imigrant* – jako vzpomínku na povodeň v roce 2002. Tento objekt byl nejprve vystaven v karlínské Šípkárně na výstavě *Jisté stopy: dialog Los Angeles/Praha* v roce 2004, pak teprve instalován do plenéru parku na Kampě. V roce 2010 se Merta věnoval v odkazu na své *Kresby větrem* z konce 80. let abstraktním obrazům nazvaným *Malby větrem*, malovaným rovněž bezdotykově akrylem pomocí štětce, umístěného na kovovém nosiči a pohybujícího se samovolně po plátně nárazy větru. Upozornil tím na syntézu svého přírodního a malířského vidění v umění i oblasti kulturní ekologie. Vlasta Čiháková-Noshiro (artlist.cz).

www.mertavladimir.cz



8. The stones growing in the body of the tree, trying to look like a human head. And beside it, there was the bird.
9. The Baroque wall, baroque graffiti, baroque "immigrant", Baroque concept.
10. The flood in 2006. And the Government has the means to prevent the arbitrary behavior of the river.
11. Vltava appropriates, arrived already to Vinohrady, Letná and now Karlín.
12. Vandals apparently had a wild party at the root. This was the official statement of the Gallery, and apparently it is the truth. What water did not take, men did. This was resolved by a cleaning company.
13. Connected world, 2012
14. Relations.

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8. Tak vrůstají kameny do těla stromu a snaží se vypadat jako hlava člověka. A ještě k tomu pták.

9. Barokní zeď, barokní graffiti, barokní „Imigrant“, barokní koncept.

10. Velká voda v roce 2006. I stát má prostředky, jak zabránit řece svévolnému chování.

11. Vltava si přivlastňuje, tekla už na Vinohradech, na Letné a teď má Karlín.

12. Vandalové prý měli divoký mejdan na kořenech. To je oficiální stanovisko galerie a zřejmě se zakládá na pravdě. Co nevezala voda, vzal si člověk. Tohle už řešila uklízečská firma.

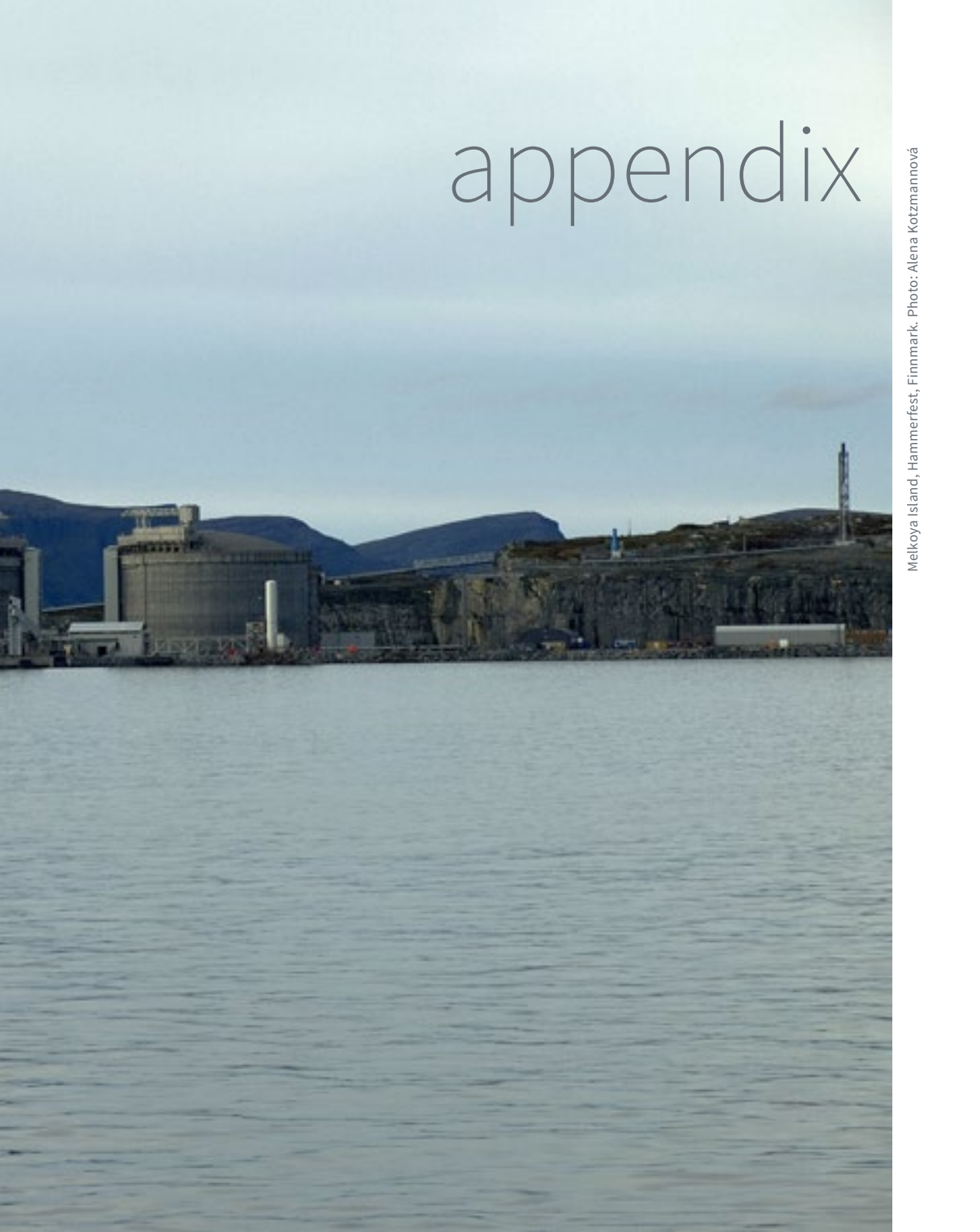
13. Propojené světy. 2012

14. Vztahy.





# appendix



# Topoi

Dustin Breitling

*To close the parenthesis, all of this can be said in more earthly terms. The conception of capital is admittedly a totalizing or systemic concept: no one has ever seen or met the thing itself, it is either the result of scientific reduction (and it should be obvious that scientific thinking always reduces the multiplicity of the real to a small scale model) or the mark of an imaginary and ideological vision.*

Frederic Jameson

*The aliens—utopians, monsters, or simply differing strangers—are a mirror to man just as the differing country is a mirror for his world. But the mirror is not only a reflecting one, it is also a transforming one, virgin womb and alchemical dynamo: the mirror is a crucible.*

Darko Suvin

*No, we do not produce letters when speaking, in the same way that natural processes do not produce numbers and do not compute, and the mediation of measurement is a critical node.*

Giuseppe Longo

Broaching the question about representation necessitates understanding the practices emanating and arranged around particular objects and their correlative fields. Here arises the necessity to investigate into the intersection between epistemology and metaphysics—crucially this conjugation of ‘what there is’ and investigating into ‘how we know what there is’ underwrites the normative endeavor to probe what we do with representations and what they do to us. Grounding my interest becomes the shift from a static or substantialist metaphysics—towards a process and dynamic system-based approach—that attempts to grasp how behavior amongst systems emerge through their interactions that are irreducible to their components.

Crucially, it underlies the seeming disjunction between the factual and normative or the descriptive and prescriptive. The normative

undergird becomes to understand how mental phenomena are coupled with representation, learning, and rationality that enable traction and descriptive resources to provides us the explanatory mechanisms as to how and why X or Y occur.<sup>1</sup> Ultimately, this migration from the domain of a substance metaphysics towards an evolved process framework encompasses and entails understanding the essential principles of organization and causal power; whereas levels and arranged configurations potentially generate differentiated, novel and emergent processes to unfold.

Synthesizing the role of process metaphysics, my endeavor becomes to further understand the role of computation and physical systems—particularly focusing on “mapping” in relation to Geographical Information Systems. How does the quantification and granularity of data become transformed through algorithmic processing? Nature itself

doesn't compute, rather "can be understood as computing via the notion implementation, which involves the ascription of information processing capacities, and which itself is in need of conceptual clarification."<sup>2</sup> Henceforth, the assignation of computation states to physical systems underpins my investigation into how Geographical Information Systems are designed to identify patterns and generate visual displays which invokes us to investigate the convergence between roles of abstraction, modeling and the interpretation of data through interfaces. Therefore, underscoring the schematization, path-dependencies and the practice of data encoding through an acknowledgement of biases, heuristics and judgements augments our capacity to inquire how we address our models and their design purposes.<sup>3</sup>

Fundamentally, the focus on Geographical Information Systems yields a prospective methodology that enables what Anne-Françoise Schmid terms it to be an "integrative object" with an object engendering "superpositions of knowledge" whereas "To work on such objects, there is a drift or a translation of the disciplines, which are not any more in the center, but of which we make use to build the dimensions of the object."<sup>4</sup> Fundamentally, the 'trading zone' of the Geographical Information System attracts an armamentarium of disciplines: geography, cartography, computation, cognitive science, statistics, and sociology. If epistemology weds us to the question of how we know what there is, it compels us to confront the role of interfaces and their materiality. Ultimately how does their "inhuman" scope and the distribution of cognition and artifacts bound our practices for rendering the world intelligible and generating suspicions of what we already know.



Artificial archipelagos, Dubai, United Arab Emirates, Wikimedia Commons

1. Bickhard, Mark. "Process and Emergence: Normative Function and Representation." 2004. Web. 7 Jan. 2016.
2. Fitz, Hartmut. "Church's Thesis and Physical Computation." *Church's Thesis after 70 Years*. Heusenstamm: Ontos, 2006. 175–220. Web. Even desktop personal computers are physical systems which compute only because they are used by humans, who supply a semantic interpretation of the system's behavior. To inflect a Wittgensteinian dictum a computation is what it is used for.
3. Winther, Rasmus. "Mapping Kinds in GIS and Cartography." *Natural Kinds and Classification in Scientific Practice*. Ed. Catherine Kendig. Routledge, 2015. Web.
4. Schmid, Anne-Françoise. "Philosophie et logiques de Interdisciplines." Web.



MQ1, Predator unmanned aircraft, Wikimedia Commons

# Anthropocene: The Good, the Bad and the Ugly

Vít Bohal

*“we should [...] endorse the death of the Goddess-Nature”*

S. Žižek, Ecology against Mother Nature: Slavoj Žižek on Molecular Red

*“Our land, compared with what it was, is like the skeleton of a body wasted by disease. The plump soft parts have vanished, and all that remains is the bare carcass.”*

Plato, Critias III

The recent reinvigoration of the term ‘anthropocene’ has led to a reappraisal of the manifest place of humanity in relation to its environment. No longer does Homo sapiens possess an inert land whose resources are perceived as an endless procession of discreet and commodifiable units whose brand is predicated only by their use value. Through

a type of object-oriented turn, Earth System Science has changed the field of epistemology and has fleshed out the variegated resources, so easily taken at face value, and has allowed their functions and rhizomatic connections to speak for themselves. Understanding the human as a species functioning in connection with its surroundings has become a foil for

numerous discourses percolating in the contemporary academic discourse, as well as in the online blogosphere. Certain points of coalescence have surfaced in relation to an ongoing process of raw data accumulation; certain issues of emplotment have been singled out as being more functional for the tasks at hand than others.

One of the most interesting debates has condensed around the notion of the “good anthropocene,” as popularized by blogger and journalist Andrew Revkin. Quickly, the very *raison d’être* of this concept was put under scrutiny, and garnered flak from many scholars, such as Elizabeth Kolbert, Joe Romm, and Clive Hamilton. “What we are doing to the planet is,” in Kolbert’s words, “in no way good,” and putting an emancipatory, albeit “well-intentioned,” spin on the scientific data seems, to Kolbert and others, to smack of wishful thinking. Yet, the term holds sway for its Promethean and anthropocentric connotations. Why not see the coming geological age as one of liberation of the latent drives of liberal humanism, why not see this as an “age of man” in the best possible sense of the phrase?

Numerous critics (for example, D. Chakrabarty) have noted that not all are included in the ‘we’ of those projections.

Discussions on the merits vs. the pitfalls of the anthropocene inevitably gravitate towards the material situation of the species, as embodied in the plight and flight of numerous world populations. The discussions percolating around the notions of the “The good, the bad, and the ugly” anthropocene(s) get mired on the molecular level, epitomized by local stories of the disenfranchised and marginalized populations peopling the globe. Who will reap the benefits of the “good”

anthropocene, who will perish in the watery inferno of the “bad” and who will scrape together an existence in the ruins of the “ugly”?

A fundamental (no longer necessarily ethical, but rather functional) question pertains to the relationship of the environment and its role in the continued survival of the human animal. How much is the self-reflective, epistemic construct of ‘the human’ invested in the processes of the rhizomatic Earth system, and how much investment is tenable for the continuing survival of the biosphere as a whole? Philosophy here encounters the object/subject split once again, but now on a different footing. The categories of nature and culture have, in the words of Bruno Latour, “exchanged their historicity” (*On the Affects of Capitalism*). The object has shown itself to function, and can no longer be perceived as a type of vestigial by-product of a liberal subjectivity.

Are the ecologies of the future still able to support the human symbolic construct, or will there, in the full throes of the “Sixth Extinction,” occur a radical change to our self-image? On the level of technology, which processes do we decouple from the Earth systems (as advocated by the ecopragmatism of the Breakthrough Institute) and on what yard do we draw the line demarcating the inside from the wild? These choices, forming our inchoate future, will have concrete and ever more present repercussions – not only for our micro-level, localized lifestyles, but also for the molar, ontological questions attempting to carve out a sustainable place for a sapient race existing in the void of the cosmos.

# Red Sky: The Eschatology of Trans

Miloš Vojtěchovský

*We have seen what we can do, and it is awesome. In just a few millennia, humanity has emerged as a global force of nature – a networked system of billions of individuals creating and sustaining an entirely new global ecology.*

Erle Ellis, *The Planet of No Return*

*The wound can only be healed by the spear that made it.*

Richard Wagner, *Parcifal*

*“I was walking along a path with two friends – the sun was setting – suddenly the sky turned blood red – I paused, feeling exhausted, and leaned on the fence – there was blood and tongues of fire above the blue-black fjord and the city – my friends walked on, and I stood there trembling with anxiety – and I sensed an infinite scream passing through nature.”*

Edvard Munch, 1895

*The Scream of Nature*, one of the most iconic works of modern art, depicts a figure caught in a moment of anguish, despair or anxiety. The figure is protecting his ears from a deafening sound, a shriek of unknown origin, while two figures in the background seem blissfully unaware of what is happening, of what the man is feeling. It has been suggested that the eerie, lurid red sky in the painting was the artist's recollection of an unusual twilight, related to an event ten years earlier and 10,000 km away on an island in present-day Indonesia. It looks as if the lunatic in the painting can hear a torturous vibration of air.

The blast of the famous Krakatoa eruption on August 26, 1883, was audible 4,500 km away on the shores of Australia, but not in Oslo. It caused tsunamis that swept through waters as far away as the English Channel. Settlements on the shores of the Indian Ocean were swept away by tidal waves, and rafts of volcanic pumice created by the explosion were found

drifting up the coast of Africa up to a year later. The wave of pressure generated by the colossal explosion propagated at a speed of 1086 km/h, and it was so powerful that it ruptured the eardrums of sailors on ships in the Sunda Strait more than 60 km away. The sky turned dark for days with ash and debris that circled the Earth after the eruption. The particles spread north and south over both hemispheres and lowered the average global temperature by 1.2 degrees for the next five years.

Even so, the Krakatoa explosion was ten times less powerful than the eruption of Mount Tambora in 1815, which caused extreme weather conditions for the next three years across the Northern Hemisphere. The Tambora eruption resulted in 1816 being dubbed the Year Without a Summer. In that year the story of Doctor Frankenstein was born in Switzerland, and China, Europe, and North America suffered below-normal temperatures



and devastating harvests. The climatic change altered the microbial ecology of the Bay of Bengal, creating conditions that enabled the cholera bacterium to mutate into a new strain. The resulting cholera pandemic spread across Asia and eventually the globe, and by the century's end, the death toll stood in the tens of millions. The eruption had a global ripple effect, or "teleconnection pattern" – a persistent, large-scale pattern of pressure and circulation anomalies that span vast geographical areas: epidemic, production and distribution of opium, the Panic of 1819 in North America and the first attempts to colonise Arctic areas. A paradoxical impact of the eruption was higher temperatures in the Arctic for several years. The remarkable loss of sea ice around Greenland propelled the campaign in England to chart the elusive Northwest Passage.

It's as if this thin, hypersensitive, neurasthenic figure in the Munch painting – the prophet of the dark side of Modernity – is not only frightened by a sky the color of blood, but that he can also "feel" the echo or reverberations of the cataclysmic ruptures of the past. Perhaps the volcano of Krakatoa, which killed 36,000 people and sent 45 cubic kilometres of matter into the atmosphere, also gave the clouds over Oslo a sinister, lurid red tint.

The 20th century is often described as being dominated by the development of technology, nationalism, decolonisation, World Wars, Cold Wars and Post-Cold War conflicts, cultural homogenisation, the escalation of transportation and communications, population growth, a growing awareness of environmental degradation and ecological extinction, among others. How is one to capture these symptoms of transformation, expulsions and displacements, translocations and dislocation? The wrongness palpable



Edvard Munch, *Skrik (The Scream)*, 1893,  
Wikimedia Commons

in the geological stratum, galvanised not by natural volcanic forces but by human-driven technology, and an instinct to improve, re-construct, trans-form, dis-locate, dis-rupt and per-forate the land and sea? Was it not already good enough?

We might easily start compiling an index of these changes, of dis or trans -formations, -locations, -mutations, -actions, -lations, -portations, -figurations, that capture acts of getting out, going beyond, crossing over,

passing through. Such an index would include a vast cross-section of examples: the “trans-land art” by the engineers and entrepreneurs of the vast lignite open cast mines under the Krušné hory, or Garzweiler or Lausitz in Germany and – their elaborate artistic methods of turning fossilized carbon into money, or an abyss into an artificial lake. Or, in the town of Most, the technological wonder of transporting the 12,700-ton gothic Church of the Assumption of the Virgin Mary over a distance of 841 metres, to atone for the disappearance of an entire medieval town of 30,000 inhabitants in order to reach the fossilized carbon deposits beneath. Our index would include many analogous translocations: acid rain from the industrial Black Triangle of Central Europe (or Eastern Ukraine), driven by the wind over the lakes of Lapland; the trade in carbon dioxide emissions and freon, the ozone hole as a transformation of the old concepts of what we used to call the weather and the economy; oil wells and fracking at depths of 6,000 metres as a symptom of the transformation of the planet’s pre-human, diluvial age. Plutonium from Chernobyl hidden in the mushrooms and wild boars of Poland, Spain and Ukraine, or nuclear waste from the Fukushima power plant swept up by a tsunami and landing a year later on the coast of California, can be seen as transmutations of the modernist concept of the trade and distribution of wares and industrial output. We can think about the melting of the icebergs of Greenland and the glaciers of the Himalayas as trans-formations of the stratigraphy of a geological Last Ice

Age. And what about the new continent made of waste floating in the Pacific as a transformation of the old concept of geology? Plastic packaging in the stomachs of fish, whales and seabirds as a transformation of our old bonds and (supposedly) symbiotic relationship with animals? A billion shipping pallets and millions of containers in constant motion compose a graphic depiction of the eschatology of transformation and the transformation of a site into a “non-site”, land into “non-land”.

At the dawn of the “Human Age”, Donna Haraway speaks about the need for change, about a new symbiosis of human and non-human. In this new age, *neofoms* – transformations, assemblages, transmutations and metastases – are the consequence and cause of the interplay and competition between nature, technology and man; a displacement of the boundary between the artificial and the natural, between language and what language describes. Apparently, man-made “hyperobjects” have already penetrated the molecular structure of our environment. Haraway claims that we should swiftly relearn the art of naming and acclimatizing ourselves, to reinvent the art of adaptation. Forcing nature to adjust to our already “unnatural” standards, ideas and needs, is hazardous not only for us, but also for trees, animals, the weather, the oceans, probably the entire biosphere. Maybe only remaining geological structures, the minerals, stones, sand, boulders and rocks, need not fear the coming Age of Humans.

The eruption of Krakatoa, photo: archive of the author

Slug lagoon, Počeradý, 2015, photo: Michal Kindernay







The Bilina open pit mine, 2015. Photo: Michal Kindermay





Fossil from the Břilina open pit mine, 2015. Photo: Michal Kindernay

# Symposium: Frontiers of Solitude

5 – 6 February 2016

The international symposium Frontiers of Solitude, organized as part of the eponymous art project site will offer a comparison of the opinions, experiences, and points of view of artists, curators, and invited guests on the theme of transitions in the landscape in which we currently live and of which we are a part.

The symposium will search for relationships between the cultural, political, and economic aspects of contemporary concepts and our understandings of what is meant by such words as Earth, countryside, landscape, and land, including the topography of transitional zones, with an eye on both establishing and crossing over boundaries and limitations.

The term landscape can be understood as a mindset to orient us in the world and to reflect our relationship with the land. It is everywhere around us, under our feet; it is our shared starting point; it is that which at once unites and separates us. With this in mind, we can begin to raise questions about what is happening to the land? How are we connected to it, how do we relate to it, what separates us from it? How and to what extent can we understand the land, and what do we all know and not know about it? To whom does it belong, and how do we change it, for better or worse?

The artist, architect, businessman, technician, scientist, farmer, pilgrim and other kind of specialist each perceive the landscape in their own terms. How can we express and capture in human, rather than statistical, terms, both the visible and invisible transformations that the land undergoes, both locally and globally, with regard to the entire biosphere and climate?

Industrialization brings about mobility of people and goods, hyper-connectivity, overproduction and urbanization, which have transformed a large part of the 21<sup>st</sup> century landscape into an industrial concourse, test laboratory, and a field of conflict among people, and between people and other living creatures. From this, there comes about a blurring of existing, seemingly well-defined borders, zones both separate and interconnected, with regions of safety and danger, rich and poor, managed and wild.

Have we already entered an ideosphere of beyond imaginary boundaries? Does contemporary art make it possible to orient ourselves within this unstable and ever-changing territory? Do frequent art projects and festivals, or interdisciplinary symposia on the theme of the Anthropocene offer fresh approaches and visions, or rather exploit the fascination and anxiety as result of the expected and unexpected changes and transformations?

Guests and participants: Vít Bohal, Dustin Breiting, Peter Cusack, Petr Gibas, Stanislav Komárek, Alena Kotzmannová, Ivar Smedstad, Julia Martin, Pavel Mrkus, Ivo Příklad, Martin Řiha, Matěj Spurný, Tereza Stöckelová, The Laboratory of Insurrectionary Imagination, Andras Heszky (Translocal Institute), Guy van Belle, Martin Škabraha.

Organizers and concept: Miloš Vojtěchovský, Dagmar Šubrtová, Dustin Breiting.

This event takes place and is organized in collaboration of the French Institute in Prague and the support of the Agosto Foundation.





Mariánské Radčice, náhrobek, foto: Miloš Vojtěchovský / Tombstone, Mariánské Radčice, photo: Miloš Vojtěchovský

# Abstracts

## Guy van Belle: An Ecological Awareness: Crossing Borders Between the Real and Imagined?

We live in a world increasingly dissatisfied with our persistence, even to the point of questioning our survival. On one hand, we see an economics-driven reduction of state involvement in the well-being of its citizens, combined with a political and cultural traditionalism, economic protectionism, and a new xenophobia, which unify ideological contradictions in support for the imagined strongest. Solutions for making a new society are demanded from an abstract class with very little involvement in the real issues, who make top-down decisions so that any changes implemented harm no one. The climate conferences are an example of this. Conversely, alternative solutions on the level of every day life have arisen, worked out by small communities with specific needs. They have provided ad-hoc solutions, which they continue to develop and maintain from the bottom up. This implies that one size does not fit all, and we need fundamental change, even if it hurts, until we acquire better habits. It also suggests a completely different situation for culture and art, abandoning the system of museums, collectors and galleries, and redefining the means of a new creativity, to foster new living conditions. Are we spiders and bees, or architects?

Guy van Belle (a.k.a. Gívan Belá) is a media artist and curator living in the Czech Republic. On occasion, he introduces himself as a media data author, at other times as a wind time inventor and clockmaker, then later as a slide

and cigar box guitar musician in a skiffle/spasm band. After studying literature and linguistics, philosophy and sculpting, he switched to computer music at the end of the 1980s. His most important virtual (collective) organisations have been Stellingname (1984–1989), Young Farmers Claim Future (1990–2000), dBONANZAh! (1998–2002), mXHz.org (2002–?) and the Society of Algorithm (2004–?).

## Dustin Breitling: Cognitive Mapping

How do conceptions of territory, land, boundaries, and space change with the emergence of computational tools? Fundamentally, my focus will be to inquire into the role of an array of technologies and how they render novel capabilities of diagramming, spatialising, and designing. In particular, how technologies are employed through the likes of Simultaneous Location and Mapping in Real Time, defined as “the process of creating a map using a robot or unmanned vehicle” that navigates the environment while using the map it generates. Ultimately, my endeavor becomes to investigate these technological affordances and their relationship between orientation and Frederic Jameson’s invocation of a New Aesthetic related to Cognitive Mapping. Jameson’s characterization of a stark disjunction between a phenomenological experience of an individual subject and the apprehension of a global and social totality raises questions as to how to recuperate tools for navigation, and opens a framework for understanding space and its relationship to totalities topologically and importantly dynamic.

Dustin Breitling (USA) is an M.A. Student at Charles University studying Geopolitics. He organizes the Diffractions lecture series and is interested in Accelerationism and Computation.

### **Peter Cusack: Sonic Journalism and Places in Transformation**

Sonic journalism asks the question, “What do we learn of places by hearing their sounds?” and is based on the idea that valuable information about places and events is revealed by the way they sound and that careful listening will give insights different from, but complimentary to, visual images and language. The talk will use examples from the lignite mining areas of North Bohemia and Germany to discuss the sonic consequences of the landscape transformations due to the major industrialisation of these areas.

Peter Cusack is a field recordist and musician with a special interest in environmental sound and acoustic ecology. His projects have included community arts, research into sound and our sense of place, and documentary recordings in areas of special sonic interest (Lake Bajkal, Aral Sea, the Chernobyl exclusion zone, the Caspian oil fields, or UK nuclear sites). The project Sounds From Dangerous Places explores soundscapes at the sites of major environmental damage. Cusack initiated the Favourite Sounds project in London 1998 with the aim of discovering what people find positive about their everyday sound environment. The project has since been established in Beijing, Berlin, Brussels, Chicago, Prague and Birmingham. He lectures in Sound Arts and Design at the London College of Communication and was recently a DAAD artist in residence in Berlin.

### **Vít Bohal: The Anthropocene: The Good, the Bad, and the Ugly**

The contemporary discourse centered around the signifier Anthropocene is in flux, but it is possible to identify some centers of gravity for navigating this newfound semiotic terrain. The first question pertains to the relationship of raw data, manifested in discreet measurements, figures and patterns, as opposed to the functional and narrative context of its interpretation. This gap is bridged by the writers which Slavoj Žižek calls the “Third culture” (Dawkins, Dennet, Sagan, Lovelock, et al.) So, how is the raw data pertaining to contemporary discourse on climate change inscribed in the language of social criticism and ecology? There is the (slightly farcical but all-the-more telling) discussion on the “good, the bad and the ugly” aspects of the Anthropocene, which manages to draw a more navigable cognitive platform with which to address some of the fundamental issues in the wider discourse on anthropogenic climate change. Finally, the presentation will conclude with a look at some of the outputs of the debate as put forth in the work of McKenzie Wark, where he poses a direct challenge to the Western paradigm of the subject/object, human/nature split, and announces, in the words of Žižek, “the death of the Goddess.”

Vít Bohal is a member of the Diffractions collective, which is focused on accelerationism, posthumanism, Prometheanism, and strands of critical theory. He publishes and translates texts on various topics, usually dealing with culture and philosophy. His articles have appeared in VLAK, VICE, Creator’s Project, A2, and Word Addict. He studied music at Charles University and majored in Critical and Cultural Theory.

## **Petr Gibas: Disappearances, Reappearances, Voids: Landscape between Presence and Absence**

The landscape of the North Bohemian Basin is a landscape of constant change. Mining and the material changes it brought about have impacted the meanings inscribed into the landscape. Ideas associated with individual places, as well as the landscape as a whole and the emotions it elicits. In the landscape, emptiness is produced on a massive scale by massive relocation of matter, demolition of monuments as well as ordinary spaces related to the past, obliteration and forgetting. It is also a landscape in which a reverse process takes place, a continuous filling in of the emptiness by (re)created elements, material objects such as a whole new city, as well as by content, meanings and emotions. The processes of disappearance and reappearance fundamentally (in)form the landscape materially as well as symbolically. The intermingling of these two basic processes results in a landscape which is full of voids where the tensions between presence and absence stand out peculiarly. But in the process of filling in the voids produced by mining, other voids emerge. In my talk, I show how these grow out of a tension between presence and absence and how they impact on material, symbolic as well as experiential properties of the landscape in question.

Petr Gibas, MSc., graduated in geography at UCL and he is now finishing his PhD studies in social anthropology at the Faculty of Humanities, Charles University in Prague, Czech Republic. He works at the Institute of Sociology, Czech Academy of Sciences, where he specializes in sociology of home and homelessness. In general, he is interested in landscape and urban anthropology with emphasis put on hybrid landscapes such as industrial landscape of

post-industrial Czech Republic, post-socialist underground landscapes or urban nature. He is a co-author of *Non-humans in Social Science: Animals, Spaces, Things* (2011), *Non-humans in Social Sciences: Ontologies, Theories and Case Studies* (2014) and *Allotment Gardens: Shadow of the Past or a Glimpse of the Future?* (2014).

## **András Heszky: River Ecologies Project**

Challenging anthropocentric conventions that seek to harness the river for economic, cultural and political purposes, *River Ecologies* places the complex ecological materiality of the Danube at the centre of artistic and scholarly attention. Drawing on the insights of artists, scientists, anthropologists, writers and environmental historians, brought together in the experiential setting of the River School, this collective inquiry journeys to sites of urban and natural wilderness to explore issues of reciprocity, resilience, non-human agency and interspecies solidarity. From the confluence of contemporary art and environmental humanities, the artistic and theoretical reflections of *River Ecologies* flow through the critical habitats of *Rewilding Mentalities*, *Avian Ethnographies*, *Environmental Histories* and *Biosphere Responsibility* to reengage with the natural world.

András Heszky graduated at the Eötvös Loránd University and holds a master degree from Art theory-Aesthetics. He worked in Galerie Thomas Schulte, Berlin, in the OFF Biennale Budapest and currently he is a curatorial assistant in Trafó Galéria, Budapest. His texts has been published in Hungarian journals and fanzines, most recently an interview with photographer Wolfgang Tillmans. He is a board member of the Studio of Young Artists' Association and member of the nonprofit cultural organization Igor Metropol. His new interest in the relationships of art and nature is demonstrated

in his publication on the Rare Earth exhibition in Vienna, his participation in Maja and Reuben Fowkes's recent seminars in the Translocal Institute and in his speech, given this year at the opening in Bálint Ház, organized on the occasion of Tu BiShvat, the 'New Year of Trees'. The Translocal Institute for Contemporary Art is a centre for transnational research into East European art and ecology based in Budapest that operates across the disciplinary boundaries of art history, contemporary art and ecological thought. Founded by Drs. Maja and Reuben Fowkes in 2013, the Translocal Institute emerged from a decade of collaborative curatorial and research as [translocal.org](http://translocal.org). In addition to fostering research in the overlapping fields of contemporary art history and ecology, its activities include working with universities and art spaces across Europe to realise curatorial projects and contribute to arts education.

### **Isabelle Frémeaux and John Jordan: Climate Games (Laboratory of Insurrectionary Imagination)**

"We are very inspired by Bertolt Brecht who talked about his theatre work as a way of training people to the pleasure of transforming reality. For us, it is exactly what the encounter between art and activism can offer. Capitalism is monopolising desire, fantasies, and one has to admit the left wing party revealed itself useless on these issues, it always thinks information will change people".

Isabelle Frémeaux and John Jordan are art activists who live in France. Frémeaux was a senior lecturer in Media and Cultural Studies at Birkbeck College-University, London, until she resigned in December 2011 to escape wage labour and academia. Her action research explores popular education, storytelling and creative forms of resistance. Jordan is an art activist. He co-founded the direct action groups

Reclaim the Streets and the Clown Army, worked as a cinematographer for Naomi Klein's *The Take*, co-edited the book *We Are Everywhere: the Irresistible Rise of Global Anti-capitalism* (Verso 2004). Together they co-founded the art activism and permaculture collective The Laboratory of Insurrectionary Imagination, whose infamous interventions continue to erupt across Europe. They published the book/film *Paths Through Utopias* (La Decouverte, 2011), after which they set up the community [la r.o.n.c.e](http://la.r.o.n.c.e) (Resist, Organise, Nourish, Create, Exist). Recently, they co-organized the Climate Games, the world's largest disobedient action adventure game for the Paris UN Climate Summit in December 2015.

### **Julia Martin: The Iceland Expedition: Tracing Hyperextended Objects and their Ecological Agency**

Hyperextension is a medical term describing the extension of a body part beyond its normal limits. I have coined the term "hyperextended objects" in order to describe objects whose ecological agency extends them into the range of other objects, connecting them to many other objects, forces, beings, ecologies, in specific means-and-ends relationships. Regarding objects not as closed but as hyperextended allows us to understand them as ecological agents participating in forming ecological systems of objects and infrastructures, both man-made and natural. To discover their joint ecological agency, objects must be hyperextended beyond their individual object-hood through contextual research. The aim of the expedition in Iceland was to introduce the artists to this concept, and to let them trace hyperextended objects in the field context, thereby discovering their wider ecological agency. We used the Kárahnjúkar hydroelectric project in East Iceland as a case study, following the extensions of the entire project:

The hydroelectric dam, the powerstation, the powerlines, the aluminium smelter for whose energy supply the dam was built, the neighbouring towns, and the two affected river systems. All these components together form a hyperextended object of concern – whose wider ecological agency may even defeat the initiating object's "green" intention (e.g. producing hydroelectricity while destroying aquatic systems, in order to build parts for airplanes). It is hoped that recognizing and visualizing hyperextended objects in advance can lead to changes in decision-making regarding land use and environmental planning.

Julia Martin Ph.D. is an artist and landscape architect from Berlin, living in Seyðisfjörður, Iceland. She holds a Ph.D. in art from Goldsmiths, University of London, an M.F.A. from Edinburgh College of Art, and an M.A. in landscape architecture from the Technical University Berlin. Her performative actions, drawings, photocollages, installations, and writings investigate the relationships between objects and agents in space and time, and have recently focused on developing her concept of hyperextended ecological objects.

### **Stanislav Komárek: Having Land, Having a Garden**

Once land was a fundamental source of livelihood and its ownership was desired by all. After the first and the second industrial revolutions money is produced in completely different way. But we are still living from the products of agriculture, even if it has become a marginal and despised sort of enterprise. Nevertheless, subjective love towards the land and plants still goes on, whether in the form of gardens or flowers.

Prof. Stanislav Komárek is a head of the Department of Philosophy and History of

Sciences at the Faculty of Science, Charles University Prague, writer and essayist. He also holds a degree in biology from the Faculty of Biological Sciences of Charles University. He was briefly employed at the Institute of Parasitology of the Czechoslovak Academy of Sciences in České Budějovice, after which he opted for exile in Austria. He lived there as an émigré from 1983 to 1990, working in Vienna, first at the Museum of Natural History, and then later at the Austrian Ministry of Agriculture, and ultimately at the Institute of Zoology of Vienna University.

### **Alena Kotzmannová: Reporting from the North**

The journey led north. "North" keeps shifting. For residents of Oslo, north is somewhere in the middle of Norway in Trondheim, for residents of Trondheim it is somewhere in Alta, and in Alta it has shifted even further to the north.

Alena Kotzmannová Ph.D is visual artist and photographer living and working in Prague. In 2014, she received a Ph.D. from the Faculty of Education of the Charles University, In 1998, she graduated from the Academy of Arts, Architecture and Design in Prague from the Studio of Conceptual and Intermedia Works and the Studio of Photography. In her predominantly black-and-white photographs, Kotzmannová deals with the possibilities and paradoxes of the medium.

### **Pavel Mrkus: About "The Fall"**

The audiovisual installation "The Fall" presents an explicit model of confrontation to the power of water and gravity in its raw and abstract form. The work consists of a multi-channel video installation assembled from footage taken during the expedition to Iceland.

Pavel Mrkus MgA, Doc. is an audiovisual artist who makes use of digital moving images

and sound often in relation to specific space. He graduated from the Academy of Arts, Architecture and Design in Prague. His interest in Religious Studies, together with the experience of a four-year teaching position at Toyama City Institute of glass art in Japan has lead him to a unique mixture of cultural paradigms within his work. After showing at the 50<sup>th</sup> Venice Biennial in 2003, he has participated in many group and solo shows around world. Together with Daniel Hanzlik he established the Time-Based Media studio at the Faculty of Art and Design at J. E. Purkyne University in Usti nad Labem. He was awarded a Personality of the Year 2012 for his exhibition Next Planet by The Brno House of Arts.

### **Ivo Přikryl: The Hydrological System of the Land after Open Pit Mining: The Ideal and the Reality**

The remediation of environmental (and social) disturbances caused by open cast brown coal mining in northwest Bohemia is a priority for state environmental policy. In order to provide a plan for the full restoration of land following such disturbances, a special interdisciplinary project supported by a grant from the Czech Ministry of the Environment was started in 2000. The initial stage of the project was to evaluate the findings from various reclamation activities over a period of more than 50 years. The main aims of the 3-year project are to make use of the best available environmental management knowledge to harmonize the ecological, aesthetic, productive and social functions of a new landscape, including the restoration of historical continuity and an understanding of 'landscape memory'.

Ivo Přikryl RNDr. is a hydrobiologist employed at ENKI o.p.s., Třeboň. His research focuses on zooplankton in lakes, dams and ponds mostly in Central Europe. He is currently studying

the protection of wetlands, marshes, the management of dams, and the recultivation of the landscape after periods of open cast mining, especially in the Ore Mountains.

### **Martin Říha: The Ore Mountains Landscape, Men and the Limits of Adaptation**

The world around us and we ourselves are dynamic, not static, systems. We are undergoing environmental changes both real and perceived, in our living conditions, communities and their rules, standards of living, international relations, and the global and cosmic contexts of our existence. These changes take place at different hierarchical levels and varying rates, and they test of our ability to adapt to them, or reject them. At each hierarchical level, there is a certain limit which, if exceeded, entails at least discomfort, and in the case of severe and prolonged and cumulative changes, may result in problems of physical and mental health. The landscape of the Ore Mountains was for decades the subject of devastation from open cast mining and kaolin extraction. It has been made toxic by emissions from chemical, steel and other heavy industries, and exposure to the effects of the industrial-scale burning of coal. This landscape has become a giant test laboratory for exploring the limits to what human, natural and cultural heritage can "hold on to", and what will remain for future generations.

Martin Říha Ing. Arch. is a Czech architect and urbanist active in Czech environmental policy. After graduating from the Architecture Faculty of the Czech Technical University, he worked for the City of Děčín, and later in Ústí nad Labem at the Department of Regional Planning. There, he lobbied against the so-called "large-scale mining" proposed by the Soviet advisors for the North Bohemian coal region.

Ivar Smedstad studied fine arts at the San Francisco Art Institute and received his degree in performance/video in 1988. He then moved on to work with distribution and preservation of video art at Electronic Arts Intermix in New York, where he held the position as Technical Director. In 1992 he received a fellowship from the Academy of Media Arts in Cologne where he worked as an artist in residence and lecturer in media art. Since year 2000 Smedstad was associate professor in the Intermedia department and institute chair at Trondheim Academy of Fine Arts. Smedstad is currently director of Atelier Nord, a media arts organization in Oslo. Ivar Smedstad has been working with video art and electronic media since the early 1980s and has participated in numerous international and national video art exhibitions, screenings and festivals.

### **Martin Škabraha: Reclaiming the Landscape**

This contribution is inspired by Henri Lefebvre's concept of a socially-oriented Production of Space. The attempt is to suggest an alternative of co called "right to the city" and to refer to actual threats to this right by different forms of usurpation and exploitation, mainly by processes of nationalisation and commodification.

Martin Škabraha Ph.D, is a Czech philosopher and journalist. He graduated in history and philosophy from the Philosophical faculty of the Palacký University in Olomouc. Currently, he teaches in the department of philosophy at Ostrava University, focusing mainly on contemporary political thinking. His work has been influenced by Jan Patočka, Václav Bělohradský, Jacques Derrida, and theorists of the Frankfurt school. His essays bring together postmodern critique and statements of social engagement, addressing issues such as ecology, the New Left and feminism.

### **Matěj Spurný: "We didn't have the Numbers" – The Dawn of Criticism of Socialist Productivism in North Bohemia in the 1960s as a Case Study**

The beginnings of criticism of socialist productivism as a case study in North Bohemia during the 1960s. The Czechoslovak public saw during the 60s a renewal of public debate and various forms of criticism. It was not yet primarily a critique of Stalinism, as often claimed, but rather a polemic among various alternative projects, which represented the overcoming of Stalinism. Besides bureaucratic forms of governance, mainly technocratic projects prevailed, drawn from the scientific and technological revolution. In the second half of the decade, in response to this anthropocentric vision, for the first time on a larger scale visible damage to the environment (inspired by, among others, Western European and American models), promoted the rise of criticism of the belief in the power of technology and a concentration on economic factors. In my contribution, I will show these symptoms of the crisis of industrial modernity in socialist Czechoslovakia using the example of North Bohemia.

Matěj Spurný Ph.D is a senior lecturer and member of the Department of Social History specializing in modern social history, nationalism and multiethnicity in the Czech lands in the 20th century, and the history of modern European dictatorship.

### **Tereza Stöckelová: Ontological Uncertainty in the Planetary Lab**

Modern thinking and acting in the world is based on the principle of predictability and control. Unintended effects of our activities are considered "collateral". What would change if these effects were considered central? What if



the limits of our ability to predict and to control were not effects of what we do (not) know, but became part of reality itself? How can we consider the planet as a Latourian “nonmodern” laboratory, where humans are just one among many experimenters?

Tereza Stöckelová Ph.D. is a researcher at the Institute of Sociology of the Czech Academy of Sciences, assistant professor at the Department of General Anthropology, Charles University, and editor-in-chief of the English edition of *Sociologický časopis*. Her work is situated between sociology, social anthropology and science and technology studies (STS), and draws upon actor network theory and related material-semiotic methodologies. She has explored academic practices in the context of current policy changes, science and social relations, and environmental controversies. She has also engaged in public debates and policy on the assessment of science and research, and was a member of the working group that received the John Ziman Prize in 2014 for the European Science Foundation report *Science in Society: Caring For Our Future in Turbulent Times*. In 2015 she started a new research project concerned with “multiple medicine”, an ethnography of the interfaces between biomedical and alternative therapeutic practices.

### **Dreamland - A Documentary Film by Andri Snær Magnason and Þorfinnur Guðnason**

Dreamland is a film about exploitation of natural resources and as Icelanders have learned clean energy does not come without consequence. Iceland is a country blessed with an abundance of clean, renewable, hydro-electric and geothermal energy. Clean energy brings in polluting industry and international corporations.

Dreamland tells the story of a nation with abundance of choices gradually becoming caught up in a plan to turn its wilderness and beautiful nature into a massive system of hydro-electric and geothermal power plants with dams and reservoirs, built to power the increasing heavy industry that will soon make Iceland the largest aluminum smelter in the world.

*Running time: 89 min*

*Music composed by: Valgeir Sigurðsson*

*Screenplay: Andri Snær Magnason and Þorfinnur Guðnason*

*Awards: Cinema Politica 2010, Edda Icelandic Film Awards 2009*

### **The Forgotten Space**

Filmmakers Allan Sekula and Noel Burch examine the personal stories of links in the global supply chain – the workers aboard giant cargo ships. *The Forgotten Space* follows container cargo aboard ships, barges, trains and trucks, listening to workers, engineers, planners, politicians, and those marginalized by the global transport system. We visit displaced farmers and villagers in Holland and Belgium, underpaid truck drivers in Los Angeles, seafarers aboard mega-ships shuttling between Asia and Europe, and factory workers in China, whose low wages are the fragile key to the whole puzzle. And in Bilbao, we discover the most sophisticated expression of the belief that the maritime economy, and the sea itself, is somehow obsolete.

*Running time: 1h 53m*

*Music composed by: Louis Andriessen, Riccardo Tesi*

*Screenplay: Allan Sekula, Noël Burch*

*Awards: Special Orizzonti Jury Prize*



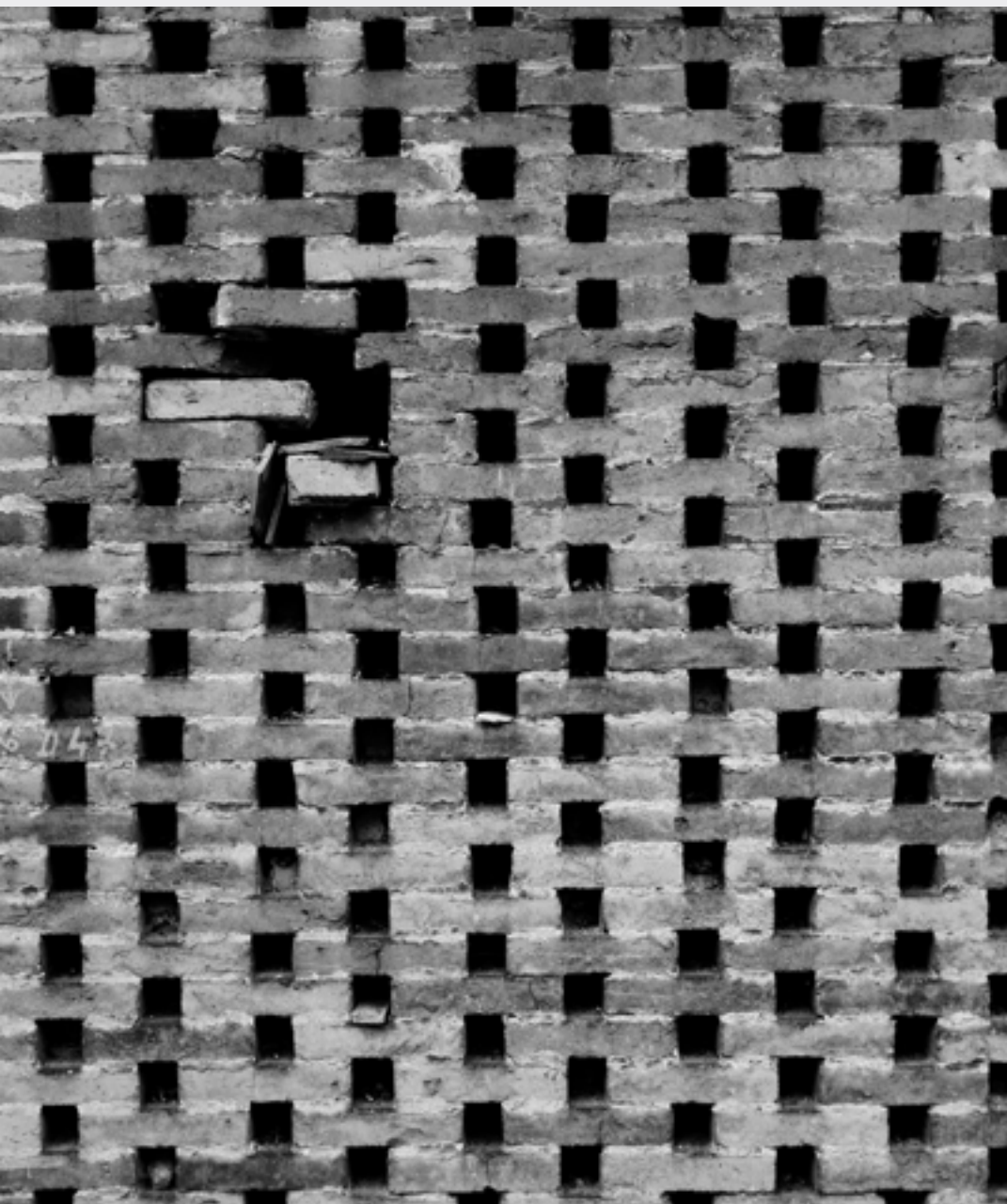


Attack on an enemy surveillance balloon, 1918, Wikimedia Commons





Near the town of Hveragerði, Iceland, 2014. Photo: Michal Kindernay



Garden wall, Osek monastery, 2015, photo: Lloyd Dunn

# Authors

**Vít Bohal** is a member of the Diffractions collective, focused on Accelerationism, Posthumanism, Prometheanism, and strands of Critical Theory. He publishes and translates texts on various topics, most usually those of culture and philosophy. His articles have appeared in VLAK, VICE, Creator's Project, A2, and Word Addict. He studied music at Charles University and majored in Critical and Cultural Theory.

**Dustin Breitling** born in USA, he is an M.A. Student at Charles University studying geopolitics. He organizes the Diffractions lecture series and the upcoming Reinviting Horizons symposium hosted in Prague.

**Václav Čílek** is a Czech geologist, climatologist, writer, philosopher, and popularizer of science. He graduated from the Mining Institute and Faculty of Natural Science of Charles University, and became involved in the study of hydrothermal deposits. Later, he studied samples brought from the Moon by Russian satellites. Thirty years ago, he began to focus on climate change and environmental issues. He combines a knowledge of the humanities with the natural sciences. He is the author of around 400 scientific articles and several books, including the award-winning *Inscapes and Landscapes* and *Makom Book of Places*.

**Peter Cusack** is a British field recordist and musician with a special interest in environmental sound and acoustic ecology. His projects have included community arts, research into sound and our sense of place, and documentary recordings in areas of special sonic interest (Lake Bajkal, Aral Sea, the Chernobyl exclusion zone, the Caspian oil fields, or UK nuclear sites). The project *Sounds From Dangerous Places* explores soundscapes at the sites of major environmental damage. Cusack initiated the *Favourite Sounds* project in London with the aim of discovering what people find positive about their everyday sound environment. The project has since been established in Beijing, Berlin, Brussels, Chicago, Prague and Birmingham. He lectures in Sound Arts and Design at the London College of Communication and was recently a DAAD artist in residence in Berlin.

**Julia Martin** is an artist and landscape architect from Berlin, living in Seyðisfjörður, Iceland. She holds a Ph.D. in Art from Goldsmiths, University of London, an MFA from Edinburgh College of Art, and a Master in Landscape Architecture from Technical University Berlin. Her performative actions, drawings, photocollages, installations, and writings investigate relationships between objects and agents in space and time, and have recently focused on developing her concept of hyperextended ecological objects.

**Ivo Přikryl** is a Czech hydrobiologist working at ENKI o.p.s. Třeboň. His research focuses on zooplankton in lakes, dams and ponds mostly in Central Europe. He is currently studying the possibilities for the protection of wetlands, marshes, the management of dams and the recultivation of the landscape after periods of open cast mining, especially in the Ore Mountains.

**Radoslava Schmelzová** is a Czech art historian and curator graduated from the University of Ostrava with a degree in Art History and from the Academy of Arts, Architecture, and Design in Prague with a degree in the Theory and History of Design and New Media. She has worked in the National Gallery in Prague and in the National Heritage Institute. Presently, she is teaching in the Department of Alternative and Puppet Theatre of the Academy of Performing Arts in Prague, the Faculty of Theatre. She also collaborates with the Archive of Fine Art.

**Ivar Smedstad** is a Norwegian artist and curator. He studied fine arts at the San Francisco Art Institute and received his degree in performance/video in 1988. Smedstad has been working with video art and electronic media since the early 1980s and has participated in numerous international and national video art exhibitions, screenings and festivals. He was the Technical Director at Electronic Arts Intermix in New York and has held various teaching positions, including a fellowship from The Academy of Media Arts in Cologne and department chair at Trondheim Academy of Fine Arts. Smedstad is currently the Artistic Director of Atelier Nord.

**Dagmar Šubrtová** is a Czech sculptor and curator born in Duchcov. She lives and works in Kladno, where she is continually confronted with the environment of an industrial landscape. She graduated from the Sculpture studio Academy of Arts, Architecture and Design in Prague. Her relationship to industrial environments was given a new impetus after she moved to Kladno, where she worked until 2010 as a curator of the Mining Museum in Mayrau Vinařice. Besides being an artist, she often acts as a curator (exhibition project of the Macromolecular Institute of the Academy of Science CR in Prague, the Biennial Industrial Vestiges). Her artistic work focuses on the changes in the landscape as a result of industrialisation. *dagmarsubrtova.cz*

**Miloš Vojtěchovský** is a Czech curator, art historian, and artist living in Prague. He worked as a curator (The Hermit Foundation and Center for Metamedia, The Collection of Modern and Contemporary Art at the National Gallery in Prague, MediaLAB at the Center for Contemporary Art in Prague, Radio Jelení, Lemurie TAZ, etc). He has lectured on media, contemporary art, media theory and history at the Faculty of Fine Arts at the Technical University Brno. Since 2004 he has taught media art history and theory at the Center for Audiovisual Studies at Film and Television Faculty at the Academy of Performing Arts in Prague. He curated the program at the Gallery Školská 28 and was one of the initiators of Institute of Intermedia for reasearch in contemporary arts, science and technology at the Czech Technical University.



# Frontiers of Solitude

## Na pomezí samoty

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[www.frontiers-of-solitude.org](http://www.frontiers-of-solitude.org)

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