

**Berlin Soil Specimens. The Last 12,000 Years**  
An Audiovisual Space Installation

by

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The most recent Ice Age ended 12,000 years ago. Until then, Berlin was covered by a layer of ice over 200 metres thick. The tip of the television tower would have been barely visible. Following a sudden climate change, the glaciers from Scandinavia melted, leaving mud, sand and gravel behind. Evidence of that glacial period is still detectable today: Prenzlauer Berg (hill) and Kreuzberg (hill) are both located on the edge of the primeval glacial valley which dug its way through the large mounds of sand deposited by previous glaciers. Today's city centre originally developed within that ancient four-kilometre-wide riverbed and still serves as the undeniable foundation for life in Berlin.

What does this history have to do with us today? How is it possible to even grasp what 12,000 years means? How can soil in all its – geological, ecological, ideological – complexity become tangible? What is relevant for understanding the present? And what significance does a knowledge of the soil have for our future?

Berlin Soil Specimens artistically examines the complexity of the soil by combining various art forms to create an audiovisual space installation: an 8-channel sound installation, a 6-channel video installation, space and text as well as exhibits on loan from the Stadtmuseum Berlin Foundation and the Senate Department for the Environment, Transport and Climate (geology).

## Artistic Team

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Uwe Gössel

Berlin Soil Specimens. The Last 12,000 Years

Hole # 1 — # 8

*For Geesche*

Hole # 1 Moritzplatz 52°30'13.1"N 13°24'37.8"E

Hole # 2 Eastern shore of Straussee, Barnim 52°35'00.2"N 13°52'45.4"E

Hole # 3 Western shore of Straussee, Barnim 52°34'58.5"N 13°52'19.6"E

Hole # 4 Niederlehme 52°18'08.9"N 13°40'42.1"E

Hole # 5 Prinzenstraße 52°30'10.6"N 13°24'37.1"E

Hole # 6 Ruhleben 52°31'31.8"N 13°14'31.8"E

Hole # 7 Sophien II Cemetery 52°31'56.5"N 13°23'36.4"E

Hole # 8 sine loco

Hole # 1

Moritzplatz

52°30'13.1"N 13°24'37.8"E

No path leads to this grassy roundabout at Moritzplatz. It wasn't intended for pedestrians. But it's where I'm heading. Perhaps for the simple reason that it is a non-place, an urban blind spot, which is the perfect site to experiment with my own awareness.

Nonstop cars, bikes and lorries whiz past. Suddenly a gap in the flow, I made it! But where am I? The green is not lawn grass, it's crude crabgrass that defies both exhaust fumes and the summer heat. This space is amazingly protected by the car-friendly roundabout. I can even stretch out on my back with no fear of landing in dog poo. I feel the hard earth under the weeds. But what lies beneath the surface?

I am going to dig eight holes with my spade tonight. In a circle, like the eternal orbit of the planets around the sun. I am going to investigate the premises, plain and specific. What strange weeds. They barely let me break ground. The earth is as hard as stone. Every cut of the spade yields only a smattering of sand. I resort to more force. But it is just as useless as stomping on the shoulder of the spade with my foot. It takes longer than I expected to get a full bucket. I fill the previous hole with the dirt I collected. Dust billows like powder into the evening sky but without the typical earthy smell I'd anticipated. While circling, car drivers yell something at me, but I am unable to hear what they say. People seem to be particularly wired today. It is June 21<sup>st</sup>, midsummer. The longest day of the year. I gaze at the balmy evening sky. The view from this spot would have been about the same 12,000 years ago. When the Ice Age was finally replaced by the present warm period and the glaciers had melted and receded to the north, an ice-free Berlin remained. Only sand and gravel were left behind. Everywhere. But where did it come from?

Over 100,000 years ago, the earth's axis shifted in relation to the sun. It got colder in the north, and it stopped raining. Snow fell and fell until Scandinavia was covered by a layer of ice one to three kilometres thick. The glacier gradually started moving from the north at a speed of 200 metres a year until it was just a few kilometres south of present-day Berlin. 24,000 years ago, the sheet of ice was located right here at Moritzplatz where I am now lying and listening to the sound of car engines. 200 metres thick. What a short time ago – that Ice Age – compared to the 400 million years it took for oil to form – the oil cars burn to keep moving.

What are 12,000 years, I wonder as I dig another one of the holes and fill the bucket with sand? In the meantime, I have discovered a digging technique: I chop the weeds' roots with the spade and scrape little piles of sand onto it.

Once again I fill the previously dug hole with the sand.

I recently dug up an essay by Walter Benjamin when I was home: "He who seeks to approach his own buried past must conduct himself like a man digging. Above all, he must not be afraid to return again and again to the same matter: to scatter it as one scatters earth, to turn it over as one turns over soil. For the matter itself is but a deposit, a stratum, which yields its long-sought secrets only to the most meticulous investigation." What is that "matter"? The way the

soil here in Berlin became what it is? What is my personal “matter”? Perhaps the question: What am I looking for here? Or: What is my purpose is here? Or even better, because the question is more radical: What is my purpose on earth? When I dig here, I am a person digging, one who might become 55 or 85 years old. What sort of time period is that in comparison to the ground that person lives on? I go on digging.

## Hole # 2

Eastern shore of Straussee, Barnim

52°35'00.2"N 13°52'45.4"E

Upper moraine land. The Barnim Plateau, a glacial drift that was formed during the last Ice Age, is bisected by the Berlin glacial valley. The ice deposited sand and till, often in heaps over 100 metres high. It was brought from Norway, Finland, Sweden or Denmark. Long, narrow lakes, stretching several kilometres, were formed in the glacial troughs, for example, Straussee, about an hour's ride from Moritzplatz on the commuter train (S-Bahn).

The old white rowboat is in the immediate vicinity of the high school at the landing stage. We leave the school and stroll down to the lake (Straussee). The little boat trip across this ribbon lake completes a productive week of studying the history of Barnim's soils and Berlin's glacial valley as well as the current effects of climate change. Five young men between the ages of 16 and 20, students in the introductory class for migrants, were with me from the start: Khosnawaz, Mohsen, Attaulah, Sahid and Nagibullah. These unaccompanied refugees from Afghanistan were stranded in the Berlin area in 2017. Together we spent the week examining various layers of soil, determining soil profiles and playing football. We spent a lot of time together, sharing our everyday stories. The students come from various regions of Afghanistan's highlands where most of them worked as carpet weavers. They talk about it in the breaks. The various languages crisscross simultaneously, drawings on paper are added, we improvise and get to know each other better. But there is one topic I try not to mention: Their forced displacement from home.

Back to the lake: The trip by boat doesn't take long. We row close to the shore. Not much is said. Memories and impressions race past. What a colourful, rag-tag group out crossing the lake! In a so-called "Tourist" touring boat, manufactured by VEB Fahrzeugsitze (car seats) Bad Schandau". After disembarking to have a picnic, we start to talk about their escape. They exchange stories about the different routes they took to reach Brandenburg. They use a stick to draw their route in the hardened sand – from the highlands of Afghanistan to Berlin. The contours of various countries are scratched into the ground, cities designated by stones or pine cones. Apparently, the five young men all took different routes. Sometimes the paths they travelled – by ship, bus or train (for example, in Munich) – actually intersected. They walked long distances... across countries. For months.

A few days before the boat trip, I met Rolf Barthel at the Strausberg Heimatmuseum (local history museum). The 86-year-old historian told me about how the area was settled after the ice melted. Reindeer hunters lived here 12,000 years ago. As the animals moved further north, the people also vanished for a long time. Barely 6,000 years ago, the first permanent human settlements were established. These early migrants came from the eastern Mediterranean area and Mesopotamia, from the land of the Fertile Crescent. They had cultivated wild grasses into grain and were the first people in human history to live from farming. They had domesticated the dog, and they made their own crockery. But the fertile climate changed and became harsh. The farmers were forced to move on, but thanks to their ability to make fire and tools, they managed to advance as far as northern Europe. Before making the area around the lake (Straussee) their new home, they followed the same routes these five young men took when they left Afghanistan.

How many people have already lived on earth? We are fundamentally separated from them by time. So how precious is this particular treasure: our mutual lifetime, no matter where we live on earth?



Hole # 3

Western shore of Straussee, Barnim

52°34'58.5"N 13°52'19.6"E

I look at the ground from various perspectives. What is the significance of this particular ground that I can touch, feel and describe? And what is the significance of the intangible ground(work) which is charged not only with expectations, meanings and concerns but also with hopes. How does it become the focus of politics?

Helmut and Brigitte Putzger have been a couple for 60 years. Like Philemon and Baucis, they sit on the bench by the lake in front of the retirement home, gazing across the water (Straussee). On the other side of the lake, construction workers are busy tearing down the former Strausberg Clubhouse. The concrete walls are ground up on-site by a stone mill, and the remains are transported on conveyor belts to the lorry where they are spit onto the loading platform of a lorry. The pieces are the size of a man's fist. They look like small boulders and are in no way reminiscent of the clubhouse which was built in the Bauhaus style during the sixties and served as the cultural and social hub for the many Strausberg residents who worked for the Ministry of Defence here. Among them: the Putzgers.

After the downfall of the German Democratic Republic, the building is not handed to the town's residents. Instead it is sold cheap to several investors. It turns out badly for all of them, and the building begins to deteriorate in broad daylight until it is finally torn down in 2018. The youngest investor discovers the potential of elderly people and opens a private retirement home right on the spot where young people used to dance.

Flashback, 1945. Once Helmut Putzger is able to crawl out of the bomb shelter, he is 15 years old. He has survived the bombing of Dresden. And he has already found his guiding principle: No more war! As a young man, he studies acting and performs Schiller and Goethe on stage. He then becomes a member of the People's Police in the early years of the GDR. He says he wants to do something meaningful. The people's police from all over the country are brought to Strausberg, in close proximity to Berlin, and barracked together. In the fifties the barracks quickly become the headquarters of the GDR's National People's Army. As a trained representative of the creative arts, Helmut Putzger knows how to tell stories. He is given the task of managing the army's narrative. He becomes the head scenario editor of the NVA (National People's Army) film studio. While thousands of armed soldiers follow the orders of the SED's (Socialist Unity Party of Germany) Central Committee, securing peace and protecting the territory of the GDR from external enemies, Putzger is given another task: His job is to cultivate the country's ideological groundwork and defend it against internal hostility. His weapon is a 35-mm film camera. Under his responsibility – and up until he retires – approximately 1,500 longer and shorter films are shot: documentaries about military exercises that simulate a tank assault by Western Allied Powers (entitled "Dedicated to Freedom"), reports about the deployment of surface-to-air missiles or the transfer of Gerhart Hauptmann's mortal remains from Poland to the island of Hiddensee. There are also instructional films for young soldiers about how to treat young women: Take your cigarette out of your mouth and straighten up! Today these films are kept in the Federal Archives at Berlin's Fehrbelliner Platz. A profit-oriented company now owns all the rights and sells them worldwide. Does that mean, ideologically speaking, that the leftists' battle has been lost?

Hole # 4

Niederlehme

52°18'08.9"N 13°40'42.1"E

It is an enormous amount of accumulated knowledge. A total of 4.5 million exhibits are stored at the Berlin Stadtmuseum: axes from the Stone Age, mammoth molars, woolly rhinoceros thighbones. Billions of years worth of old fossils.

Our knowledge about the history of soil is surprisingly new. Less than 150 years ago, Alexander von Humboldt's claim was refuted by the Swedish geologist Otto Torell. Humboldt had alleged that the boulders which could be found everywhere in the soil in and around Berlin had originally been spewed from volcanoes. Wrong. Torell deciphered the scratch marks on stones and concluded: The stones – including the entire soil in and around Berlin – were deposited there by a glacier! Within the last 200 years alone, so much new knowledge has been acquired, because empiricism and scientific networking have prevailed.

As opposed to the other planets in our solar system, temperatures on earth do not fluctuate up to 200 degrees C. The reason is that the earth's rotation is stabilized by the weight of the moon. The position of the earth's axis in relation to the sun is relatively stable. The slightest changes have profound climatic consequences which can subsequently be analysed. In 1996, Geologists use core samples, which are 10cm thick and taken from 270 metres below the Reichstag, to differentiate between a total of three Ice Ages within the last 400,000 years.

Another incredible number I am unable to overlook: 4.6 billion years lie behind us. But how can I grasp this time period? If the earth were as long as a day, we could spread the earth's development (to the present) over a period of 24 hours:

At 07:18, the first photosynthesis. At 07:44, the first sexual reproduction. At 22:44, the emergence of dinosaurs. At 23:59:56.4, the emergence of homo sapiens. The beginning of the Holocene: agriculture, livestock farming and sedentism spread. All this happens somewhat later in Berlin. 0.2 seconds ago – or 12,000 years ago – there was only tundra here. We know that today. Also that the wind continued to blow sand over the stones that had been dragged here, forming a distinct edge on their backside.

We dig to the south of town in the Grube Niederlehme (a sandpit). Over the years, all of Berlin's sandpits were closed. Now the flat-bed lorries start lining up at 5:30 in the morning to load sand for Berlin's construction sites. Armed with helmets and high-visibility vests, we dig through huge piles of scrapped boulders. At last we discover two of those ventifacts (windkanter). Age: over a billion years. A streak of good luck! We carefully wash them on-site, and now they are lying in the rooms of a gallery.

13 September, 2019. We are located at the final point of the virtual timeline. Behind us lies a monumental past which we continue to learn more about. But what lies ahead? Considering that the knowledge we have accumulated in the past 200 years has so radically changed our fundamental understanding of the entire context, what comes next? Until now nature was considered the greatest force. In the meantime, however, nature's real superiority reveals itself in its vulnerability and fragility. One or two degrees more of global warming, and the threat of collapse is imminent. So what?

Humility overcomes me. Triggered by the complexity of the entire context: earth's incredible age, the comparatively rapid changes caused by our human actions and ultimately my own life span. Knowledge will increase, the circumstances will change, and they will change us. And now? What do I sense now poking its head through my feeling of humility?

Michel Foucault's laconic wager on man is to be found at the end of his conclusion in "The Order of Things" from 1974: "As the archaeology of our thought easily shows, man is an invention of recent date. And one perhaps nearing its end. If those arrangements were to disappear as they appeared, if some event of which we can at the moment do no more than sense the possibility – without knowing either what its form will be or what it promises – were to cause them to crumble, as the ground of Classical thought did at the end of the eighteenth century, then one can certainly wager that man would be erased, like a face drawn in sand at the edge of the sea."

In my book I find this concisely short but moving thought jotted down on a slip of paper by whomever: "Knowledge which was once, metaphorically speaking, a firm foundation is now more like the skilful but fleeting movement in the realm of possibilities. The image of man, that face in the sand at the edge of the sea, vanishes and discovers itself as sand." Does this "self discovery" signify one of those moments? Does man's vulnerability now reveal itself in light of the alarming, complex interaction between his own actions and nature's fragility? An age "after man"?

Hole # 5

Prinzenstraße

52°30'10.6"N 13°24'37.1"E

Moritzplatz is halfway between Südsterne and Volkspark Friedrichshain. This stretch of land, about four kilometres long, was still frozen – up to 12,000 years ago – before it evolved into a vast swampland. It was a nearly insurmountable obstacle for reindeer hunters heading north or south in pursuit of prey. Since the Berlin glacial valley was as much as 10 kilometres wide, the current Museumsinsel (Museum Island) early on became a strategically favourable spot to cross over to Prenzlauer Berg (hill). For a long time, the only thing that grew on the barren ground (no topsoil) was the white dryas which today is found exclusively in high mountainous regions.

8,000 years ago when variations in the earth's orbit suddenly caused global warming – on the average, one to three degrees warmer than today – more and more people began settling along the banks of the Spree River which was still in transition. Seen from today's perspective, living conditions were extremely adverse, and many centuries passed before anyone permanently made this area their home. The unfertile soil produced almost no yield.

During the Middle Ages the marshland was finally drained, and the first traffic arteries, such as Mehringdamm or Kurfürstendamm, were erected and kept dry with thick wooden sticks. For people's lives nowadays, the condition of the soil hardly has any significance. Berlin's countryside – with its abundance of lakes or Grunewald Forest – is known for its so-called recreation areas. The clubs on the banks of the Spree reflect the spirit of Berlin. Berlin's soil feeds the people who live here, not in a direct way, or, at best, by means of global trade.

Investors are putting up huge new buildings in Prinzenstrasse on the site where Robben & Wientjes used to rent out removal vans for Berlin's people-on-the-go.

Everything is bright and sparkling on the reflective signs in front of the construction site. The buildings of the future are named "The Shelf" or "The Grid". The primary goal of these building projects is not to create something for the common good. It only has to do with money. The ground, the property, is first and foremost speculation for huge profits. Up to how many metres underground does the property still belong to the new owners? 20 metres? 100 metres? A cone that goes to the centre of the earth?

How are nearly four million people in Berlin able to thrive on this common ground? Who does the ground belong to in the long run? The ground dispute is inevitable in Berlin, because as the law states: "real estate is non-duplicable and indispensable". It is fundamental and vitally important, like air and water.

A heavy summer thunderstorm: Over night the rain washes the sand from the construction site and deposits it on Prinzenstrasse. Long patches of sand spread across the asphalt. As the rain begins to subside, little furrows emerge in the sand. The next morning I recognise patterns similar to the images on the maps that show the beginning of the Spree 18,000 years ago. Much like the furrows on the street, the Spree dug its way into the sand. The high edge of the riverbank is now known as Kreuzberg. Berlin's sandy soil from the various Ice Ages is up to 300 metres thick. Without it, Berlin would be below sea level. By drilling deeper – into the past – we can unearth deposits from the time when this entire area was the sea.

Hole # 6

Ruhleben

52°31'31.8"N 13°14'31.8"E

Ms Witzel is in charge of the Geology Department at the Berlin Stadtmuseum. When we ask where unadulterated traces of the most recent Ice Age can be found, she tells us about the Murellenschlucht (ravine). This so-called meltwater channel is located behind the Ruhleben flood-plain mire between Muerellenberg (hill) and a recessional moraine, known today as Pichelsberge, in Berlin's Westend. Fine-grained sand was deposited by the wind and formed dunes. Troughs then emerged and continued to advance. We see vegetation that innocently tries to gain a foothold in the loose soil – ground which is historically fraught with countless human traces, and they immediately catch our eye: The Waldbühne (open-air stage) built by the Nazis, the police barracks and the many sites where the Wehrmacht shots its deserters shortly before the war ended. Seven years ago, Ruhleben's emigrant barracks were torn down. Long, simple buildings along the railway line to Hamburg. Starting in the 1890s, it was standard emigration procedure to disinfect the poverty-stricken refugees from Berlin, Germany and Eastern Europe. They received a pass which was stamped with "Ruhleben" and permitted them to travel on to Hamburg. Hundreds of thousands were channelled through those barracks. Berlin was a massive transit point for people. Thousands were flooding the city and, at the same time, thousands were leaving the city, hopeless after nearly starving to death. I recall the many photographs that Heinrich Zille took little more than a hundred years ago, documents of everyday life in Charlottenburg: women pulling huge wooden wagons along the wide sandy surfaces, wagons filled with twigs and branches they had collected in the Grunewald Forest. Not that much time has gone by since Berlin's sand was everywhere. Pictures taken by F. Albert Schwartz, also around the turn of the century, present city views of Berlin, for example the Rehberge (dunes). The photographs are more reminiscent of an African savannah than a metropolis.

There is no history of the soil we can resort to for the future. At the moment, everything in Berlin is based on the present. A process which is nearly unmanageable and impossible for one person alone to deal with.

Hole # 7

Sophien II Cemetery

52°31'56.5"N 13°23'36.4"E

Having just passed through the gate of the cemetery in Bergstrasse, I feel as if I've entered a kind of cavern. But instead of being dark and damp, it is light and green here. The sky seems nearer this July. The old trees not only provide shade, they also muffle the traffic noise in Berlin Mitte. My wife's freshly-dug grave lies off the beaten paths, veiled by trees. Just last April I lay down on my back here, reclining in the pale grass – on a spot yet untouched by graves – and I gazed at the clouds through the bare branches. Is this a good place to lie? Is this a good place for the grave? Not in the soil but in the sandy ground? Yes.

My wife's grave will also be my own and the grave of my children, if that be their wish. What does it do to me now that I'm familiar with this special place? The grave as a theoretical vanishing point for my own history? It is still unthinkable for me: to lie dead in Berlin's soil. The circumstance itself unites me in a whole new way with this city. But what am I doing in Berlin in the first place?

Why didn't I stay where I was born over 50 years ago? Because my parents had no real connection to that town on the edge of the Black Forest? They ended up there more by accident than intentionally after one grew up in Leipzig, and the other grew up in Dresden, and neither of them saw any hope in staying, so they left. A fairly typical story from the sixties. Postwar aftereffects.

More and more people change their place of residence nowadays. For personal reasons or because they are forced to, as refugees. The connection to a certain place, to a certain soil, is different, more relaxed, when we no longer cultivate that soil, when, for example, we buy our potatoes at a store. Our place of birth is just one of several places on the way to our final resting place. Over 50 percent of Berlin's population consists of people who have moved here from somewhere else. And the number is increasing. Hardly anyone who moves to Berlin thinks of dying, or that they will end up lying here for good some day. On the contrary, they are interested in having a better future. A new job, a different attitude towards life, or love. The principle of hope.

Is it new "facts" I'm digging for? Am I digging to put myself in context? Or am I digging simply to get somewhere? I'll never find the answers. No one will. It is an eternal process of moving, settling in and setting off again?

Every form of life on this planet comes from the earth (the soil) and will vanish in it when the time comes. How does this simple fact affect our relationship to the earth (the soil)? How do I assume my responsibility for the place I call home? What does a day of our life mean in relation to the changes the soil experiences? What must be negotiated with our neighbours, with nearly four million people in Berlin and everybody else in the world? Doesn't our future call for less land seizure and a fundamental debate about our relationship to the earth (soil)? Didn't all this begin with the transition from our nomadic lifestyle to our current sedentism?

Back to Moritzplatz. I fill up the last of eight holes with the excavated dirt from the seventh hole. Using my feet, I flatten the little pile of soil on the grave. The ground in Berlin is dry and dusty. It trickles, it is light in weight and light in colour. It never rests. It is always in

motion. It can be spread around, and it can be found in the tiniest cracks. I like that. For the time being, I can stay here. Seen from the outside, my digging hasn't changed a thing. Just the calluses on my hands tell a different story.

It has grown dark in the meantime. Cars are now circling the roundabout with their lights on. Bats flit back and forth. Once again I need to be very watchful as I move between the never-ending flow of traffic to return to the rest of my bustling Berlin.

Hole # 8

sine loco

When was the last time you lay down on the naked earth?

What did you feel?

When the world is without you, what type of soil – if at all – would you like to be placed in?