



It's January. I'm crouching on frozen ground. It's really cold. I'm at Taynish, a peninsula on the west coast of Scotland.

I'm up here to make a project with the Inverclyde Waulking Song Group. Waulking is the traditional method for finishing tweed cloth. It's a process of matting. The cloth is soaked in water and ammonia, slapped around rhythmically, and through this process, shrinks and softens from loose weave to dense, smooth wool. The Song Group is a group of mostly older women, led by Frances, who try to retrieve and sustain the corpus of songs, and the tradition of waulking. For the past 15 years they have been meeting to rehearse every Monday evening, around Frances's dining table. Of course they don't only waulk the tweed, they share a lot of other emotional and personal experiences, the bond between them has thickened through the years.

For the whole month I spend evenings at France's dining table, and my daytimes out on the coast, crouching low to the ground, filming lichens. To know the lichens makes any place feel even more complex.

Two years later, in January 2017, I'm driving slowly along the A583 between Preston and Blackpool, and the lichens are the first thing I notice, on a hedgerow, and on a stone gate post.

Then, alongside the lichen, crocheted and knitted yellow shapes and ribbons. At the point where the ribbons are most concentrated is a rough gateway cut into a field, and facing it, standing along the pavement, are around twenty people holding placards, they are mainly middle aged or older, and are also mainly women.

The field itself is full of activity, it is being carved up, a gravel road laid out, and the development site marked out, it is to become the UK's first active fracking site.

I realise that the women here don't necessarily seem to know each other yet. They are simply standing alongside each other, tentatively waving banners and placards and trying to encourage cars to honk their horns. Miranda approaches me and welcomes me, and explains that they are there until 3.30pm each day, when deliveries to the site must stop. Bobby is there too, and Jeanette, who I meet later in the year.

And there are a huge number of police officers, around 50, I would say.

Bobby is dividing her time between the roadside, and the allotment, where she is beginning to break the ground, the soil crust, for the spring growing season. She explains that it is almost therapeutic to crack the earth open, to dig in, and turn. That once you begin, it is hard to stop.

Those are similar to the words that Miranda uses, the second time I meet her.

In May she tells me that she is getting increasingly caught up in the protest. She is there daily, and she is worried for her mental health. She says that she cannot focus on other things, that her children are getting increasingly angry with her preoccupation. As the campaign goes on, there is a sense of desperation gathering at the roadside. She feels that their attempt to protect the landscape peacefully is being corrupted.

The police are becoming increasingly aggressive, and Miranda has experienced this directly, being dragged across the road. She now walks with a slight limp. She takes time out away from the roadside, to be normal at home, to cook, for her children, but also for the protest camp, huge pots of stew.

By June, the berries on Bobby's allotment are ready, and she stops to pick them on the way back from the roadside. She barely has time but she can't bear the thought of wasting them, so she works in her kitchen late into the night, jamming, and dehydrating the fruit. She explains how she is training to be a legal observer, so the days at the roadside are now even more exhausting. She watches everything that occurs on the roadside, between police and protestors, and tries to take thorough notes. She has pages and pages of text from just one day.

In July, Miranda participates in a lock on. She is arrested and charged.

And in August, my daughter Asta is born and I cannot go to the site for some weeks. Then, in October, we move to Oslo. I start to walk in the Lillomarka daily, with Asta.

And I start to find new lichens. *Cladonia bellidiflora*, *Cetraria islandica*, and *Cladonia coniocraea*. The forest floor, in places rocky and in others marshy, is an immensely complex conglomeration of matter, lichens, pine needles, mosses, berry bushes, fallen twigs, fungi, elements interlocking and compressed, almost woven together. The lichens are themselves a kind of weave, a co-existence of an algae and a fungus, sensitive to the smallest changes in their environment, and dependent on each other to survive.

Sometimes in the forest I hear strange rumblings. The rock, just on the other side of the hill, is being blasted apart, and crushed into hardcore and aggregate for road surfaces and construction. When the rock is quarried, the lichens just crumble, I guess, to dust, but then these lichens are themselves, over a slow period of time, in their own gentle manner, also forcing this rock to crumble.

Back in Lancashire, the fracking company are battling against marshy ground. They drive truckloads and truckloads of hardcore and aggregate into the site, and a platform, a pad, is created floating heavily upon the soft marshy earth. It rains, a lot, and the pad is very wet. But the company persists, hoping that if they press enough gravel on top of gravel that they will create a solid surface that can support the drilling rig.

In late November, in Oslo, the ground freezes and the snow arrives and covers the forest floor. I walk through the forest without touching the ground. I pay more attention to the lichens on the trees. This one, *Hypogymnia physodes* has a hollow thallus, and at the ends of the lobes, a lip like shape, giving the appearance of many tiny, open mouths.

In Lancashire, the leaves are falling from the hedgerows and exposing the faded woollen shapes from the winter before.

I return to the roadside in January, with 5 month old Asta. The gravel pad is finished, and the drilling has started, they have been drilling vertically for several weeks. A 24 hour watch has been established at the gates, a group of three or four people, clustered in a makeshift shelter around a wood burning stove. Miranda, Bobby, Jeanette and Claire are all doing shifts there. They note every drill bit that is added, and know how deep the drill has gone, currently 2.8 km down.

I visit Claire at home after one of her early morning gate watch shifts. She makes me a cup of tea, and then apologises for the chaos, stacks of boxes and packing blankets. They are moving soon, because she can't take the ongoing anxiety of the situation. She is feeling guilty at leaving, but she can barely carry on.

She tells me about an event that happened at the roadside since I last visited, where another protector was arrested. He had his violin with him, and it was left on the ground. She picked it up as they pulled him into the police van. She didn't know how to help, so she played for him the folk song that they had been playing earlier.

The policing continues to be violent. Jeanette too, now walks with a limp. To counter the violence, the aggression and the anger, the women have started a call for calm. Every Wednesday they stand in silence on the roadside, looking towards the site, for 15 minutes.

I return again in spring. I travel from Norway, having just experienced the snow melt for the first time. What really astonishes me is that the snow melts from beneath, so when walking in the forest I could step on what looked like a solid, compressed layer of ice and snow, but then suddenly find my foot puncturing it and plunging into water flowing beneath, which was really disconcerting. And sometimes, a whole piece of ice moved, because it had been undermined by the thaw.

A dairy farmer, working three miles from the fracking site, who has the intimacy with the land that comes from a lifetime of tending it, describes to me the subterranean water courses that flow beneath his fields; where the aquifers run from the site, down to the River Ribble, and where springs unexpectedly bubble up.

When he looks at his fields, he sees not only the grasses above, but this invisible structure below.

He explains to me how in the past the whole area was much more waterlogged and how occasionally, when they are ploughing the fields, they pull entire tree trunks out of the ground, that have been there preserved in the marsh. And when they pull the tree trunk out, the land sinks and settles a little into the hole.

Beneath his fields they have now started to drill horizontally, towards St Anne's. Into these holes the fracking fluid will be pumped at high pressure, a mixture of chemicals, water and sand, fracturing the rock further and forcing out natural gas. Some of the liquid will return to the surface, but much will remain in the ground.

Back in the Lillomarka, the snow melt brings loose lichens down from the trees. Mostly *Evernia furfuracea*, tree moss. I begin to gather the windfalls. It was Innes, from the Waulking Song Group, who first mentioned to me that lichens were originally used to dye tweed. The making of tweed is closely connected to the local landscape at all stages, from wool production, to dying with lichens gathered from rocks and trees, and the waulking itself. It is this history that Frances, Innes and the other women in their group hope to keep alive.

Innes explained to me that there are several traditional methods of dying with lichens. The most straightforward is simply to boil the lichen for several hours, leaching out its chemical components, producing a deep yellow dye bath.

When I return to Lancashire later in the summer, the roadside is thoroughly inhabited, the new metal fences covered with yellow ribbons, streamers and anything they can find. The women have realised that the fracking company hate the 'gaudy tat' and spend energy and time removing it, so they commit to replacing it as fast as the workers can take it away. They have a bench that they bring out into the gateway everyday, there is usually a table with tea and sometimes homemade biscuits. Gate camp is going strong, and the kettle bubbles away constantly on the stove. It starts to feel like a strange, outdoor living room.

Also, they have begun to knit. The idea at first was simply to create banners for the fences, but then someone had the idea that they could knit an 800 metre long scarf so that they can demonstrate the horizontal distance that has been drilled below ground.

But they've also found, as Miranda tells me, that it helps them to stay calm, to focus, and it is something to do. It's a way of bringing some normality into their daily routines at the roadside. Miranda can't stop knitting, even when I visit her at home. She tells me about her new plans, to sell up, to take on activism full time, perhaps through early retirement. She's still young, but the children will be leaving home soon.

Jeanette and I take a walk in her local woodland one evening, away from the roadside. She tells me, as she had in January, that she can feel that she is coming close to taking some kind of direct action, to breaking the law. That something is going to give. She explains that her life is becoming divided, that her former friends, old colleagues from the Civil Service, and her rambling club don't want to hear about the protest. She feels that she has changed. That she won't be the same, even if this is over. She's an activist now.

By now the call for calm has been going for over a year. More than 52 Wednesdays, standing in silence.

The call for calm is gaining in complexity. Now they stand in silence for 15 minutes. Then they sing, and then they dance.

They find it quite incredible that they can dance in such a relaxed manner on the side of a major road.

They know that the horizontal well is completed. They know that before the end of summer, the drilling rig will be deconstructed, and the fracking rig will be delivered.

It finally arrives on a Tuesday morning, in August, at 4am. Brought in under police escort.

Then there are a few weeks of waiting, a last minute court challenge, and a final delay due to a day of heavy rain, but eventually they start to frack, in mid-October.

It's a loud process, generators, high pressure pumps. Each frack takes 90 minutes. Miranda describes the sound that it makes, it becomes louder and louder, it builds, comes up through the ground, up through your body, and settles in your chest. It's unsettling, she says, a deep vibration, that one day even moved into her head, giving her a very strange, disorientating feeling. Even the police noticed it, they felt a seasickness, and observed that the birds had stopped flying. So the noise creates a silence elsewhere. Everything in the ground is resonating.

The earth begins to move, minor earthquakes are felt.

The lichens, I am sure, have begun to slowly bleach and fade.

Their ground is altered.

Lichen Hunting in the Lillomarka, Rebecca Birch, 2019

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