

What is soil?

Stuffed into cleaned-out yoghurt pots, plastic bags and Tupperware boxes, and carried in on the soles of our shoes, it arrives in a room of clean tables and scientific minds. Rain lashes against the windows, the view of the estuary obscured so we can't see the coast where marine and terrestrial matter mixes. For now, we dwell in a space of artificial light and curiosity, each one of us holding something we've collected.

Soil is pulled out of pockets and bags, and one by one we stand, ploughing up stories, bringing questions to the surface like worms disturbed.



*I found a rock, in Wales, I took off the moss, scraped the soil into this bag.
It is here now - but is it soil?*

For an instant we are all in Wales, in nearly-raining air, beneath a wide sky, feeling moss between our fingers.

*How about this sand, from the beach - is it soil?
Does soil have to be something we grow food on?
Something that preserves biodiversity?*

Indeed, does soil 'have to be' anything? Who or what is at the centre of the question? How does one thing relate to another? Where does purpose or function begin and end?



Based on acquired scientific knowledge, there's an estimate that soil holds one-quarter of all biodiversity on earth. It is a vibrant society of minerals, fungi, organisms and micro-organisms, many of which are too small for us to see but so much more important to the system than the things we do see. It is alive, and, when healthy, it is far from inert.

*The soil in my bag is wet.
It's from the bank of the River Kent,
trampled by ducks, children, dogs.
I see it as a microcosm of the wider ecological
struggle to establish communities.*



Soil is the interface between plants and water, a foundation for lives in transition, formed, unformed, held together by roots, disturbed by water. Memories of the floods when Storm Desmond hit in 2015 have settled in our minds like sediments; grey matter still agitated by water.

*When I hold this black soil in my hand and close my eyes
I am back in the mist and wind of Ireland, with a certain person.
I smell peat burning, my heart swells.*

I have brought soil I shouldn't have taken, from another country.
It is symbolic of a nurturing time,
a holiday with someone I've been married to for thirty years
yet don't always notice.



*This soil is from a flowerpot outside my flat
where our son supervised us planting sunflower seeds.
It's the only soil we have.
The flowers are strangely stunted.
What's wrong with the soil?*

Rain falls against the window. The room is hushed with listening. The soil we tread defines our lives.



*My bag is empty. It represents the soil from the farm
of my childhood, covered now by houses.*

*I have an empty bag too.
It represents the soil we have not yet encountered.
What more is there to discover?*

We gather data, look for facts, seek the extraction of meaning, consider response, resilience, potential. How much do we wonder about absences?



*I've been harvesting soils from around Europe,
stressing them, seeing what happens.
So much is down to the microbes.*

What we take and what we give are two sides of the same coin. What we put into soil is like what we put into research - there is a measured balance.

*I like gardening. I planted petunias, roses, vegetables.
Lately I planted courgettes, so I could cook the flowers
but they're not doing so well.*

Soil on skin, earth under fingernails, mud on the soles of feet. Soil beneath the gardens where bees and children thrive.



*This soil is my soil, from my land, the farm.
It is the past, the present and the future.
I'd like to leave civilisation and live off the land.*

*I have brought soil from Spain.
Its colour is so different from the others that are here.*

Smiles play in the room and there is a collective imagination: the touch of sun on our faces, the sight of terracotta roofs against a blue sky. Perhaps some of us dream of un-civilisation.

*I thought about the sub-surface, how worms change structure.
I collected this soil from beneath fallen leaves.
It reminds me of my failed experiment, nine years ago.*



To give up at the first obstacle is not the path of science. To explore without community is like trying to be soil without water and rock.

*What's in my hand represents my ignorance about soil.
I don't have a strong connection - it's the first thing I could find this morning.
My mind is more comfortable working with computer and satellite data.*

Life is give and take, the arising of things and the passing on. Soil is no different: it gives and it absorbs, feeding into a cycle and playing a crucial role in the capture and storage of carbon. When soil is eroded, over-tilled, or washed away, carbon and other gases are released into the atmosphere, and there are consequences. What we learn about soil can make a difference.

*This soil represents what we can use
to validate Sentinel One Satellite information
and better understand extreme climate events.
I want science to inform action - this is a plea:
How can we change things and regenerate soils?*

Trees are grabbing the headlines, turning hearts. Water rushes at us, falls in our faces, laps at our feet, quenches thirst. In this family of life, who hears the voice of this Cinderella soil? What happens when soil is removed from the quartet of life's essentials: soil, air, water, biodiversity. Soil is the very skin of this Earth.



*This is my soil, from my polytunnel.
We spend a lot of time thinking about compost,
the poo of the humble goat, wool, straw and time.*

... time, worms and patience, data, questions, effort. Each pinch of soil could mark a personal lifetime. So much depends on bringing things together, on nurturing. In our dangerous hands careless acts can cost the earth, and thoughtful acts can heal.

It only takes one storm to take out decades of work.

*We can spend a lot of time trying / it doesn't always go well
We can spend a lot of time thinking / about vegetables and flowers
We can collect a lot of data / and smell the flowers*

but do you smell the soil?

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Harriet Fraser and Rob Fraser of [Somewhere Nowhere](#), Resident Artists on the Ensemble Programme.