

Soil diary

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1/11/2020

Some things are hard to write about. Take soil, for instance. Soil, Oxford dictionary reads, *“is the upper layer of earth in which plants grow, a black or dark brown material typically consisting of a mixture of organic remains, clay, and rock particles”*.

I wonder why I have chosen to write about soil, as I don't seem to have had many encounters with it. Perhaps because of that? Intuiting its importance, but never minding it? So far it has appeared rather distant. Absent from my thoughts and words. But now, when I think of it, I see a charismatic substance.

Soil, according to Merriam-Webster, is *“1. firm land: earth; 2. a) the upper layer of earth that may be dug or plowed and in which plants grow; and b) the superficial unconsolidated and usually weathered part of the mantle of a planet and especially of the earth”*.

The Soil Science Society of America defines soil as *“a mixture of minerals, dead and living organisms (organic materials), air, and water.”*

The “soil” entry in Encyclopaedia Britannica starts with *“soil is the biologically active, porous medium [...] serving as a reservoir of water and nutrients, as a medium for the filtration and breakdown of injurious wastes, and as a participant in the cycling of carbon and other elements through the global ecosystem.”*

Such nebulous definitions, though, aren't most definitions unsettled? (all definitions are blasphemy!)... like “soil is (a mix of) all and nothing, doing anything and everything, everywhere”. How one defines or translates soil by posing a question always affects the answer. Soil can mean earth, ground, dirt, clay, turf, humus, silt, loam, land, clod, terra, territory, landscape, country, a political power base, an aspect of divinity, a terrain to cultivate, or a resource to be exploited... This is going to be difficult. I don't know yet where to start. I hope to capture something essential.

2/11/2020

Soil — a word that leaves a flavour in the mouth. Soil, soil, soil. My dear soil, you mean so many things. We even started to verb you and degrade

you to something filthy, feculent, contaminated, yucky, abject or morally corrupt. Dirt, shit, mud, muck, dung, crap. I wonder if the language will evolve so that soil will become a swear word. “Soil you!”, “You fuckin’ soil!”, “Soiling shit!” or just “Soil it!”. The word “Soil” has a good length and sound for being a juicy curse word. It is a bit softer, less aggressive sounding than “fuck”, but it befits better the feeling of disgust and revulsion. Beside the yuck factor it could perform well as a relief interjection. Soil! Or, on the contrary, soil could become so revered by future generations, that the word ‘soil’ would become a word with soothing, caressing connotations, something like “you’re the soil of my life”, or “having a soiling (embracing) look”.

It could also be a good euphemism for being dead: She is (getting or being) “so-
ilidified”. (Soilidification=becoming soil)

3/11/2020

Soil baptised our planet. It seems that in most languages the name for our planet (Earth, Erde, Terra, Terre, Zem, Země, Pământ, Föld, Γη...) and the words for *ground, soil, earth, land* are the same. *Earth, soil,* are highly polysemous and all-encompassing.

I checked some of the old earth/clay/dirt mythology—creation of life from clay or earth. Most of them are anchored in the belief that soil/earth is sacred, and it holds the power to create and destroy. Dirt is revered and feared. Soil contains within it the mulch of life. It’s a sacred asset held in trust for the dead and the yet unborn. Soil, birth, fertility, growth, life are always connected. Ancient Egyptians, Golem, Bible, Qur’an: God created man from clay and infused them with life. Parvati wipes her body to produce the clay. The goddesses Gaia, Tellus, Terra, Jörd, Nerthus, Pachamama are all mothers of all life. Xirang (breathing soil, swelling earth) is a magical substance in Chinese mythology that has a self-expanding ability to continuously grow.

Still need to check the role of soil in abiogenesis. And the job of life in pedogenesis.



5/11/2020


I am reading about soil matter (trying to amend my blank knowledge with books). Maybe those soil definitions are so vague because we really do not know much about it. I mean, deep knowledge, not analytical shit like schematic molecular chemistry, agricultural exploitative demagoguery, formulaic pedology from wishing scientific minds. We don't even know where the soil parent material comes from. Just read that our sun is too young and cool to fabricate any element heavier than helium. Which is pretty mind blowing. Where did all solid matter come from? It seems that we are just babies of countless megatons of unknown dirt shreds from various galaxies magnetized by the solar farts and clotted into a proto-soil body. That makes soil interplanetary dirt, detritus of blasted stars. Soil is an aggregate of stuff (sounds like the more vague the description, the more exact the definition). It definitely needs a poetic translation...

6/11/2020

They say a typical soil is about 50% solids, and 50% voids (pores) of which half is occupied by water and half by gas. So, soil is all states of matter in one. Something like a wet sponge. This means that when I walk on soil I am literally walking on water, when I sit on the ground I am literally sitting on air? So biblical. A belief system that deserves worship. Divine as it is, the soil performs the ceremony of continually creating life and concealing death. Prayer or applause.

7/11/2020

It appears impossible to find or think of a good definition for soil. Defining soil would be inventing a soil with an exact meaning. Soil is not something to embrace in a definition. Too wide and complex, maybe the most complex thing I can think of. It escapes any formalistic dictates. Soil is something outside the language, so fluid that it always escapes any formulation, formula and form. Which makes me think of Bataille's *L'informe*: destroyed categories, melted definitions, impossible formulations, even futile to think of. Bataille's "base materialism" fits perfectly to the soil. He argues for



the concept of an active base matter that disrupts the oppositions: high-low, pure-impure and destabilises all foundations. The soil does that too, it is an unverifiable and a non-hierarchized material. It is the base matter that is capable of destabilising any norms of human culture. It is the world in which causality and actuality are abandoned in favor of limitless possibilities of action. Materialism in motion, possibly a verb, certainly not a noun. Which makes soil/dirt expression rather than form, impression rather than word with fixed meaning. Contemplating soil discloses a wordless mind.

8/11/2020

The soil is THE STAGE on which water, earth, and air perform and interact. What happens there is an endless theatre play during which a variety of inorganic and organic acts materialize. (I kinda like this idea of soil as a stage for/and various performances.) The actors are solid liquid and gaseous manifesting in a synoptic motion, making ineffable processes of change and recurrence immanent.


(task: develop the idea of a post-language soil opera)

10/11/2020

I skimmed through the *Encyclopedia of Soil science*. Gave it up after I came across all the categories and subcategories of soils — it's too much... soil classification words: oxisols, aridisols, mollisols, alfisols, ultisols, spodosols, entisols, inceptisols, vertisols, histosols, andisols, podzols, paleosols, gelisols, gleysols, lixisols, luvisols, planosols, xerepts and xeralfs, fluvents and rendolls...Uff. And a *pedon* is the smallest element of landscape that can be called soil. Then cryoturbation, glaciolacustrine, phaeozems, rubifaction and ventifacts. What?! I'm totally lost... Going back to soil as a source of poetry, or the aesthetic appreciation of soil or something.

11/11/2020

If humans would realize how intimately connected with soil everything is; soil science should be



the science of sciences, the universal science, a science that follows a metaleptic thinking, an intuitive logic. It should be a science that remains in the realm of experience rather than rationalisation, a science slash poetry slash philosophy slash activism slash anarchy.

12/11/2020

I found the farmer's instruction for tasting and testing the soil in a book called "Dirt" (William Bryant Logan): "distill soil through a wine strainer with water, and drink the liquor". Apparently the best soils are neither salty nor bitter, but have a sweet and open taste "like the smell of fertile soil when it opens in the spring. [...] A very acid soil would crackle like those sour candies that kids eat, and it had the sharp taste of a citrus drink. A neutral soil didn't fizz and it had the odour and flavour of the soil's humus, caused by little creatures called "actinomycetes." An alkaline soil tasted chalky and coated the tongue."

I looked-up this soil testing-tasting and found out it is called "terroir" (term derived from terra/land/ground/soil and used to describe something like soil's personality). Terroir is an old tradition common with vintners and farmers who seek to engage in an intimate smelling and tasting of the site and decide which grape variety to plant, or predict the crop. Sounds profound to get involved sensually with soil's nature and to learn to feel, smell, taste its mood. This direct connection of the body with the place evokes a Deleuze-Guattarian process of "reterritorialization", in which the body finds a new sensibility through this molecular liaison (becoming molecular, embodiment), and the territory allows for body to find a stability in their movement and patterns. The opening of the body towards the soil challenges monolithic views of the earth with(out) its non-human-worlds and destabilizes onto-epistemological and ethico-political hierarchies. This metabolic receiving, like a sacramental union (the soil Eucharist), seems to be the best way to feel the soil's body, to consecrate it and to accept its blessing.

Just did the tasting of the dirt from the backyard (took a sip of diluted soil = muddy



14/11/2020

water). Taste: faint mushroom and dense asparagus aroma, fog scent, soft fire aftertaste. I guess it was a neutral sample, full of those “actinomycetes”? The sand particles were uncomfortably grinding against the teeth, but their NO was more of a tickle than an impediment. Something in the dirt’s savour sent me a command to close my eyes and think of horsetails.

Things I didn’t know about soil (answers after 2 days of browsing):


1. Is soil edible?

Yes. On Hormuz Island, south Iran, they use their soil as a spice, to make sauce, or to put in bread; in Afrika, kaolin, a type of clay, is eaten for pleasure or to suppress hunger; in Haiti poor people are known to eat mud biscuits made from soil, salt, and vegetable shortening; biscuits made out of dirt were famous also in Bangladesh (so called chikor—soil mixed with ginger juice and rose water, then dried and smoked). I even found a restaurant in Tokyo specialized in “soil cuisine”. Toshio Tanabe, the chef, believes that soil adds a healthy natural flavor to all kinds of dirt-based delights, from soups to sorbets (they say it’s super difficult to get a table, restaurant always booked!). Hm. Also many animals and birds (namely parrots) are eating soil on a regular basis in order to feed on minerals. Geophagy (the desire to eat earth/soil) occurs in many primate species, and in humans as a form of pica (most commonly practiced by children and pregnant women). Eating dirt actually has its benefits (B12, minerals, good microbes). I should try it.

Someone on reddit describes that dirt directly under moss tastes the best, “it’s earthy like what the air smells like on a hot day right after a light rain”. Good to know. If I will ever be lost in the wild, with no food, I can look for moss, dig under it and eat the soil... the minerals found there can help me stay alive.

2. Can one die by soil exposure?

Yes, there are many pathogens in the soil. Many, many opportunistic fungi causing fungal infections, many nasty viruses (like hantavirus



or poliovirus), countless bacteria and protozoa (like the one causing anthrax, botulism, tetanus, salmonella, borreliosis, toxoplasmosis and so many more), parasitic worms (like helminths, various kinds, yuck!), and toxic pesticides, herbicides and antibiotics used in agriculture (every year more of these...) Pretty disgusting. Bleh. I think I will skip the soil Eucharist from now on.

3. Does soil burn?

Soils with a lot of organic matter will burn if heated to 200-260 degrees C (if the soil is dry). Ignition may occur at lesser temperatures, but most likely not. Soil with near zero organic matter will not burn at all, but may smolder a bit if heated to 200 degrees C or more (should try this for sculptures).

4. Does the Moon have soil?

No. Moon is rock all the way down. The rocky surface is called regolith.

5. Does Mars have soil?

No. Just mineral matter with a lot of toxic chlorine, with super small amounts of salty water, no organic matter, no air = regolith.

6. Is there a soil recipe?

Yes. Many of them. And many soil farms producing artisanal soils. Shit is often an important ingredient.

7. Does soil have sound?

Yes. Not easy to hear, but if you put a microphone in the ground and use equipment to amplify it, you can hear different noises produced by soil fauna (could this sound be their communication tool?).

15/11/2020

Things I like about soil:

1. It is the most disordered material on Earth (no two molecules of topsoil may be alike) - "radical disorder"

2. A handful of soil contains much more information than the surface of any other planet. Actually, a single handful of soil is home to more soil biota than there are people on Earth. In fact, there are much more living organisms within the soil itself than above it, on the surface of the planet. A fistful of ordinary soil contains:

- 10 000 species and a staggering 100 billion individual specimens of bacteria
- hundreds of species of algae and protozoa
- more than 50 species of nematodes comprising 10 000 individual specimens
- up to 5,000 insects
- 500 species of fungi and potentially more than 50 km of fungal mycelium
- worms
- tardigrades
- larvae
- more stuff...

3. It is the master of co-existence (it offers perfect strategies for living with each other). “One for all, all for one” like the three(II)ions) musketeers.

4. It is a living death (a purgatory where death and life meet, the interface between life and death).

5. It is negentropic. Reverses entropy. It has the power of neutralization (consumes everything, uniforms, produces new things, changes old into new, disorder into order, dead into living, shit into gold — alchemy)

6. It is a source of renewable energy. I love the idea of powering all my devices with electricity produced by/in soil using Microbial Fuel Cell — this is what they call the tool. The fact is that bacteria and enzymes in the soil act as biocatalysts to produce electricity which can be harvested by these MFCs. Microbial electrolysis = natural bacteria generate electricity in the soil. (I should get a MFC. I wonder if it would work in a house plant pot so I could make a lamp work. Reading by “earthlight” would be cool.)

7. The lifespan of the soil is significantly longer than ours. Significantly. The soil is sooooo complex, that its formation takes extremely long time and involves many processes. A mere 1 cm layer of soil can take anything from a few hundred to a thousand years to form (btw a fact of great concern, considering the extensive soil erosion). What is certain is that it will outlive us and it will deliver to the future the message of our existence (it is the “bottle” for the messages of our existence).



16/11/2020

I'm getting intimidated. I have begun to feel that this is pretty special and elaborate stuff. It's clear that soil is imperfectly understood. It is an answerless question and that's why it is so beautifully poetic, rich and rhythmic, heavy, ethereal, organized and chaotic, befitting those mythic ambiguities that are both source and structure to an aesthetic and transcendental experience. Soil is the medium where all strangers love each other (friendship habitat, commune, self-governance, anarchy). Soil is an unavoidable meeting point (every thing, living or nonliving, human or nonhuman, animal, vegetal, mineral meet there).

17/11/2020

I think soil is double dead and double alive + a lot of shape shifting going on there.

The most animistic matter and a question endlessly worth answering.

18/11/2020

Something changed. There is soil everywhere and I finally see it. Feels like regaining sight. These days are an intensive cure for my soil-myopia. We take the soil for granted because it seems to be there all the time. In fact, it is the root of our existence and it also contains all the organs of the planet plus all the eroded civilisations, it's an insurance policy against the failure of memory. Soil is the material connection with the past. The palimpsest of a rich mix of history, archaeology and geology. But in some sense it has no past — it is always like drawing a line and starting again. Anything that seems pertaining to the past is just a new beginning in the soil. It's a telluric movement toward the nonhuman. Such a lucid material!

19/11/2020

I should like to write about soil more intimately than anyone has ever yet written about it.



22/11/2020

Yesterday I was incapable of writing even one word. Nada. I didn't do my soil homework. Today is no better. Feel like a powerless earthworm suffocated by the rain. Who said the blank pages are enticing?

23/11/2020

Lichens and Earthworms — these are the most important species on Earth!

Apparently, lichens started it all slowly by colonizing bare rocks around 600 million years ago and patiently cracking them open, changing them. Weathered rocks and dead lichens bodies beget the first soil, paving thus the way for other forms of life to move onto the land. Then, more than 209 million years ago, the first earthworms became the caretakers, the curators who maintain the soil, builders of habitats for other organisms. The earthworms are as old as dinosaurs. Aristotle called earthworms the “intestines of the Earth”. Darwin writes in his 1881 book on earthworms that they “have played a more important part in the history of the world than most persons would at first suppose.” These are the species whom we owe our existence. They are the architects of life, building the soil, kissing rocks every morning, wearing beautiful earth dresses.

24/11/2020

I have a little USB microscope. It doesn't magnify by much, but it takes me a bit closer to any thing or material. It is like opening a window and looking outside, seeing further on the horizon. Space opens.

I took a few samples of different soil that I collected in the last days and, expecting to pull aside a thin curtain of my perceptive bluntness, I looked at them with my microscope. I saw landscapes. Sculptures. Shared worlds. Glimpses of urbanised matter. What seemed pretty much one homogenous material suddenly divided in many things through a vertiginous three-dimensionalism. These underlying soil objects suddenly gave ontological weight to the dirt as we know it. I don't really have any conclusion there, just an expanded fascination with



25/11/2020

this majestic material. Breathtaking beauty, silent force, radiating energy, similarly spectacular like the sun setting on blood colored sky.

I am jealous of that soil who lives better, in modesty and honesty, rich. It has the 'know-how' of life. Our existence is brightly antiseptic in comparison.

26/11/2020

- premature soil (everything there is except soil)
- innocent soil (soil unaware yet of itself)
- pudic cupid soil (something between virgin soil and promiscuous soil: "pudic" like soil with unactivated potential; and it's anagram "cupid" denoting a wild, fecund soil, a soil ready to engage in love affairs with any living or dead organism)
- circumscribed soil (trimmed by the human factor, killed by asphalt, raped, tired and exhausted soil, failed soil)
- resurrected soil (i.e. self-restored, forget about all those force-feeding formulas, it restores best when left alone)
- patient soil (always)

27/11/2020

I like the word 'geosmin', it sounds like a rare earth element (geosminium - Gm) or a precious gem. It is actually a protein produced by various bacteria and fungi (the 'earth' chemical).

28/11/2020

I am beginning to feel plagued by dirt, soil, earth. I have this nagging feeling... Am I "earthautistic"? Every single thing is soil. Plus, waking up at night thinking about it, still short of words... Is this messing me up? Some type of anxiety? Geo-anxiety? Pedophrenia?



28/11/2020

I shouldn't think ABOUT soil, I should think WITH soil. Thinking by means of this obstinate material rather than with the abstractions provided by words or concepts ambitious to wrap it. Project mind and perception into the invisible dynamics of the ground structures beneath my feet. Follow the soil and let it domesticate your brain.

29/11/2020

Poetry is coherent, intense, whole, manifest, concrete, ambiguous, multi-dimensional, elusive, significant, synaesthetic, systematic, composed, nuanced, interpretable, repeatable, rhythmical, persistent, orderly, flexible, divisible, extendible, influential, interrelated, actual, active, describable, situated, recognizable, analysable, sustained, sustainable, changeable, consistent, durable, unique, unified, specific, conditioned, improvable, involved, particular, arranged, organized, complex. Poetry lends itself to emotional expression reverberating images or sensory experiences that leak beyond the small verbal frame that holds them, evoking the larger universe. Soil is poetry.

30/11/2020


When I think of soil I am absorbed in self-extinction.

1/12/2020

A letter to her most Excellent Majesty, Soil the first, Queen of the planet Earth, and Empress of life itself

Most Gracious Sovereign — Permit an unworthy, but loyal subject to approach Your Majesty in this manner, as your greatness will not let me do it in any other; declaring that I am striving to live clean and simple so that I can donate my uncontaminated head and body to you without any resentment, with a clear conscience and with a humble heart.

There seems, may it please Your Majesty, to be a mighty contest between great conglomerates and their industries that are exploiting you mercilessly! Without any sort of dispute, this evil originated in the way you were long seen, by us humans, as an inert, dead and static medium,




an inexhaustible resource and infinitely manipulable material, and took the lead through a base, vile perception, and an ignorant, corrupt perspective of the ones who have arrogated powers to themselves in no wise appertaining.

To exhibit this most clearly, it appears, first, that a third of your mighty Queendom's land is severely degraded and fertile soil is being lost at the rate of 24 billion tonnes a year.

Secondly, that as Your Majesty is sovereign of Earth, distinct from the power and authority of any parliaments, leaders, governments, leagues, federations and confederations, no body, or set of men, but your assemblies or forces here (which are constitutionally fixed by the impeccable laws of nature) can lay any borders, rules or impositions whatsoever within this your dominion of planet Earth.

Thirdly, that the pretence of all corporatocracies, extractive industries and international agro-businesses to scourge your sacred flesh because the demand for energy and food increases and there's no other way is an absolute insult upon Your Majesty's understanding. Selfish humans and their unwillingness to distinguish need from greed is a robbery of your sole right to govern them, in the degree that if these vile institutions with their manipulative patriarchs be left to dictate the future of the soil, many of Your Majesty's most dutiful and loyal subjects, all of us your children, will be doomed.

In the next place I shall make a confession to Your Majesty that I often dream about a unified organization of all the organisms of the Earth plotting against us, the pathological, dysfunctional human society. In my dream, the inhabitants of Your Majesty's miraculous fabric of life see humans as a dangerous, deadly virus, infecting your Queendom, mutilating it with rampant consumption and pollution, infesting it with political despotism, oppression and corrupt rulers whose deleterious decisions create wounds where there were none. All Your Majesty's most faithful organisms fail to understand the treacherous nature of the human race which acts like a pathogen that spreads rapidly and suffocates its hosting body. Their plot is based on sacrifice. Your most



respectful servants decide to die, to feed your body with their corpses, to keep you rich in substances that you can certainly bury deep and store forever, hiding your fortune from the wicked people. The plot attempts to hinder people from abusing you, Your Majesty, while also teaching them to respect you as our most precious and gracious Queen, mother of all life. Then I see people decomposing in the bloody soil of war, of trade, of art, of revolutions and rotting into your warm and hospitable ground. This makes me suddenly wake up and escape the snare of my anxious dreams, as I realize that your Queendom, Your Majesty, is founded on an equilibrium that sustains itself, and such radical acts would destroy the equipoise and inundate the planet with evils yet unseen and unheard of.

Now, how far the treacherous deeds that provoke my nightmares have been carried on, Your Majesty ought to know best; human predatory practices infect your soils with artificial fertilizers and pesticides, slash-and-burn agriculture erodes your skin, massive concretisation and asphaltisation clog your pores, monocultures zombify your body, mercantilistic views of your resources drain you to exhaustion. Some people, however, all of them your loyal subjects, can clearly see all this, and know it to be a fact, and their sight is as clear as the sun that shines at noon day. Nevertheless, I can't help trembling at the thought that it is even worse, much worse, than these loyal human subjects think. Bad weather makes me think of geocide, the acrid odour of CO₂ suggests the smell of eco-caust, and the recent pandemic forecasts a perverse global ouroborian autophagy.

May Your most gracious Majesty take these matters into due consideration, and may you be inspired by the spirit of Gaia to do that which is right in your sight.

I wish long life and happiness to Your Majesty, and am Your Majesty's humble and obedient servant,

A. M. C.



2/12/2020


Feeling amputated. We never see what's below ground. We only see the world above the ground, but what's below, in the soil, is what's above plus so much more. That's the trouble with this pervasively slick, disconnected, gluten-free human world. We only believe what we see. And, even worse, we only see what we believe. Life runs around us and below all unseen. Soil creates life and life creates soil. Soil makes weather. Cycles the same water for billions of years. Builds atmosphere. It makes room. Shelters, feeds, cleans, heals. It shares. It is an assemblage of interpenetrating bodies. And it includes the best and the worse. A chorus of microorganisms sing to me: You're all just lumps of dirt on a spinning ball. Wait. We come.

3/12/2020

Soil's face is like the face of a child who practices gravity in secret. A force purrs behind this face. Its flesh is the flesh of exoplanets, dinosaurs, my flesh, and the flesh of the computer on which I type these lines. Soil is the condition in/from which everything emerges. Nothing is outside of soil, everyone and everything is identical to it at some point in time. The connections we have with our material world are so much wider than we know. In order to nurture the alliance with soil (and all matter for that matter), we must first clarify its ontological status — a move which drifts my thoughts on soil to the very materiality of thinking and the words here to the very sculpturality of language.

4/12/2020

Tomorrow is the World Soil Day. But so is any other day, I have the feeling. I hope I am not going to forget to celebrate daily this quintessential matter without which we would all certainly not be. I shall remember that soil is home. And it is also a grand book. Poetry, history and philosophy are written in this grand book which stands continuously under our feet. But the book cannot be understood unless one first learns the language and reads the letters of which it is composed. The soil is saying things in words before words.



The language of the soil is the os-
motic valse of matter and energy — I'll call it
geosmosis. Can we learn this language?

5/12/2020

This is what soil has taught me:
There is no end, there is no beginning.
Unity is a law of nature.
Shit is holy.
Be down to earth.

