

After several months of assisting Bernard, the physician George Hoggan, horrified by what he had witnessed in Bernard's lab, wrote that he was 'prepared to see not only science, but even mankind, perish rather than have recourse to such means of saving it.' In 1868, Bernard's wife and daughters returned home to find that the family dog had been vivisected. We might imagine that this was the same dog who had converted the lamb fat into its own.

After divorcing him a year later in 1870, Marie Françoise Bernard became a lifelong anti-vivisection campaigner, contributing to the first Cruelty to Animals Act of 1876. Seemingly unperturbed by the responses, Bernard wrote:

[T]he physiologist is no ordinary man. He is a learned man, a man possessed and absorbed by a scientific idea. He does not hear the animals' cries of pain. He is blind to the blood that flows. He sees nothing but his idea, and organisms which conceal from him the secrets he is resolved to discover.

The ends justify the means, results justify the carnage. This is true to Bernard's method, as it is to his model of digestion, as it is to the model and methods of empire.

Cancer is a Weather System (2022)
From Sonic Acts Ecoes #3
Sarah Rara (lucky dragons)

Cancer is nothing personal. A copy error, a glitch, a slip between encode and decode. Anyone who lives long enough will eventually get cancer. Errors are imminent, unavoidable. There is dissonance between the shared emotional impact of cancer diagnosis and the cool management of treatment within the healthcare system, a mechanical and quantitative process where life and death are managed statistically as input and output, and a patient is a member of a large population to be monitored and controlled.

Speaking from next to/beside the cancer experience, as a caregiver, chemotherapy resists narrative outside the timeline of being administered - time spent in the cancer ward attached to IV bags, waiting for the next infusion, and monitoring the ebbs and flows of physical transformation and discomfort in between. An extremely detailed kind of living from moment to moment, views rendered close-up and in slow motion.

Rather than a sequence of events, chemo becomes an environment, more like a climate or a weather system in which one exists. I rely on memory aids like dates, calendars, and photographs to recall the shape of what occurred - I can't otherwise hold the details in my mind. It is in physical feelings that the memory of cancer treatment is held most vividly, through sensations that persist in the present through the entanglement of muscular, endocrine, and emotional circuitry. The shape of cancer treatment is archived in the tissues of my body, as a tendency to maintain a state of alertness even when danger is past, a tension held against fatigue, out of alignment, no longer corresponding directly to events unfolding in time.

A photograph: My partner lies on a daybed by the window - hairless, skin translucent and slightly blue - light brown freckles on their arms. They look serene, not asleep, but completely still. A weak smile on their face marks what I remember as their total and graceful submission to illness, met without any resistance or anger. A dramatic dilation of

time translates into the image - documenting how an afternoon stretches endlessly within nausea's total environment; a sickening weather system where nothing changes or occurs. The clock of labour-time is offline.

No work is done. Our wiry dog burrows into their side, as close as possible, head tucked under an unmoving arm in an attempt to absorb the pain of a human counterpart through skin contact, or merge to become an indistinguishable part of their failing body. In every photograph recorded over those months, the dog is attached to them, pressed-in close, frozen in complete devotion and absorption.

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Empathy is profound, a tangle of neurons dedicated to feeling the experience of other bodies. A caregiver manages these signals programmatically, like water channelled through a dam or canal. It is necessary to raise the walls in order to confidently provide care. If you let the stormwaters of empathy flow in an unrestricted path during moments when your care is most needed, then you might feel the torrent of all that pain located in another body collapse, and become useless. Like hydropower, putting up a dam between empathic material and the rest of the conscious mind creates pressure that builds energy one can redirect toward completing tasks and feeling useful.

In this state of obsessed utility, on the protected side of the dam, one can feel sort of like an automaton buzzing from one task to another, acting as an efficient messenger between patient, care team, and kin. When alone - not in the presence of your sick loved one - it is less clear how to contain the flow of empathy. In private moments, enacting a total reversal of strategy, you beg the universe to transfer their pain and nausea to your body instead. You weep over potential loss and begin to grieve even while your loved one lives. The caregiver develops a perverse, transactional desire to be ill so that their loved one can be free of pain, but it doesn't work like that. Pain cannot be transferred like a file, moved from one hard drive to another. If only the world's pain could be bottled and stored elsewhere, where it might not trouble anyone.

Position and water

Views, beliefs, perception of water differ significantly from

various distances and positions - in and near constitute very different and often irreconcilable experiences. Beside the water is one perspective, while in water or under water is another. Likewise with illness, speaking beside or near illness constitutes one mode of address, while speaking from within illness produces something different. Pain can be a total environment or a landmark within a map of other bodily sensations. There is a remarkable difference between speaking beside pain that is localised or from within an environment of pain that is global. When speaking beside or within illness, we can think of the different qualities of being in water, from buoyancy to pressure, as we become more deeply submerged. Rather than a numerical scale for pain, perhaps a patient should be asked to describe the qualities of the waters they are living in, thinking of pain as a complex and fluid environment rather than a single vector with measurable intensity or direction.

Bodies of water are linked to the bodies of populations, people living near and beside. The health of a river and the health of humans are the same concern. One cannot speak beside illness without speaking beside water and one cannot speak beside water without speaking beside air and soil. Always held in relation, humans contaminate the river and the river contaminates the body.

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Underground rivers

Ten million years ago, Los Angeles was submerged in water. Across the crest of the Santa Monica Mountains, one walks on fossilised sea shells, the ocean floor pushed upward, touching the sky along tectonic boundaries. Living in proximity to the Pacific, everything belongs to the ocean. Coastal terrestrial space feels temporary and increasingly fragile.

Deep below ground, water is in constant motion through the foothills, flowing discreetly through the San Fernando and San Gabriel valleys, under the plains west and south of downtown, and invisibly into the ocean. Los Angeles rests on the convergence of thousands of underground rivers, channelling snowmelt and storm runoff underground, pooling billions of gallons of water into the Los Angeles aquifer, an underground sea of water-bearing strata of gravel and silt. The mountains walk on water. Underground rivers have no name recognition

because they are in constant flux; to be an unnamed river is to deny borders and boundaries, to embody nomadic thinking. Underground rivers emerge and disappear, change course, re-route, and converge with other rivers at will, shapeshifting below ground and out of sight. The underground river has no allegiance to personal property, individual identity, or borders.

The tumour was like an aquifer gathering under the surface of my partner's body, channelling water and nutrients deep below the surface of the skin. Rather than thinking of cancer as an invader, something alien to the body, the cancer glimpsed through my beloved's tumour was somehow deeply familiar. Cancer cells are close cellular relatives generated by the body, only slightly miscommunicated, and hard to discern from non-cancerous cells. Blood cancers like lymphoma flow through lymphatic channels and streams like an underground river system without easy boundaries or separation between self and non-self. Porous zones like lymph nodes and bone marrow form the perfect site for cancerous cells to collect, divide, and feast on runoff. Like the gravel and silt that hold water transiting underground, the cells of the human body form a similar matrix. Water flows through human bodies with only a thin skin demarcating 'dry space'. Ice melt and storm runoff infuse groundwater, ingested as drinking water. Every particle, every material encountered in water's journey from mountain to floodplain flows through our tissues. Our bodies collect residues documenting the journey of water. Sound also travels underground. Tempests flow below the soil as a form of communication. The speech of surges, flows, upheaval, sickness, replenishment. The speech of storms travelling underground, the language of weather systems within and outside the body, signals lessons in living in borderless connection with other bodies, living with pain, living as inter-reliance, living sweet and rebellious care.

Willem Claesz Heda. *Still Life with Nautilus Cup and Oyster* (1640) Oil on panel. Frans Hals Museum, Harlem.

