

The Content of Nothing, Part 2: Purposeful non-doing.

Extract from *Thin Air*, Samantha Clark, 2010

Statistical data from the Moana Loa Observatory in Hawaii, when plotted onto a graph, reveals two striking phenomena. The first is a steady upwards trend in atmospheric CO₂ since the observatory opened in 1958. The second is a regular, annual oscillation. Each spring and summer, atmospheric carbon in the northern hemisphere shows a small, sharp drop. Each winter it rises again. It is as if the whole Earth were inhaling and exhaling. The air of the northern hemisphere, rich in leafy landmasses, shows an annual seasonal cycling of atmospheric carbon as each spring billions upon billions of leaves sprout forth, and powered by sunshine and moisture, steadily suck up carbon atoms and set about turning them into sugars. Then each autumn as temperatures sink, those leaves not already chewed by hungry teeth, brown, desiccate and drop to the ground, are curled and tugged down by earthworms and set upon by soil microbes which use oxygen to extract the energy from the chemical bonds, and thus release the carbon again to rise from the earth as steam does from a swamp, back into the air. In summer the balance is tipped towards capturing carbon as photosynthesis, pumping down the sun's abundant energy, builds its forests, fields, swamps, gardens of green. In winter, when leaves shut down and plants become dormant, the microbes in the soil go on breaking down organic carbon and releasing it back into the atmosphere, and so the balance tips back. A great annual inbreath and outbreath.

The ocean too, folds and kneads CO₂ from the air down into itself, wave by wave, where it is captured into sugars by algae, eaten by radiolarian and tiny crustaceans, to sink away as faecal matter and tiny exoskeletons, down to the sea bed, to enter geological time. Here, locked for some 200 million years in sedimentary rock, most of the organic carbon on earth is held captive, until eventually, pushed up into a mountain rockface, weathered by rain and frost, and worked loose by lichens and plant roots, it is once again released, ready for its next journey.

Next time you go down to the sea, take a deep breath. Sniff the tang of the sea air! That special sea smell! That sulphurous tang is the algae making rainclouds. Tiny marine algae lift sulphur out of the sea and gift it to the wind, an atom vital to life and plentiful in the oceans but scarce and precious on land. Clouds need sulphur too, to form and make rainfall. Without these sulphurous particles to condense themselves around, water droplets cannot form rainmaking clouds. Algae making raincloud galleons and loading them with precious cargo bound for distant lands.

So, then, this thick soup stirred by rolling waves and algae and granite and lichens and leaves and microbes and gills and lungs, this is what we presume to call 'thin air'?