

Nothing is so Solid

Erosion is the process in which even water or wind can gradually destroy even the strongest of stone. On this beach, somewhere off the coast of California I can stand in the waves and feel not an ounce of damage from the relentless tide. And yet it is through this process that mountains are ground to sand. The very sand that I myself stand on. The power of this process is indisputable.

And while I will not live long enough for the ocean to consume me, I still feel this process developing. Our feelings ebb and flow and with each day we whittle ourselves down. Indistinguishable in the moment but looking back I see the damage building.

From this beach I remember two things, watching the waves slash the craggy stone which stood like walls protecting this secret pocket of sand. We didn't swim, as such a tide could easily pull us out and smash us to pieces. And the second, a strange tunnel carved from the rock face through which a river ran out of the darkness. I desperately wished to creep inside and get a glimpse at what lay beyond but dared not with the eyes of my mother on my back.

The waters of that river caused channels and twists through the sand as they made their way to the sea. Every stone I picked from those waters faded from a bright green into a dull grey as the heat sapped the water away. Each stone rounded by the force of the waves.

Standing in a place transformed by erosion I can see what it's like to lose pieces of yourself to a force you cannot hope to control. Battered relentlessly until you are no more than a hole. I know what kind of scars erosion creates and I see this self-destruction build as the ocean laps at the shore and great continental plates grind together. And as the Earth tears herself apart I know exactly how that feels. But her beaches are allowed to be beautiful.

How can I get at an idea when I can't seem to write the words down? It's so simple to just say. But saying them feels like too much of a commitment, as solid as stone. To vocalize an idea is to make it real. And I think some things are best left intangible to be grasped. I could say it in a sentence and then this would all be over. But there is so much more behind the idea that the words spoken would only mask.

We as humans have a way of recycling this destruction. You can take sand and gravel and bind it together into concrete. And yet as the ground shifts, cracks form and the concrete splits. I think the broken pieces never forget the damage. Once cracked, once broken, those points will remain weak forever. And concrete, which is placed with no regard as to the movement of the ground below it, will be eroded until it is destroyed once again unless we repair or re-lay it. Temporary Band-Aids do nothing to strengthen the whole that was broken.

I have laid many a foundation in concrete. Sometimes I would take walks at three am on the worst nights, and let my feet take me. Yet I would always find myself at the same lake. Ducks sleeping, like tinny moored boats down by the shore and a concrete tunnel depositing water from nowhere. Somehow, sitting on its roof and letting my feet hang before the dark mouth, fully aware that anything could be lurking in that abyss, was the only thing that kept me calm.

There is a concrete hunk somewhere on a hill by my old house. Sitting on that peak and looking at what I could see of the buildings around me and the stars above is something I've done many times. Sometimes you need to hold onto something solid as everything else breaks around you. And even as I broke myself to pieces, that concrete was still there in the next morning. And it will be there until the world breaks it down too.

Stone has many ways in which it can reform and become something more than the sum of its pieces. This is about the strength of nature which ever opposes itself. The ocean can grind the world to sand and it will only be reformed underground once again. And in time it will break back to the surface and the procedure will start all over again.

Sedimentation is the process in which sand and debris created from erosion are compacted back together and cemented into one solid creature once more. The stone this creates is not strong. Shale breaks apart in my fingers. The thin layers fall back into the water of the rivers I explored as a child. Searching the ripples for the dark grey strata to emerge from the sand so I can tear more of the layers to pieces. Somehow this destruction of stone, something I could not normally hope to achieve with my own two hands, is comforting. This action sets the world on its head. If even the hands of a child can break stone to flakes than what can exist that is truly indestructible.

I used to pick the hills for limestone. Another sedimentary stone, but one created from the shells and bones of the living sea that once flooded these plains. Grounded to calcium powder and reformed, the stone was intriguing in that only what was once alive could have created it. The reason for my search was the fossil nodules which could be found within. I was never able to find anything of much interest.

Metamorphism is the process in which stone, broken down to its smallest pieces is reformed. This is all done under heat and pressure that would be far too much for a person to survive. But for stone this causes a change which leaves the stone stronger than it was before. Through this crucible, it becomes something new. Merging and recombining and becoming something solid again.

I had a piece of gneiss which I used as a paper weight. It was recognizable by the distinct layers of white and black crystal and the fact that I could probably try my best to smash it to pieces with a sledge hammer and never succeed.

And yet stone which goes through this process can still be relatively soft. I don't know how many pieces of mica schist I collected from journeys up into the mountains. This recombination can still fall to pieces in your hands or flake apart into dust. I think it's all a matter of the chemicals we are made of and the crystal structures which result, but I'm not a geologist. We would stop our car by the side of the road and look for the distinct shimmer in the rock face the roads were carved into. How long would it take to chisel these roads into the stone for miles and miles? These roads have always seemed so impressive with their sheer stone faces. How could something so strong yield to something so small. And then I remember erosion.

There is one more process in which stone can be formed. When it is completely melted down into its most basic and fluid form. The process of reforming a solid from that agony creates something entirely new. These rocks are named igneous for the fire they are born from. And yet it is how they cool that determines what they will become.

Somewhere I still have a shard of obsidian. Stone formed by lava too quickly to develop a crystal structure. It seems so solid but shatters like glass. And through this ingenuity of stone the first peoples created their tools. I have long searched the ground for an arrow head left behind by the past but never found one. Though created by fire obsidian is incredibly cold to the touch and can be as black as pitch like the piece which rests somewhere on my desk. And yet I can no longer hold obsidian without resenting its sharp edges, though they have never done me harm.

In New Mexico, there is a surprisingly large number of pumice deposits. Something which I found out by chance when I was throwing rocks into a river near where my family was

setting up lunch after a hike. As a child, I don't know if there is anything that can match the confusion of watching the rock you just threw, float down the river like a piece of wood. There is certain information you pick up when you are young. Such as the sky is blue, and rocks sink if thrown in water. It isn't until much later which we learn the reasons for the things we hold true and how everything can be twisted up into itself anyways. And pumice, created by quickly cooling lava filled with air bubbles, was my first glimpse into this territory.

It is through this cycle in which stone is changed into its various forms. Somehow, something that seems so solid and timeless, through time is destroyed. Destroyed and recreated and destroyed again. And through this process everything will continue to change until the core of the Earth becomes as solid and cold as the empty space around us. And the Earth is consumed by the expanding arms of the sun.

To stone we must feel awfully temporary and to the Earth the crust upon it must seem the same way. Like a pimple appears on your skin mountains rise and sink. The ocean grinds down the shore and the plates ever reforming under the surface renew the damage done. All scars heal naturally with time and even the largest canyon is not forever. And while the world is not as solid and indestructible as it seems to me. There is comfort in the fact that things are able to heal at all. And the damage that once felt so permanent won't be the same come tomorrow.