

MINERALS OF NEW YORK, 2019

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A mineral biography of the city.

For years, the skyscrapers in New York were firmly planted in Mid-town and down at the end of the island not by choice, but because there the dense Pegmatite-rich rock was exposed at the surface - Mica Schist strong enough to hold the weight of towers. This same type of rock inhabits the coast of Maine, vast areas of Scotland and Riverside Park along the Hudson. As a kid, I knew Mica from streets that glistened in the sun, playgrounds peopled by boulders that seemed made of silver and gold, rocks on the beach with layers you could peel open like pages in a book. A Mineralogy curator named Peter told me mineral samples of Mica are sometimes termed 'books'. My mother remembers finding books of Mica in the alley next to the building where she grew up in Brooklyn. Edgar Allan Poe lived across from Riverside Park when he is rumored to have written The Raven. If you find a shimmering stone in the area and leave it on the granite plaque on West 83rd street, your book of Mica becomes part of a memorial to the Warsaw Ghetto Uprising. I imagine all these volumes together. A library composed of only rocks and minerals, every layer another narrative.

Over the last few years I have been quietly working on a project called Minerals of New York. It began with an encounter with the Subway Garnet, a huge historic blood red mineral found on 35th Street and Broadway; led deep into the stores of the American Museum of Natural History; to the basement of a small bungalow in Queens to the personal mineral museum of a 96 year old man who began his collection as a boy as part of the Pick and Hammer Club - and back again - to a piece of Garnetiferous Gneiss which was found 150 feet below the street where I grew up in New York City.

Recently, when clearing my family's apartment - I came across a series of photographs taken by my mother - Gayle Portnow Halperin - in 1986 - of the street where I grew up, before it was demolished to make way for a luxury high rise apartment building during the first major wave of Yuppie gentrification on the Upper West Side. This talk features my mothers photographs, alongside some snapshots from the neighborhood.

THE SUBWAY GARNET

Found on 35th Street between Broadway and 7th Avenue

The Subway Garnet was found in 1885 in the eventual Garment District, where my mother worked, and presented to the American Museum of Natural History by George F. Kunz.

It was unearthed during the sewer excavation eight feet under the street and should really be called the Sewer Garnet, though as this is not very glamorous, it became known as the Subway Garnet - a more fabulous name. I met the Subway Garnet in summer of 2012. Peter Davidson from National Museums Scotland put me in touch with Jamie Newman at Natural History in New York, helping to fulfill a life long dream to get into the stores of the museum. I asked Jamie to show me her favorite object in the collection and out came the Subway Garnet - perfect, blood red, the size of a large grapefruit. It never occurred to me that the streets of New York could produce such geological wonder. The idea of minerals formed below the streets of New York seemed somehow unlikely. That anything of the natural world, of caves and volcanoes could ever occur there, but it does. There is another cabinet there filled only with minerals formed below the streets of Manhattan, Brooklyn, Queens, the Bronx and Staten Island. From then on, I went to visit the Minerals of New York every time I was in the city.

MICROCLINE CRYSTAL

Found in White Plains

My uncle and his family moved to Westchester. This must've been in the late 1970s. On some Sundays we would drive out to meet them for Chinese food - on this occasion out to White Plains for lunch with another family - friends of my uncle. Empty ramps, parking lights, verges, buildings which we were told by my mother had no personality. My sisters would fight about who had to sit next to me, I got so car sick it wasn't

a question of if I would throw up, only when. At the restaurant a large empty space and a banquet table with a Lazy Susan. And everyone yelling. My father's father came to New York alone, when he was 12. He went from sleeping and selling newspapers on the subway, to delivering half the babies in Crown Heights. He even delivered an infant who became our downstairs neighbor on 86th Street.

MALACOLITE IN LIMESTONE

Found on Broadway and 207th Street

There is a photograph taken in 1942 on 207 Street in Inwood towards the northern tip of Manhattan on one of the only exposures of naturally occurring marble in New York City. It was taken during a field session with the Pick and Hammer Club, a mineral collecting club for teenagers run by the Brooklyn Children's Museum (one of the first, if not the first children's museum on Earth) in Crown Heights. My parents grew up in the neighborhood down Eastern Parkway, drawing in Saturday morning classes with Miss Randall and planting seeds in the botanic garden. Around 1942, my father's family received a postcard from somewhere in Eastern Europe.

My father had a stamp collection, so he threw out the postcard, but saved the stamp. What did the card say? *Weather is fine. We are well. See you all soon.* Postdated far after the date they were long gone. There is a beautiful photographic archive on the Pick and Hammer Club at the Children's Museum, immigrant children staring intently at one type of mineral or another, studying the qualities of matter formed by the Earth, by rocks shifting and melting, by evolving crystalline life below cracks in the sidewalks. Resplendent mineral residents, both hand and eye and rock.

GARNET

Found at Grants Tomb

I have never been to Grants Tomb, only to Riverside Church one block south, where as children, or slightly more grown, we would assemble for peace.

MENACCANITE WITH EPIDOTE AND RIPIDOLITE IN QUARTZ

Found between 104th & 105th Street on 5th Avenue

Almost exactly below El Musee del Barrio, and across the street from the conservatory garden. When I worked at the Harbour, a few floors up from El Museo and the Urban Park Rangers, we would take the kids to the garden to draw, clip boards and coloured pencils in tow. Field grass, wildflowers, small curling tendrils. We went fishing in the Harlem Meer only two years after the lake was restored. Sitting at the waters edge, concentric circles as the lines dropped.

BERYL IN MICA SCHIST

Found on 94th Street and Riverside Drive

The streets of New York are not paved with gold, but with mica.

BLACK TOURMALINE

Found on 96th Street and Amsterdam Avenue

The other Jewish memorial home in the neighborhood is located near here. We couldn't face going back to Riverside Memorial for my father; we'd already been to too many funerals there. If you had a stone for every person you knew who died, it wouldn't be a cairn or a pile of rocks but a burial chamber tumbling across Broadway.

STILBITE AND SIDERITE WITH CHLORITIC COATING

Found on 95th Street and 4th Avenue

Near Mount Sinai, not a biblical mountain in the Desert, but a medical center, where my father died high above 100th Street. Personal mineral memories. And I know, we are humans, we are bones and muscle and brains and blood, but the iron in the Subway Garnet is the same iron that is in my body, and the marble floor of the Metropolitan is as carbonate as my bones. We are also mineral residents.

GREEN MUSCOVITE

Found on 93rd Street between 8th and 9th Avenue

Located just a few blocks from where our teacher lost us while we were hunting for worms.

GALENA CRYSTALS WITH HARMOTOME AND CHABAZITE ON GNEISS

Found on 92nd Street and 4th Avenue

Patti and Irving and Roberta, Eli and the boys lived a few blocks away. We went to their house for the Seder every year, alternating nights from Barbara and Bill. Around the block, One Fish, Two Fish, where I went with my mom for lunch after my own visits to the mountain not in the Desert time, after time, after time.

GARNETIFEROUS GNEISS

Found 150 feet below the curb on 87th Street and Broadway

My parents moved into the building on West 86th Street in 1971, the year after my older sister was born. It was a different building then, filled mostly with music teachers. As the elevator went up and down, through the grate (before they put in solid steel elevator doors) clink-aling through thin panes of glass you would hear Luba playing the cello on the third floor, opera singers on four, violin on eight, on nine Mrs. Moritz and her husband taught and played piano. Upstairs on eleven, one wall was filled with oil and charcoal portraits of orchestral musicians the family knew well, as they themselves were also musicians. Mrs. Moritz lived across the hall from us, though I don't remember if I ever met her husband before he died. They lived in the building since at least 1942, in a rent controlled apartment. The people (vultures) who bought her place got it when Mrs. Moritz was in her 80s, and then she lived to be 105 years old. I would see her every day, rain, snow or shine walking down Broadway on her own. Once a week she played bridge. In the late 80s they tore down the building next door. A two story building with twenty-three different businesses became one huge luxury apartment building with three large chains - a bank, the Gap, eventually Starbucks. But before that - Bibas Doughnuts with a vast snake shaped counter, Barton's Chocolate on the corner (which became Mrs. Fields' Cookies in 1983), the ballroom dance school on the second floor, the jewelers who pierced our ears, the hardware store, the store that sold one clove cigarette at a time, the pizza place, lingerie shop, Hermans, the stationary store - all gone. My mother photographed each shop front as they shut down. She interviewed the owners and typed up a list: *How long has your store been here? Will you move - or will you permanently close?* And 150 feet below the street where I grew up, a sparkling piece of Garnetiferous Gneiss found before my building was even there.

SPHAEROSIDERITE

Found on 86th Street and 4th Avenue

Near the Yeshiva I went to for kindergarten and first grade. The only good memories of this place are Friday bingo games and cupcakes with white and blue frosting before Shabbat.

BORNITE, A COPPER, IRON SULFIDE

Found on 81st Street, Bridal Path, Central Park

I grew up a few blocks from the American Museum of Natural History. My sisters and I would play in the Hall of the Great Whale, seeing who could stand under the tip of the whale's nose for as long as possible

without running away. But mostly, we played hide and seek in the Hall of Minerals and Gems. We slid down huge chunks of Jasper, lay on our backs next to monoliths of copper. We thought we were so tough, running around the dark lit passageways of diamonds and petrified trees. We didn't know that in 1976 - following a huge heist by some boys from Florida who broke into the museum in 1964 and stole 24 gems including the Star of India - the world's largest Sapphire - the hall had just been redeveloped to mimic the interior of a cave. The hall was designed to make you want to explore. In an article I found about the reopening of Gems and Minerals, they said they wanted people to *"touch these specimens, put their arms around them, fall in love with them"*. And I did. On October 26, 2017 (Alison's birthday) - with just 12 days notice - Gems and Minerals was closed for a complete and total renovation. Online are renderings for the new plans. Soon it will look like an Apple Store. All around the city, an outpouring of grief followed the announcement. I was inconsolable. I couldn't think of anything else. I did not get to say goodbye. To put it simply, I loved the Hall more than anywhere else on Earth. We were in the process of clearing out the apartment I had known my whole life. A time capsule with a locked door, unchanged since 1971. A glacial moraine of accumulated objects. Domestic Deep Time. Around the same time that my mother was diagnosed with dementia, I met with a geologist in Yosemite. He told me that the Lyell Glacier would likely be completely gone in five years; about the same length of time it could take for my mother's cognition to melt away. The act of geological grieving. I wrote down the phrase BEARING WITNESS and underlined it several times. This is not a passive act, just as grief is not a point of stasis. Physical, corporeal understanding. I got in touch with a friend to see if we could salvage something from the Hall of Minerals and Gems. Anything - a piece of carpet from the 1976 ziggurats, a letter prised off the wall, an information panel - anything. We were told it was impossible. Some months later, I got a message. Someone had a panel for me, from a Hall of Gems and Minerals, which no longer exists. A material witness. It is from a display on diamonds, though I prefer mica - a more faultless mineral worth almost nothing, but sparkling everywhere. I cannot confirm where the panel came from, as it was given to me on trust. All I will say is it is from a place I loved - and I will miss this place.

GARNET (ALMANDINE)

Found on 65th Street and Broadway

Very near Music and Art, or High School of the Arts, a.k.a. LaGuardia, a.k.a the lifesaver after years of bullying, a.k.a. where I started stone carving and found my family by choice. Mr. Greenberg would blast opera and teach us how to sharpen tools. Mr. Bing talked about Florence, about Michelangelo. I thought of him years later when I finally went there. My queer role models = deep love and zest for wonders of life, the world, art, everything. Mr. Bing died of AIDS in 1992. The lost generation, just - gone.

STILBITE

Found in the 2nd Avenue Subway Tunnel at 62nd Street

Jamie found this Stilbite far below the sidewalk in the tunnel they bore out seven stories underground to make the Second Avenue Subway Line. Most mineral life would be pulverized by the giant drill which could eat through 20 yards of rock in a single day. The tunnel was an idea 75 years in the making, though the Manhattan Schist it would bed down in is about 470 million years old. I was born only a few blocks away from the Stilbite, either at New York Hospital, or Lenox Hill, but in the way of collective memory, I don't know if it was me or my sisters born in one or the other. I don't know when the Stilbite was born. New growth in older rock. A daily core sample of the city. A sparkling arterial system that connects one island to another. On the Isle of Skye and along the West Coast of Scotland are many Stilbite (Zeolite) localities. Garnets lie on the beach in Knoydart, and Elie Rubies are really tiny Garnets you can find by lying face down in the sand in a particular bay. A long way of saying, a Garnet from Scotland is much the same as a New York Garnet; and my bones are the same as yours.

SERPENTINE

Found on 58th Street and 11th Avenue

My father used to take us to the Landmark Tavern in Hells Kitchen for fish and chips when we were very little, circular discs of fried potatoes like a plate of floating Saturns. Every year on December 31st we would travel around the city to get supplies for my parents annual New Years Day party. International Foods on 41st Street and 9th Avenue for taramasalata and grape leaves, Kalustyan's for mujadara, where my father had been going since he was a young man. Yonah Schimmel for knishes, a cheese shop on 10th and 4th, and finally tiny cannolis and tarts from Veniero's. The easy stuff came from Zabars and Fairway. I still miss bagels from H&H - I cried when they closed - and Bear Claws from Grossingers.

STILBITE WITH SCOPIFORM

Found on 45th Street between 1st and 2nd Avenue

We used to rehearse in a small building in a tiny playground a few blocks away with the Parks Shakespeare Company. The group was run by the City Parks Services, and we came from everywhere. Then we went back out. We were in High School. We performed in nursing homes and school gyms. Then we'd go to a diner for hot chocolate and rice pudding - Star Diner, Half Moon, Moonlight....

AMPHIBOLE

Found on 14th Street and 5th Avenue

I had my first studio on 14th Street just off 7th Avenue. I got the space from a friend of Peter Leggieri who owned Peters Sculpture Supply on 12th Street between First and Second Avenue. Peter had one of the last remaining stone carving supply stores in New York City. Marble, alabaster, hand made tools from Italy. When I was a teenager I trained as a stone carver and got my first set of tools from Peters when I graduated from High School. Then every summer I would apprentice at the shop. The door was always open. The whole neighborhood came by. We sat on piles of rough boulders and talked and had lunch. We polished, planed and sanded. We loved stone.

CHRYBOTILE (ASBESTOS)

Found on Staten Island

Listed as location unknown, though most likely it came from the asbestos quarry at Wards Hill, just across the island from Snug Harbor, the first home for sailors too tired to return to sea. I used to go to Snug Harbor with a picnic for my birthday. Much later, I took Alison on the Staten Island Ferry - as my mother used to say - the cheap date of choice in New York. Then we went on the East River Ferry, in the deep, hot summer, the river was the best way to get around. We picked up straws from a sperm bank on Wall Street and hopped back on the ferry, heading to 34th Street and sat on the top deck. I was going to get inseminated, so I laughed and said - *well this might be the only boat trip we get to take with our kid*. I did get pregnant, but it didn't stay. Second miscarriage. We were the bridge generation on this side of the ocean - allowed on paper to try and become parents, but nobody bothered with us. Two queer women. They let my body drift. Years wasted. My mineral body too tired by the end. No next generation. No productive grief. Just - no one. When my father died, I made work about the Eldfell volcano in Iceland - born the same year I was born - a way to think about lifespans and generations much longer than yours or mine. But this was different. Instead, over years, an awareness that I am part of the mineral city. Minerals grow on Broadway, and so did I. My family began "*in the interiors of collapsing stars...*" (Thanks for that Carl Sagan.)

THE SUBWAY GARNET (A cousin of the actual Subway Garnet)

Found in the jetties of Far Rockaway

I have a Subway Garnet, found in Far Rockaway by an early member of the Pick and Hammer Club. My great grandmother Bobby worked out there in a house off the boardwalk, in the oldest profession on Earth. My mother thought she had a dozen aunts, as at any time, a crowd of babushkas filled the apartment on Utica. Not aunts, ladies from the house off the boardwalk. Bobby was also a hat check girl at a club on the Lower East Side. My great grandfather worked nearby as a prompter for the Yiddish Theatre, and wrote proto-feminist plays on the side. The Pick and Hammer Club tracked down material from different construction sites around the city. They found out the rubble from 35th Street and Broadway got dumped in Far Rockaway, so they combed the jetties, hunting for Subway Garnets between the rocks. This is where my Subway Garnet comes from. My mother was just a teenager then. This was many years before the hurricane would have washed the Garnets away.