It was the year when a giant tsunami struck Japan. The magnitude of the earthquake was 8.2–8.5 on the Richter scale. The tsunami spread over Hokkaido to Miyagi Prefecture submerging everything in its way —Kamaishi Town in Kamihei District, Yoshihama Village and Ayasato Village, Kesen District in Iwate Prefecture and Onagawa Town in Miyagi Prefecture. At some places, the tsunami reached the height of 38.2 m above sea level. It was 15 June 1896. My mother's mother's mother Yoki Muto was three years old.

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I open my eyes in bed. The clock is ticking. I turn the light on. The light flickers on. I am 34 years old. If I had married at the age of 16 and had children when I was 18, like my mother's mother's mother, then my child would be 16 by now.

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In 1896, the same year the tsunami came, Europe was all about the X-ray discovered by Wilhelm Conrad Röntgen. Tagged "X" as the unknown quantity, it took the world by surprise, by showing the finger bones



Daughter's daughter's daughter

with a ring worn and the inside of a machine. In Paris, France, physicist Antoine Henri Becquerel, who heard about the discovery of the X-ray, exposed a photographic plate with uranium salt during an experiment on fluorescence. This was the discovery of radiation.

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When I was 16, my mother took me on a trip to Paris. In the 5th arrondissement of Paris, we walked, with the river Seine behind us, from the Gare d'Austerlitz metro station to Rue Buffon. I was wearing my brand new Converse sneakers. I really wanted to dress up for Paris, so I nagged my mother enough to buy me a new pair at a local discount shoe store under an expressway overpass in Nerima, Tokyo. We strolled through the Paris Botanical Gardens. It was originally designed as the royal medicinal herb garden for Louis XIII. There was a rose garden, garden of the Alps and a zoo. I saw a Robinia pseudoacacia from the seventeenth century and pistachio trees from the eighteenth century. I saw the endangered Przewalski's wild horse. It was said that Becquerel discovered radiation there at the Maison de Cuvier. But now, I can't seem to remember the scenery as I saw it then.

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In 1898, at the physiochemical school on Rue Lhomond in Paris, Marie and Pierre Curie discovered polonium and radium. Polonium was named after Marie's home country Poland, and radium comes from the Latin word for ray. Marie also named the term "radiation". 45 months later, the Curies succeeded in extracting pure radium by treating 11 tons of uraninite. The three of them, Becquerel and the Curies, were awarded the Nobel Prize in Physics. It was for the "extraordinarily remarkable merit achieved by joint research on the radioactive phenomenon discovered by Henri Becquerel". One day, Becquerel was handed a glass tube of radium from the Curies that gave out a white bluish light. It was radium and what Marie called the "fairy light". Walking the streets of Paris with a light in his pocket, he ended up with a burn scar on the skin.

ERIKA KOBAYASHI HALF-LIFE CALENDAR: RADIUM-226

<u> </u>) 1960 [] 1961	2000	2100	2200	2300	2400	2500	2600	2700	2800	2900	3000	3100	3200	3300	3400	3500
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2	1903	2003	2103 2104	2203	2303	2403	2503	2603	2703	2803	2903	3003	3103	3203	3302	3402	3502
Kan	1905	2004	2104	2204 2205	2304 2305	2404 2405	2504	2604 2605	2704 2705	2804 2805	2904 2905	3004 3005	3104 3105	3204 3205	3304 3305	3404 3405	
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5	1953	2053 2054	2153 2154	2253 2254	2353 2354	2453 2454	2553	2653	2753	2853	2953	3053	3153	3253	3353	3453	
	1955	2055	2155	2255	2354	2454	2554 2555	2654 2655	2754 2755	2854 2855	2954 2955	3054 3055	3154 3155	3254 3255	3354 3355	3454 3455	
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	1958	2058	2158	2258	2358	2458	2557 2558	2657 2658	2757 2758	2857 2858	2957 2958	3057 3058	3157 3158	3257 3258	3357 3358	3457 3458	
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	1961	2061	2161	2261	2361	2461	2561	2660	2760 2761	2860 2861	2960 2961	3060 3061	3160 3161	3260 3261	3360	3460 3461	
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	1967	2067	2167	2267	2367	2467	2567	2667	2767	2867	2967	3067	3166 3167	3266 3267	3366 3367	3466 3467	
	1968	2068	2168	2268	2368 2369	2468	2568	2668 2669	2768	2868	2968 2969	3068 3069	3168	3268 3269	3368 3369	3468 3469	
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	1973	2073	2173	2273	2373	2473	2573	2673	2773	2873	2973	3073	3173	3273	3373	3473	
	1975	2074 2075	2174 2175	2274 2275	2374 2375	2474 2475	2574 2575	2674 2675	2774	2874 2875	2974 2975	3074 3075	3174 3175	3274 3275	3374 3375	3474 3475	
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	1979	2079 2080	2179 2180	2279 2280	2379 2380	2479	2579	2679	2779	2879	2979	3079	3179	3279	3379	3479	
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	1985	2085	2185	2285	2385	2485	2585	2685	2785	2885	2985	3085	3185	3285	3385	3485	
	1987	2086 2087	2186 2187	2286 2287	2386 2387	2486 2487	2586 2587	2686 2687	2786 2787	2886 2887	2986 2987	3086 3087	3186 3187	3286 3287	3386 3387	3486 3487	
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-	1994	2094	2194	2294	2394	2494	2594	2694	2794	2894	2994	3094	3194	3294	3394	3494	
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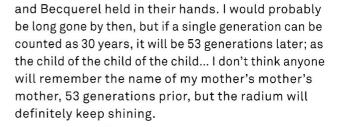
Yoki, my mother's mother's mother had a child, and that child had a child, and that child had a child, and another child later, here I am.

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Every time I hear the word Becquerel on the TV news, I think about my mother, my mother's mother, and my mother's mother's mother and the streets of Paris. I remember taking photos on Avenue des Champs Élysées, the cold morning air as I awoke at a hotel near the Gare du Nord, having salt and butter ramen in a ramen noodle shop and arguing with my mother in front of the Pantheon. Things invisible to the eye flowed into my body and the room. They shone. They left a mark.

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As they say the half-life for radium-226 is 1601 years, so 3503 will be the half-life for the radium that Marie



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Now, I live in my mother's mother's house. My mother's mother who was 93 years old when she passed on last Christmas. The house is a small wooden two-storey building. The front door was dark brown but I painted it white. The white turnip soup is almost ready. The laurel tree in the yard had died from a disease. Soon, the night will come. I throw my hair ribbons on the floor. I was going to watch a DVD, but I hit the off switch. The light goes out. I close my eyes, in bed. I sleep. Soon, morning will come.



Daughter's daughter



Daughter

Erika Kobayashi, *A Story of Mothers* 小林工リカ, translated by Kenichi Eguczhi.

Erika Kobayashi, *Half-Life Calendar: Radium-226*, drawings, 1601 numbered calendars, distributed in Tokyo, Auckland, New York, Maebashi, design by Mina Tabei.

THE NUCLEAR CULTURE SOURCE BOOK

EDITED BY ELE CARPENTER

> black dog publishing

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