[crickets]

[cymbal plays]

[chime]

[piano plays]

[AHLBERG:] You have this fish that's... it's like a sort of living time machine.

[WEINBERG:]: It was like looking at a dinosaur. This creature that has been around for 400 million years.

[piano plays]

[THOMSON:] It was December the 22nd, 1938. On this hot, December day in East London South Africa, a trawler came into town and deposited its load of fish. And the trawler captain had a habit of keeping any odd-looking interesting specimens and giving them to the curator of the local museum, Marjorie Courtenay Latimer.

[WEINBERG:] She loved nature so much, and she wanted to make the museum's collections the best they possibly could be, and so she went down to the harbor-side. She described picking through this big pile of slimy fish and eels, and then suddenly she saw, poking up, this sort of strange, blue fin.

[AHLBERG:] It's a very distinctive kind of fish with strange fleshy limb-like fins. This thing was like nothing she'd ever seen.

[WEINBERG:] She said to the chairman of the museum, "I think this is something really special." He went, "Oh no, little Latimer, it's just a rock cod." But she knew in her gut that it was something different. And she thought, "Well, I've got to find a way to preserve it." So she set off on Christmas Eve in East London.

[THOMSON:]: She tried to get the local cold storage company to take care of it...

[WEINBERG:] They said, "Ugh, no way, go away."

[THOMSON:]: She tried to get the local mortuary to embalm it...

[WEINBERG:] They said, "Oh, we can't have any stinking fish here!" She said "Why? All the other people in here are dead anyway."

[THOMSON:]: And so eventually it was given to a taxidermist.

[WEINBERG:] And she thought, well, I've got to find someone to identify this fish. And she immediately thought of Professor JLB Smith.

[THOMSON:]: Who was the only ichthyologist in South Africa.

[WEINBERG:] So she drew a rough little drawing, and sent a letter.

[music plays]

[WEINBERG:] Soon as he saw the fish, he walked round and round it slowly.

[THOMSON:]: He practically fainted.

[WEINBERG:] He said, "It was like bombs going off in my head, and I was seeing the shape of a fish known only from fossils."

[AHLBERG:] It's such a characteristic shape. It's like the outline of a Viking ship.

[WEINBERG:] This was the coelacanth. A fish that was thought to have become extinct 65 million years ago. It was like a dinosaur had just come into your living room!

[music plays]

[AHLBERG:] You know, 400 million years ago these were just a bunch of fishes very much like other kinds of fish that were around at the time. But now they are these absolute anomalies. There's nothing else like it on the planet.

[THOMSON:]: They had in fact made the discovery of the century.

[music plays]

[AHLBERG:] It was given the name Latimeria chalumnae, in honor of Marjorie Courtenay Latimer.

[THOMSON:]: Without her, the specimen wouldn't have been preserved.

[AHLBERG:] The key excitement was the fact that this was such an obvious living fossil.

[THOMSON:]: Charles Darwin came up with the term. It's sort of dumb in a way, because if it's alive it can't be a fossil. But what it means is, there's an early fossil record, then a total gap, and then there happens to be a living one. It doesn't mean that hundreds and hundreds of its relatives haven't become extinct.

[music plays]

[WEINBERG:] One of the things that I love about the coelacanth is that it's seen history past.

[AHLBERG:] When the coelacanths first appeared, as one lineage of lobe-finned fishes among other similar-looking forms, well, what can you say about the world? They shared the waters with strange armored jawless fish with sucker-like mouths. One lineage of their close relatives started nosing around in the shallows and then I suppose from the coelacanth's perspective just sort of disappeared out of view as they emerged onto land.

[WEINBERG:] And I like to sort of think of the coelacanth as saying "Bye, good luck!"

[AHLBERG:] We get into the period of the coal swamps, producing so much oxygen that it becomes possible for dragonflies the size of falcons and millipedes longer than a man.

[music plays] The world is suddenly struck by a gigantic mass extinction. Something like 90% of all species disappear. Coelacanths sort of keep going. They've perhaps taken a bit of a knock, but there are quite a lot of them. They swim around, doing their coelacanth thing. Another huge mass extinction. Then, mammals diversify on the land. Primates emerge. One primate lineage starts standing up on its hind limbs, starts speaking, and here we are. And meanwhile, coelacanths, well, they haven't really changed. That is a truly astonishing thing. For me personally, it is just that the world should have such things in it. That it should be possible to see this kind of improbable ghostly messenger from the very deep past.

[WEINBERG:] And I just hope that the coelacanth manages to outlive us all, and keep going and witnessing what is to come.