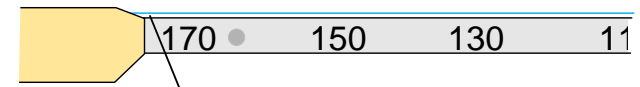
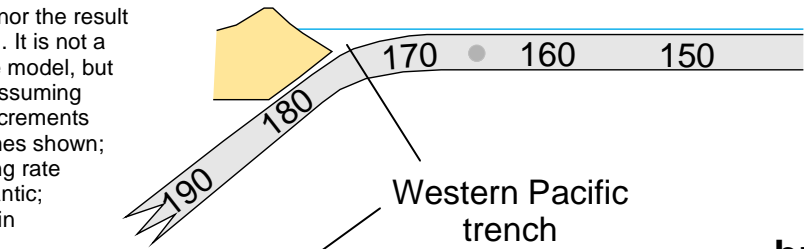


Geologists commonly note that subduction produces the world's deepest seafloor where the world's oldest oceanic crust sinks in the western Pacific. However, skeptics often want to know why

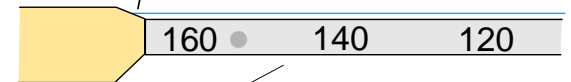
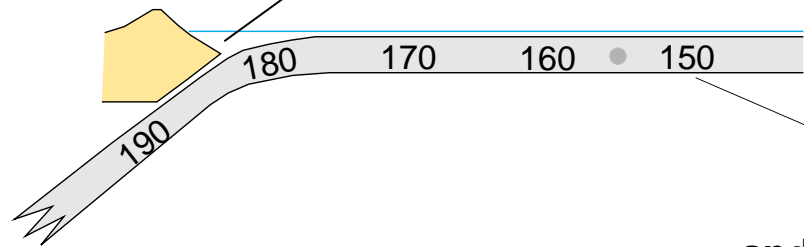
oceanic crust of nearly the same age at the margins of the North Atlantic isn't being subducted. This document proposes a historical explanation of that conundrum.

The situation today:

This document is a hypothetical explanation, and it is not the result of original research nor the result of direct observation. It is not a rigorous quantitative model, but it was constructed assuming
 1) 10-million-year increments between the four times shown;
 2) a Pacific spreading rate twice that of the Atlantic;
 3) a rate of rollback in the western Pacific about two thirds of the Pacific one-sided spreading rate.

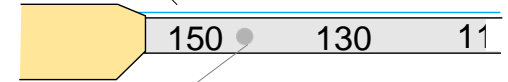
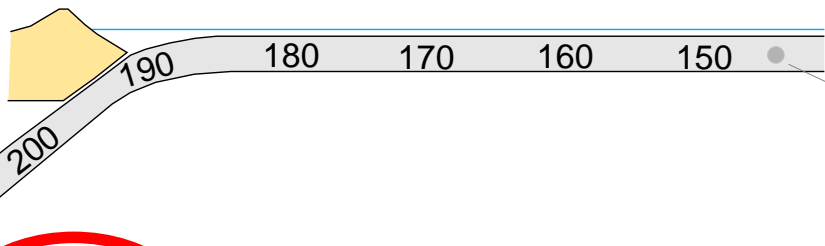


but earlier:



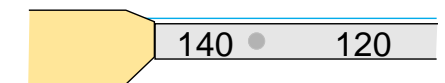
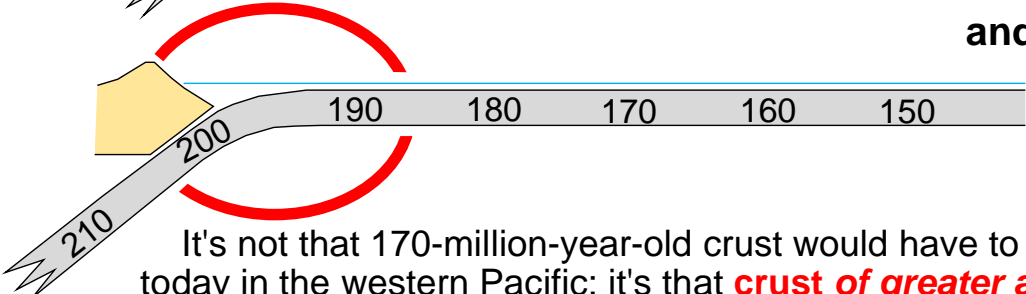
Age, in millions of years, of crust during time interval shown

and still earlier:



Crust that formed 165 million years before today

and earlier still:



It's not that 170-million-year-old crust would have to sink today in the western Pacific; it's that **crust of greater age** failed and sank in the western (an even-farther-western) Pacific *in the past*, beginning subduction and rollback that *continue* today.

In the Atlantic, by contrast, there was no earlier subduction of older crust that could have led to subduction today.