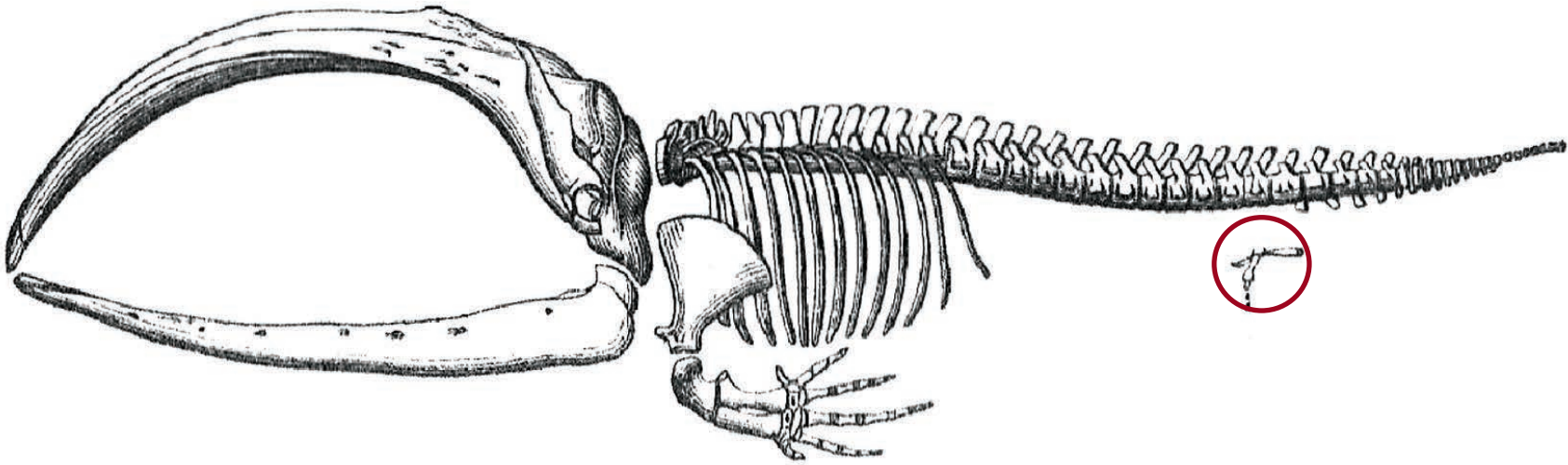


Let's hear it for retro body parts. Did you know that some whales have useless hind limbs, left over from eons ago, when their ancestors walked around?



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Magic isn't the only thing that can make objects disappear. Evolution, over millions of years, can do away with parts that become harmful or no longer serve a purpose.

Imagine an animal born with a harmful trait—like a strange tendency to trust tigers. Such animals would be more likely to die before having babies, so that trait is less likely to be passed down to other generations. Eventually, the trait becomes less common and might eventually, as generations go on—poof!—disappear.

Sometimes, however, if a trait does not make the organism much worse off, that trait might stick around. Even if it no longer has a purpose.

For instance, you once had a tail.

Yup, we're talking to you, human.

When you were a four-week-old mass of cells in your mom's belly, you began to build a tail. But then, before you were born, those cells that made up you edited out most of the tail, leaving your tailbone—a small attachment site for muscles and tendons. That human "tail" you used to have is considered a "vestigial structure." Like the computer modem (look it up) from the '90s that your grandpa still has in the closet, it's retro and probably useless.

Sometimes these vestigial structures develop, but serve no clear reason for being. The flightless kiwi has wings, and some whales have tiny back legs.

Lots of people point to the human appendix as a vestigial structure. At one point, scientists believe, the appendix helped our vegetarian ancestors digest food and maintain normal gut bacteria. But the food of modern humans is more easily digestible, so the function of our appendix has been less clear. In fact, the organ can occasionally pose a threat. Appendicitis, an infection of the organ, arises in about 8% of Americans.

But don't write off the appendix just yet. Growing evidence suggests that the organ actually helps us fight other diseases. As researchers further clarify this role, then, poof!—so much for the idea that the appendix is just another useless structure.

—John Hansen and Erica Lloyd

Thanks to Pitt Med's Jack Schumann, recently retired favorite anatomy instructor, for helping us sort out form from function.