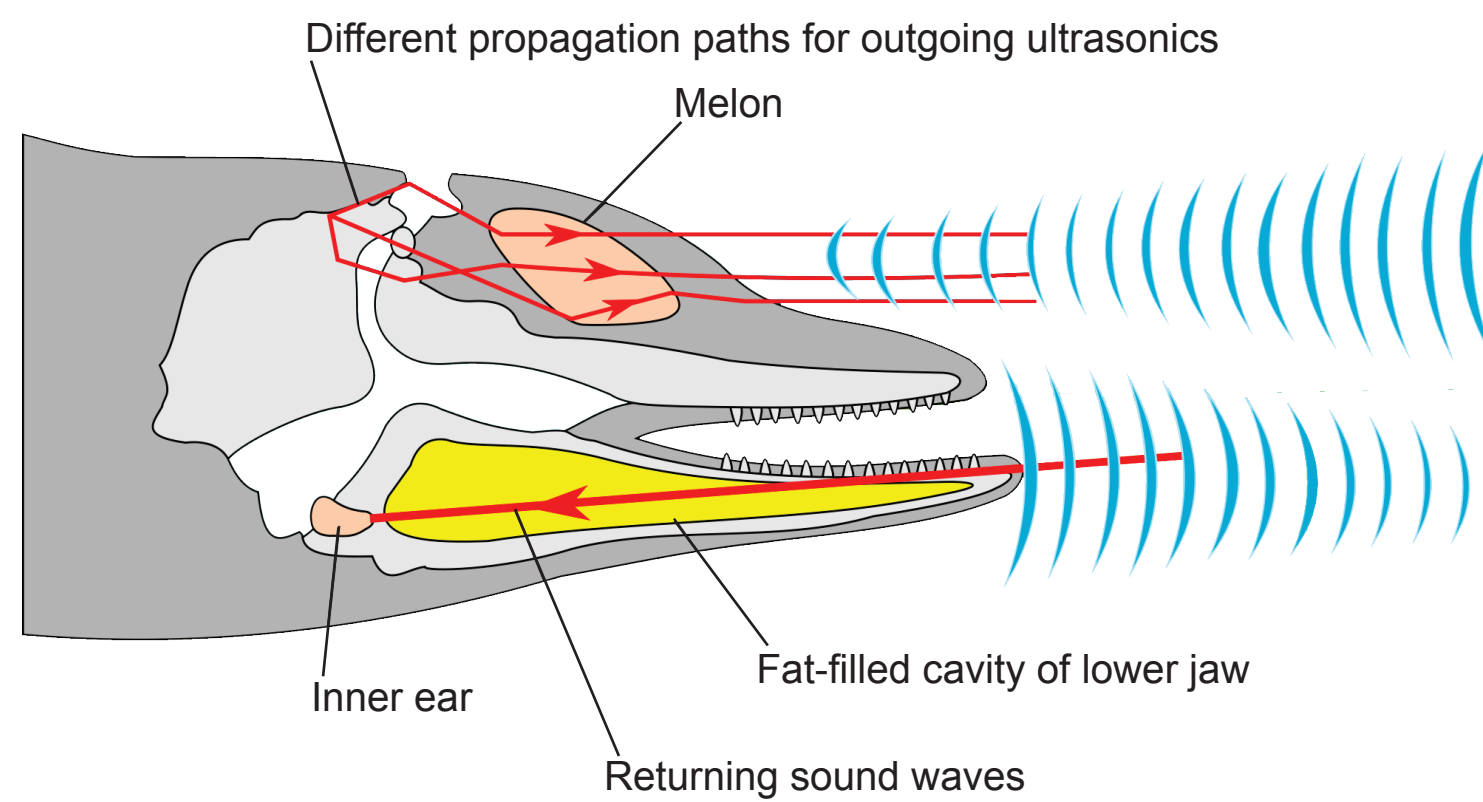


Day 5

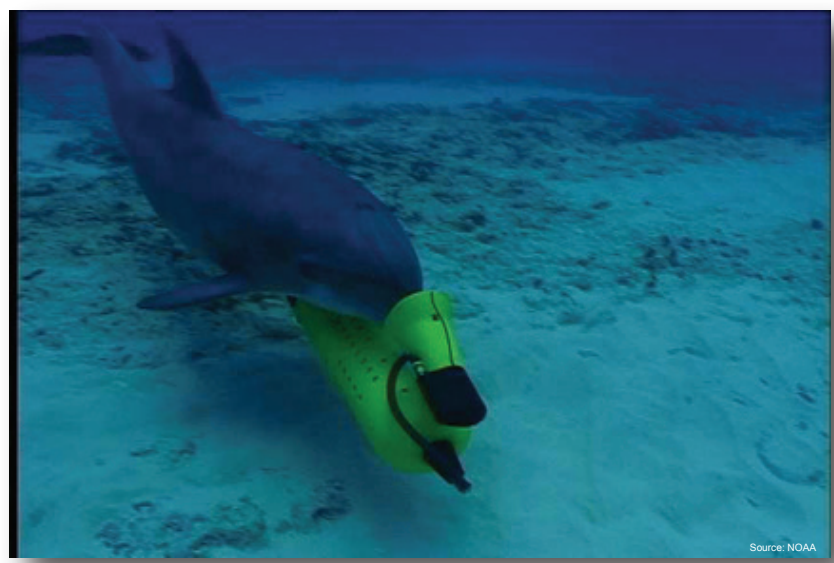
ANIMALS ARE DESIGNED FOR THEIR ENVIRONMENT

DOLPHINS: Designer Body Shape

The dolphin has a remarkable sonar system for detecting objects underwater. Dolphins use complex frequency-modulated whistles in order to communicate with each other. Some even have a unique sound that can identify them as an individual. They also use clicks to communicate and for echolocation purposes. They send ultrasonics out through the melon and the speed with which they bounce back allows the dolphin to determine in which direction, and at what distance the object is.



Dolphins have streamlined bodies that allow them to swim quickly through the water.



They have very large and complex brains allowing them to make intelligent decisions. The United States military has used dolphins in the past, training them to locate mines or rescue lost or trapped divers. More increasingly they are used in animal-assisted therapy for people with psychological problems or developmental disabilities.

GIANT TUBE WORMS: Designer Cooperation

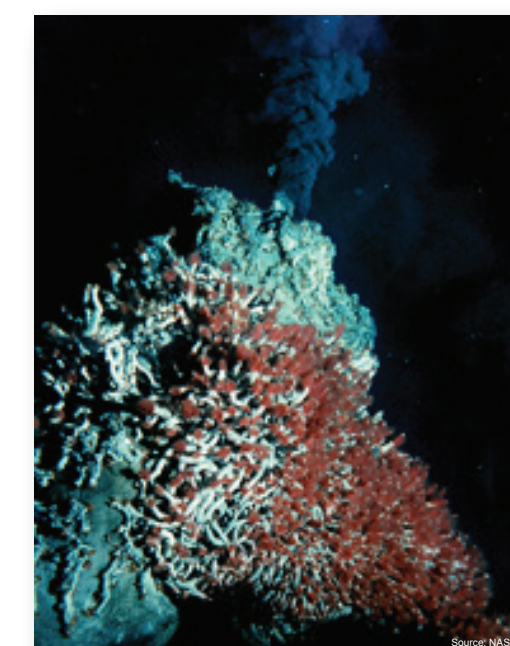
Giant tube worms are found only on hydrothermal vents located several miles deep on the ocean floor. Hydrothermal vents produce large amounts of toxic compounds such as hydrogen sulfide.



A truly EXTREME environment:
 Depth = 3000 m
 Ambient water temperature = 2° C
 Water escaping from vents = 60-464° C
 Pressure = 218 atmospheres
 Light = 0
 Oxygen = 0



Tube worms have no mouth or digestive tract. Instead they have a symbiotic relationship with chemosynthetic bacteria living inside them. These bacteria need the minerals from the ocean water, but can't survive the freezing temperature of the water surrounding the vent. As the bacteria process the minerals, they form by-products that feed the worms. By working together, they coexist in one of the harshest environments on Earth.



BIRDS: Designer Lungs

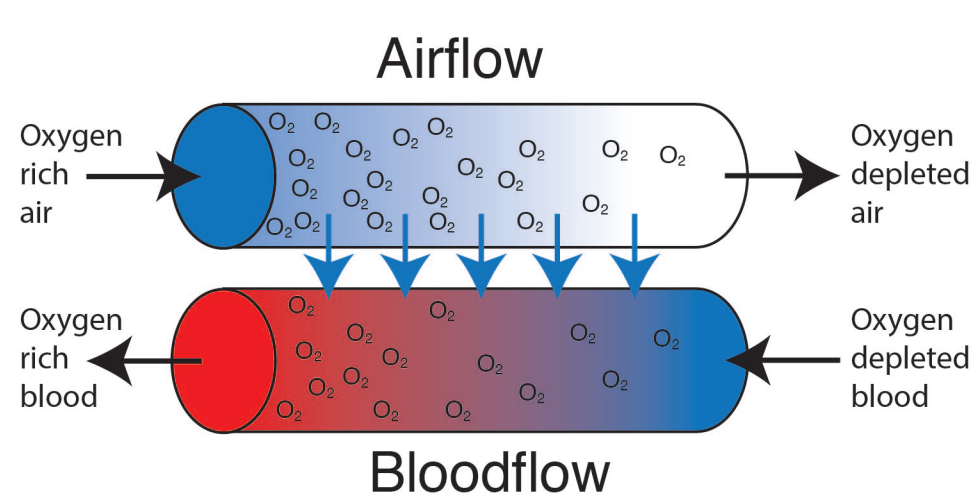
*"If it could be demonstrated that any complex organ existed which could not possibly have been formed by numerous, successive, slight modifications, my theory would absolutely break down."
 - Charles Darwin (Origin of Species)*

Unlike other vertebrates, birds' lungs don't collapse when they breathe. This means that the expansion of a bird's lungs must begin gradually a few days before hatching. Once the lungs have filled, the final stage of lung development can take place, so the bird is able to live outside the egg.

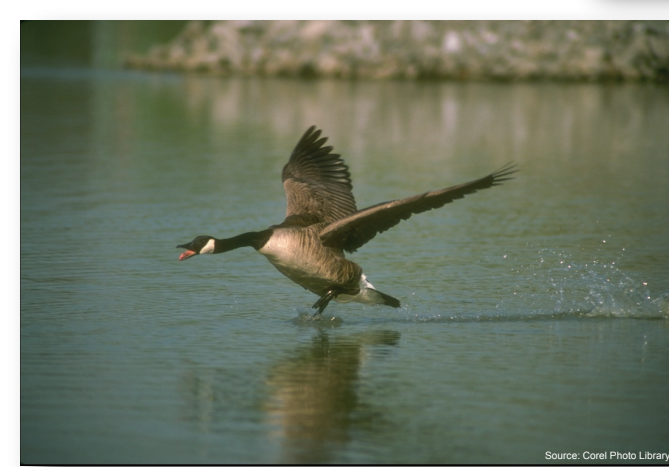


The bird lung is a very unique design:

The airflow moves at right angles to the circulatory flow. This allows the blood lowest in oxygen to come in contact with the air having the highest oxygen content. This cross-current exchange is highly efficient and allows the birds to handle the energy demands of flight.



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*"Just how an utterly different respiratory system could have evolved gradually from the standard vertebrate design is fantastically difficult to envisage, especially bearing in mind that the maintenance of respiratory function is absolutely vital to the life of an organism to the extent that the slightest malfunction leads to death within minutes. Moreover, the unique function and form of the avian lung necessitates a number of additional unique adaptations during avian development."
 -Michael Denton (Evolution: A Theory in Crisis)*

And God said, "Let the water teem with living creatures, and let birds fly above the earth across the expanse of the sky." So God created the great creatures of the sea and every living and moving thing with which the water teems, according to their kinds, and every winged bird according to its kind. And God saw that it was good. God blessed them and said, "Be fruitful and increase in number and fill the water in the seas, and let the birds increase in the earth."

And there was evening, and there was morning - the fifth day.
 -Genesis 1:20-23 (NIV)