

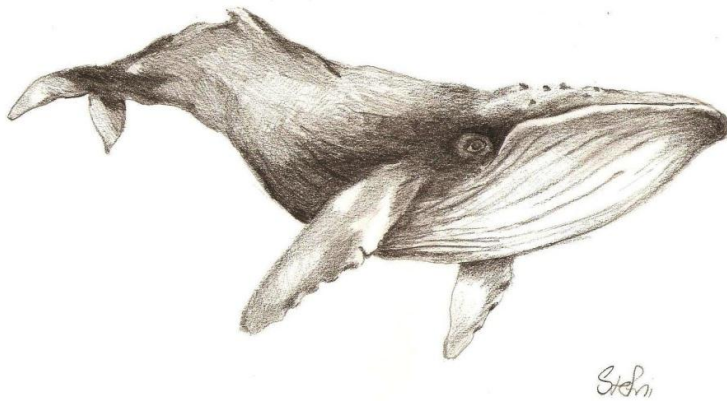
Whales – magnificently designed

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Drawings: Stefni

Whales are divided into two main groups, namely baleen whales and toothed whales. Baleen whales feed on very small planktonic organisms, which are sieved from the water through the baleen plates hanging from the roofs of their mouths. Toothed whales hunt a variety of marine prey, such as squid, octopus, fish and seabirds. The baleens of the southern oceans include the southern right whale, the humpback whale and the blue whale. Among the toothed whales of the southern oceans are the orca or killer whale and the sperm whale.

Whales are remarkable creatures and are wonderfully designed for living in the oceans of the world.



Power and grace

The whale is an efficient swimmer. By making use of the strong muscles along its back the huge tail flukes, unlike the rapid sideways movement of the tail of a fish, move up and down rather slowly, propelling the huge body forward. The blue whale, the largest living mammal on earth, reaches lengths of up to 33 metres with an average weight of about 100 to 120 metric tons and a maximum weight of as much as 200 metric tons. The southern right whale, the most common visitor to the South African shores, may reach lengths of 15 to 17 metres and may weigh 50 to 65 metric tons when fully grown, although maximum weights of up to 96 metric tons have been recorded. The African elephant, the largest living land animal, weighs only 6 tons.

At times a whale may thrust almost its entire body out of the water in a graceful leap, falling back into the water with a huge splash (breaching). Just imagine the power involved in lifting such massive bodies out of the water! There is much speculation about the reason for this behaviour. It may be part of a communication process, or it may be ascribed to aggressive display. However, it may simply be an expression of joy, proclaiming the glory of a Creator God.

Navigation

In the Southern Hemisphere many baleen whales and some toothed whales migrate annually from their feeding grounds in the cold waters of the Antarctic to the warmer waters along the South African coast and elsewhere for mating and calving. Humpback whales make one of the longest migrations – as far as 8 700 km one way.

Echolocation plays an important role in finding their way in long-distance travel. They determine their geographic position by making clicking and whistling sounds and then listening to the echoes off the ocean floor. To do this, they need special structures for making and focusing the sounds, while they also need special oil-filled sinuses in the lower jaw, which pass the echo to the inner ear. The timing of the echo gives the whale the distance, and the difference between the echoes received by the different sides of the head allows the whale to tell the direction. Communicating with other whales may also play a significant role in orienting themselves.



Deep-sea diving

Certain whale species, such as the beaked whales, can dive to depths of up to 1 kilometre without sustaining tissue damage and can remain underwater for very long periods before resurfacing. However, the sperm whale, a toothed whale, surpasses the exploits of all other whales and is a true champion when it comes to deep-sea diving. Normally a sperm whale can reach depths of between 1 to 2 kilometres and can stay on the sea floor for over an hour without breathing, but exceptionally long dives of over two hours, reaching depths of about three kilometres, have been recorded. Hunting techniques in such environments of total darkness can only be imagined, although echo-location may be a plausible explanation. In comparison with whales humans, with all their knowledge and technology, are capable of reaching only a fraction of these depths. Nino Gomes holds the Guinness World Record for the deepest scuba dive, which stands at 318.25 metres. It took him 20 minutes to reach this depth, but a painstaking 12 hours to return to the surface in order to prevent decompression sickness or the 'bends'. Whales have no such limitations. They can resurface from great depths as quickly as they want to without having to worry about problems like the 'bends', nitrogen narcosis or oxygen toxicity.

Whales have a number of special design features which enable them to function efficiently at great depths. These include a ductile rib cage that can resist high pressure and an area around the blowhole which is particularly sensitive to changes in pressure, making it possible for the blowhole to shut tightly when submerging to great depths, thereby preventing water from entering the lungs. When the whale emerges, the reduction in pressure automatically opens the blowhole to allow stale air to be released from the lungs.





Communication

Whales are social animals and communication forms a very important part of their existence. In contrast to most land mammals, whales communicate primarily by means of sound instead of sight. This design feature is ideal for a water world where vision is extremely limited due to a lack of sunlight.

Baleen whales are specialised for low-frequency hearing, while the toothed whales are specialised for high frequencies. Blue whales have been known to dominate the low-frequency sound field of an entire coastal region for months. Their calls include extremely deep songs which actually extend into the range of 'infrasound', sounds that are too low for humans to hear and that can be heard over hundreds of kilometres. By producing intense high-frequency clicks, sperm whales have earned the title of 'loudest animal on earth'.

Whales, as well as dolphins and seals, are unique in another way: they are accomplished vocal learners and are able to modify their vocal repertoire based upon what they hear. Humans are the only other mammals with well-developed abilities of vocal learning.

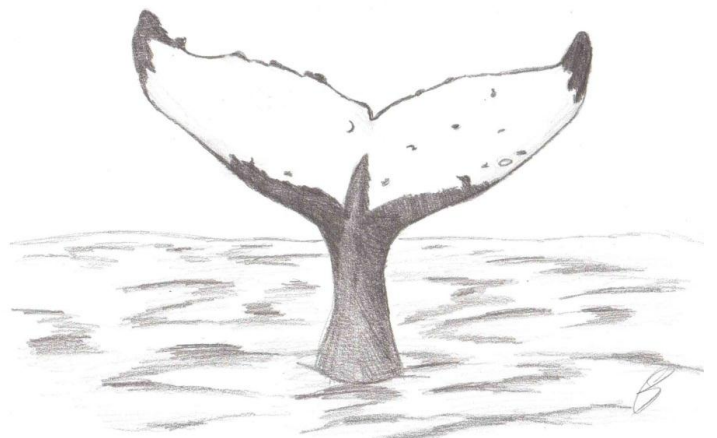
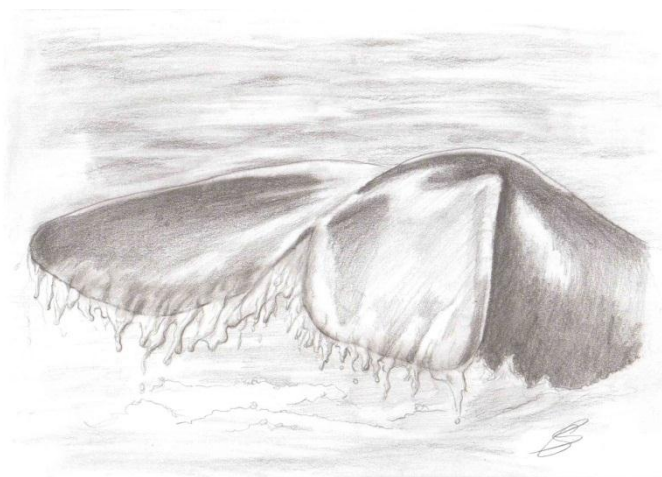
Other remarkable design features

- Unlike most mammals, baby whales are born tail first to prevent them from drowning during birth.
- Rather than having to suck the milk from the mother, it is pumped into the calf. Blue whale calves need 450 litres of milk per day.
- Whale milk has twice as much protein, half as much sugar and eight to ten times as much fat as cow's milk.
- A whale's heart beats in various rhythms depending on the animal's activity. When on the surface heartbeats vary from 70 to 100 a minute, while underwater they drop to as low as 40 to 30 a minute.
- Whales' eyes are well developed and are designed to see clearly in and out of water.

Whales and hairy dogs

According to evolutionary 'story-telling', the 'evolution' of whales can be traced back around 60 million years to *Mesonyx*, a hoofed carnivore that allegedly looked like a large, hairy dog. Since *Mesonyx* appeared much too early in evolutionary history to be related to dogs, it was decided that it must have been closer to the root of the evolutionary branch that led to whales. This assumption was based on two things. First, on certain similarities which exist between *Mesonyx* and earlier whales, such as triangular molar teeth. Second, to make the assumption plausible a connection had to be found between *Mesonyx* and an aquatic environment. This problem was solved by placing *Mesonyx* in an inhospitable environment which compelled it to feed on fish caught in water. With the passing of time, *Mesonyx*'s relatives became more adapted to water to pursue a diet of fish. And so the scene was set for a fish-eating, hairy, hoofed dog to 'transform' over time into a whale.

For a while *Andrewsarchus* was also recognised as a possible ancestor of the whale. At first it was seen as a larger relative of *Mesonyx* because of the similarity between the teeth and skulls of *Mesonyx* and *Andrewsarchus*. This reconstruction of *Andrewsarchus* as another hairy, hoofed carnivore was based on very flimsy evidence – a single incomplete skull discovered in the Gobi Desert in 1923. More recent studies have shown *Andrewsarchus* to have no special mesonychid affinities and the larger paleontological community no longer considers it to be as closely related to *Mesonyx* as was previously thought. And so *Andrewsarchus* departed from the scene as a possible ancestor of the whale.



Hairy dogs and missing links

One would need a very lively imagination to envisage a land-dwelling, fish-eating creature such as *Mesonyx* changing slowly over time into a sea-dwelling creature such as a whale, whether fish-eating or plankton-feeding. Such a creature would have to lose its shaggy hair, its backbone flexibility and its waggly tail; its nostrils would have to move from the end of the muzzle to the top of the head, the long front legs would have to be transformed into flippers, the back legs would have to disappear, while the external ears would have to become internal for the shape to become streamlined. And all this does not even include more complicated matters such as echolocation and diving to extreme depths.

Furthermore, to provide some credibility to the idea of a hairy, hooved carnivore evolving into a whale, sufficient fossil evidence of transitional forms or 'missing links' between such land and sea animals are needed. For some time *Pakicetus*, a seal-like creature, was presented by evolutionists as such a transitional form, but again the reconstruction of this creature was based on very scanty evidence – a few teeth, a small part of the lower jaw and a small part of the skull. When more evidence was uncovered at a later stage, the reconstruction of *Pakicetus* took on a totally different appearance – a land mammal walking with only its feet touching the ground.

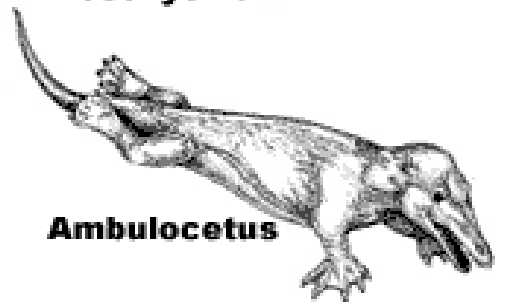
In another attempt to provide credibility to the evolution of whales, various recent fossil finds have been reconstructed to serve as transitional forms between land mammals and whales. This transitional sequence consists of:

- *Mesonychid*
- *Ambulocetus*
- *Rodhocetus*
- *Basilosaurus*

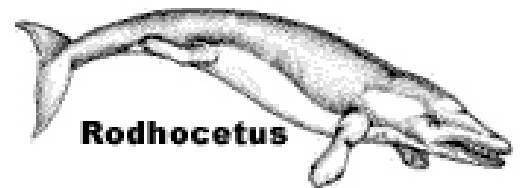
In the case of *Ambulocetus*, the reconstruction was again based on imagination rather than on sufficient skeletal evidence, while in the case of *Basilosaurus* doubt exists even among evolutionists about whether it could have been an ancestor of the whale. So it seems as if the case for whale evolution was again based on mere tales instead of truth.



Mesonychid



Ambulocetus



Rodhocetus



Basilosaurus

Alleged sequence of land
mammal to whale transition
[From *Teaching about
Evolution and the Nature of
Science*]

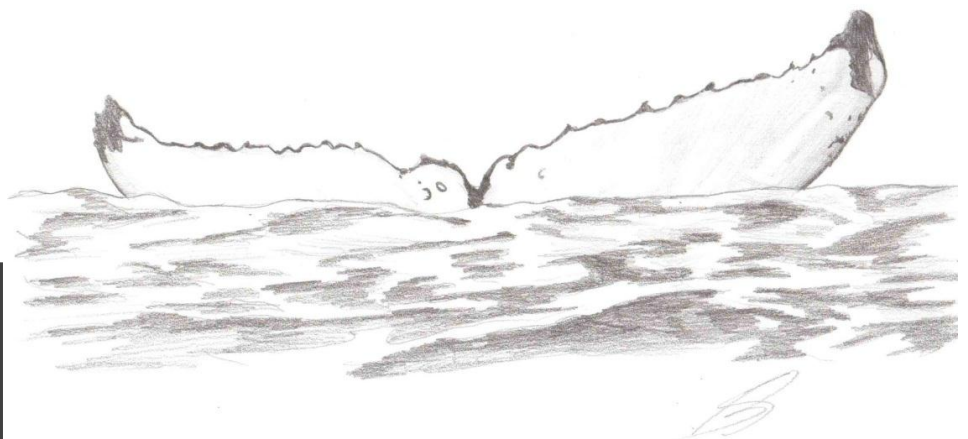


Irrefutable common-sense evidence

According to the Bible, God created whales as sea-dwelling mammals on Day 5 of Creation Week. All the intricate features of those wonderful creatures, which are perfectly suited to their environment, is a clear indication that they were beautifully designed that way by a perfect Creator – the God of the Bible.

Genesis 1:20-21 (NKJV)

Then God said, "Let the waters abound with an abundance of living creatures, and let birds fly above the earth across the face of the firmament of the heavens." So God created great sea creatures and every living thing that moves, with which the waters abounded, according to their kind, and every winged bird according to its kind. And God saw that *it was good*.



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<http://creation.com>

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