Fossils

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What are Fossils?

Fossils are the preserved remains or traces of animals, plants, and other organisms from the remote past. The study of fossils is the science of paleontology. A preserved specimen is called a "fossil." Fossils vary in size from microscopic (single bacterial cells) to gigantic (dinosaurs) and trees many meters long and weighing many tons. The study of fossils can more specifically pinpoint when and where organism branching occurred in the tree of life.

- Trace fossils are the fossils consist of the marks left behind by the organism while it was alive (Footprint or feces of a reptile).
- Chemofossils are the fossils left some markers that are not visible to naked eyes but can be detected in the form of biochemical signals.
- Living fossil is an informal term used for any living species that is apparently identical or closely resembles a species previously known only from fossils.

Types of fossils:

1. **Vertebrate fossils** - come from animals that had bones.
2. **Invertebrate fossils** - come from plants or animals that didn't have bones.

Influence of modern technology on the fossil identification

- Improved microscopic and imaging techniques allow scientists to zoom in on these fossils to identify hallmarks of life.
- Can help identify very tiny samples of kerogen, the organic material into which living things decay.

- Sensitive techniques can determine whether a rock or putative fossil contains more carbon-12 than expected, suggesting that the material may once have been alive.

How bones and teeth turn into fossil?

- Animals buried after their death
- Over time, more and more sediment covered the remains.
- The parts of the animals that didn't decay were encased in the newly-formed sediment.
- In the right circumstances parts of the animal turned into fossils over time.
- Chemicals of animal bodies decays the bone slowly and water infused with minerals seeped into the bone and replaced the chemicals in the bone with rock-like minerals. (fossilization process)
- A heavy, rock-like copy of the original object - a fossil will be formed.
- The fossil has the same shape as the original object, but is chemically more like a rock!

How do organisms turn into fossils?

Unaltered preservation ?permineralization ?replacement ??carbonization ??recrystallization ??authigenic preservation

Cast and Mold

- Mold: The shape left by a plant or animal leaves a shape.
- Cast: Mud or minerals fill the mold and harden. It has the same shape that the animal or plant had when it was alive.

Note:

Fossil isn't the actual object that was left. It's just the same shape of the original object. It is hardened because it's made up of various minerals and other material.

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Reference Links:

- http://en.wikipedia.org/wiki/Fossil
- http://en.wikipedia.org/wiki/List_of_human_evolution_fossils
- http://www.youtube.com/watch?v=TVwPLWOo9TE
- http://www.youtube.com/watch?v=TVwPLWOo9TE
- http://www.enchantedlearning.com/subjects/dinosaurs/dinofossils/Fossilhow.html
- http://www.fossils-facts-and-finds.com/
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