



JIWAJI UNIVERSITY SCHOOL OF STUDIES IN EARTH SCIENCE

FOR M.SC GEOLOGY (GT204)

204- UNIT 1 (1.2)

FOSSIL AND FOSSILIZATION AND THEIR PRESERVATION

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WHAT IS A FOSSIL?

- The remains or impressions of a prehistoric plant or animal embedded in a rock and preserved in a petrified form.
- Putting in a more simpler way , fossils are the remains or traces of plants and animals that lived long ago.



This is how the fossil looks

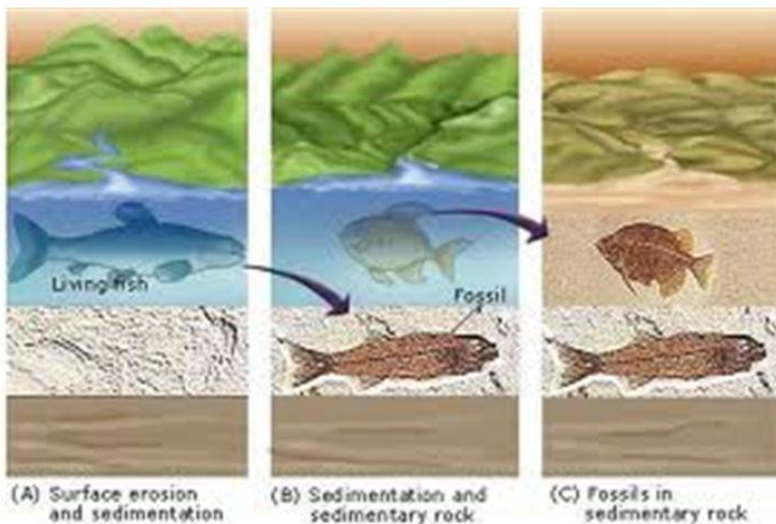


A fossil may be a

- An original skeleton or shell
- A mold or a cast
- A material that has replaced the once living fossil
- Traces such as footprints, trails, or worms

- **What are the conditions that promote fossilization**
- Fossilization of hard parts such as skeletal bones or exoskeleton is much easier than soft parts
- Accelerating rate in burial process / deficient in oxygen

How Fossils Form



TYPES OF FOSSILS

Petrified fossil

- It forms when minerals replace the structure of an organism. This, process, called premineralization, occurs when groundwater solutions saturate the remains of buried plants or animals.



Trace fossils

Trace fossils are those details preserved in rocks that are indirect evidence of life. It is also called as ichnofossil.

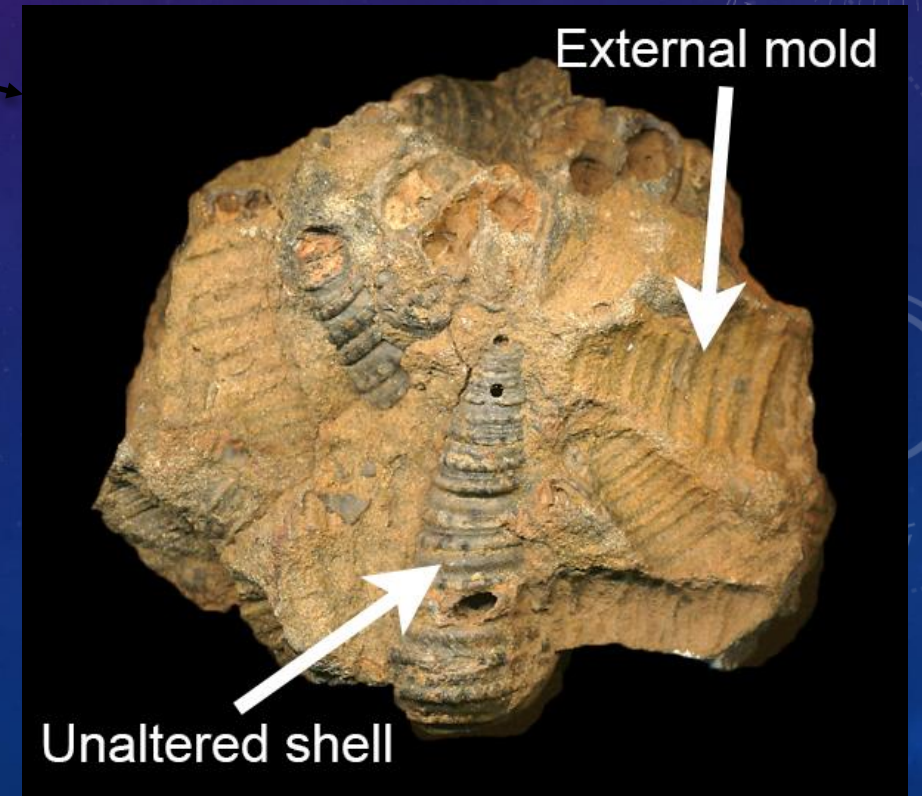


WHAT ARE THE MODES OF FOSSIL PRESERVATION FOR BODY FOSSIL?

Unaltered

Original material- original, unaltered material from the living organism, unaltered bone or shell

Encrustations or entombments- materials trapped inside coating such as amber.



WHAT ARE THE MODES OF FOSSIL PRESERVATION FOR BODY FOSSIL

- **Unaltered**
- Mummification- dryness

Refrigeration- material is trapped inside ice and tissue is preserved



WHAT ARE THE MODES OF FOSSIL PRESERVATION

. Altered

- **Preminalization** – pores in tissues are filled by minerals
- **Replacement**- replacement of tissues with minerals



Altered

- **Carbonization**- tissue material is decomposed or reduced to a film of carbon



SOME MORE OF TRACE FOSSILS

- **Molds**- formation of insides or outside surface of a living thing.
- **Cast**- duplicate of original organism; formed by replacement of inside of living thing
- **Burrows**- spaces dug out by living beings., rabbits etc.
- **Gastroliths**- smooth stones from abdominal cavity of dinosaurs
- **Coprolites**- fossilized excrements



FOSSIL TYPES

Mold



Cast



