GL21A Palaeontology Lecture 2 Outline

I. Taphonomy- the study of how organisms become fossilized.

A. Step One - From Life Assemblage to Death Assemblage (Necrolysis)

1. Hard parts
2. Affects of Habitat
    a. Terrestrial
    b Marine
3. Affects of Ecology

B. Step Two – From a Death Assemblage to a Fossil Assemblage (Biostratinomy)

1. Biological Agents
    a. Terrestrial
    b. Marine
2. Mechanical Agents
3. Diagenesis

C. Results

1. Loss of Information
2. Some Gains

II. Fossil Collection Bias

A. Preferred Organisms

B. Preferred Times or Stratigraphic Units

C. Preferred Types of Preservation

III. Extraordinary Preservation

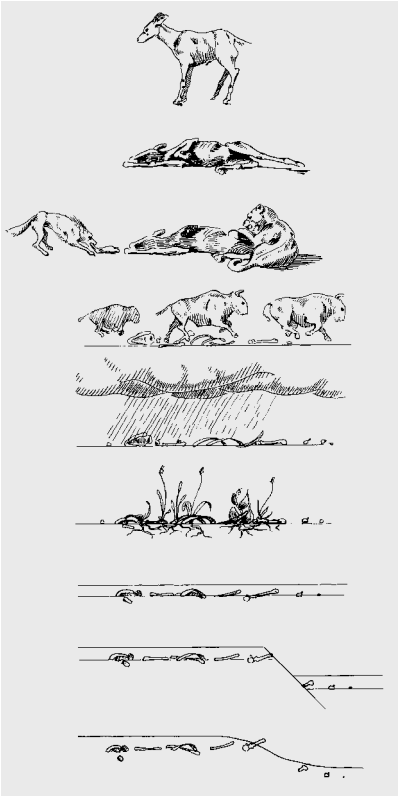
A. Some Examples

1. Middle Cambrian Burgess Shale, British Columbia
2. Upper Jurassic Solnhofen Limestone, Southern Germany
3. Pennsylvanian Mazon Creek Beds, Northeastern Illinois

B. Some Common Factors

1. Rapid Burial
2. Anoxia or Disoxia

Taphonomic Processes (from Shipman 1981)



Necrolysis

Biostratinomy

Fossilization and information loss (from Prothero 2004)