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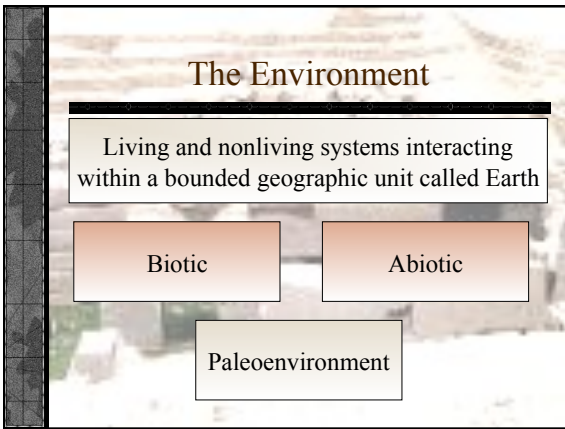
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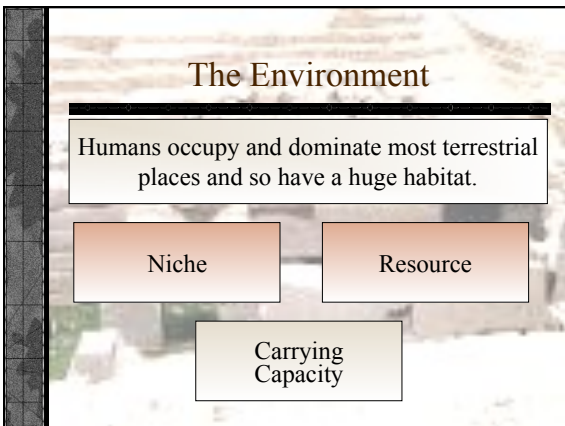
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## Environmental Archaeology

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- **Paleoecology**
  - ◊ Environment
  - ◊ Resources
  - ◊ Technologies and organizations
    - Effect on culture
    - Effect on environment



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## Reconstructing Past Landforms

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Geomorphology

Geoarchaeology

Atmospheric changes

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## Reconstructing Past Plants and Animals


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Palynology

Phytoliths

Plant Macrofossils

Animal Remains



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## Reconstructing Past Climate

Climate vs. Weather

- **Paleoclimate**
  - ◊ Cores
  - ◊ Archaeological Data
  - ◊ Remote Sensing



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## Human Biological Adaptation

- **Physiological Changes:**
  - ◊ Short term
  - ◊ Primary vs. Secondary
- **Anatomical Adaptation:**
  - ◊ Long-term
  - ◊ Genetic
  - ◊ Selective Pressures



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## Evolutionary Ecology

The application of the principles of biological selection to the understanding of how organism adapt.

Cultural practices are also subject to natural selection

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### Optimization Models

People attempt to maximize their net efficiency and minimize their risk

People who make optimal use of their resources will be most successful.

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### Human Cultural Adaptation

- **Culture** is the primary mechanism of human adaptation.
- **Cultural Ecology:** the study of cultural adaptation to the environment.
  - Social organization
  - Technology



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### Controlling the Environment

Direct Control vs. Indirect Control

<ul style="list-style-type: none"><li>• <b>Environmental Manipulation:</b><ul style="list-style-type: none"><li>◦ Large scale</li><li>◦ Active alteration</li></ul></li></ul>	<ul style="list-style-type: none"><li>• <b>Resource Management:</b><ul style="list-style-type: none"><li>◦ Smaller scale</li><li>◦ Individual resources</li></ul></li></ul>
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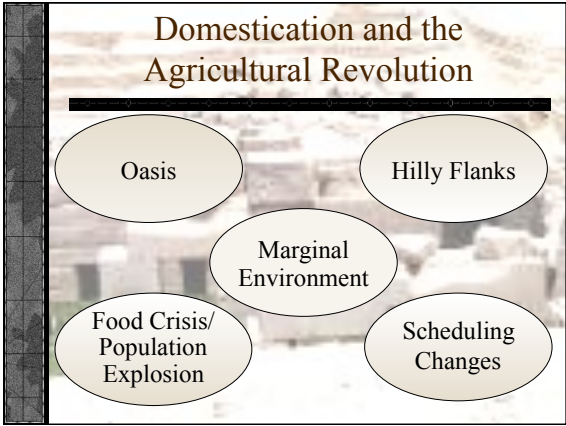
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**Domestication and the Agricultural Revolution**

**Oasis:** Post-Pleistocene conditions forced people into close association with certain plants and animals

**Hilly Flanks:** abundance of native Mesopotamian grasses led to their eventual domestication

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**Domestication and the Agricultural Revolution**

**Marginal Environment:** marginal environmental conditions forced people to domesticate plants and animals

**Food Crisis/Population Explosion:** Post-Pleistocene food crisis coupled with population explosion

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## Domestication and the Agricultural Revolution

**Scheduling Changes:** over reliance on certain resources due to changes in scheduling

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