

# Culture and Evolution

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## + Why are humans so successful?

• compared to other animals, humans appear fragile, weak

### 1. we ate all the big animals

- extinction of megafauna correlated w/ arrival of humans

### 2. only 1 species of great ape survived?

- genetic variation among humans very low

### -1. not because of our intelligence

- Europeans on expeditions often starved, while indigenous tribes thrived  
example: Burke & Willis expedition

-> died by starvation b/c they didn't know how to process the local foods, despite being "highly trained" and educated by European standards

### 3. Culture

• humans can survive anywhere, as long as we have past knowledge

• example! lost woman of Catalina (Juana Maria)

-> well adapted and flourished in native environment, but died of dysentery after being "rescued" by colonizers

## Dual-Inheritance Theory

Genes influence behaviors, behaviors influence genes

• Culture can't be understood without population thinking

culture emerges from populations, not individuals. ←  
Evolution is change in a population.

• genetic evolution = change in genes

• cultural evolution = change in behaviors

↔ influence each other!

• Culture matters more to humans than other species

- individuals acquire culture

- more cumulative culture ↔ stronger gene-culture interaction

- culture is critical for survival: humans dependent on domesticated grains

→ example: agriculture → changed diet → more folate → depigmentation of skin (of culture leading to genetic change)

1. Population thinking

2. link cultural, genetic change

3. culture changes nature of human evolution

4. culture necessary for design problem

5. culture is a part of human behavior

6. culture makes us odd

• rivalistic behavior

# Evolution of Human Culture

Human culture is not unique.

- all animals learn, most socially.
- cumulative culture found in songbirds, whales, apes... (social species)
  - Capuchin monkeys: tool making only found in one population, with scarce food
  - dolphins/whales: team feeding/fishing, only found in small groups

Dolphins -> stir up mud, whales -> sonically create bubbles  
However, human culture is unique in its quantity and pervasiveness.

