

UBIQUITY OF RELIGION

- ***Every*** known society has had religion
- This has been true for at least **50,000** years
- What's going on?
- Cultural explanations
 - Successful meme
 - Cultural advantages
- Biological explanations
 - By-product
 - Adaptive
- Human nature

LANGUAGE ACQUISITION

- **Chomsky**
- **Evidence**
 - Poverty of stimulus
 - Language window
 - Pidgins and creoles
 - Deep-structure
- **Language organ**
- **Large brains evolved**
- **Language is a by-product of large brains**
- **Too little time for language to be adaptive**

SPANDRELS



- **Steven Jay Gould**
- **"Spandrels of San Marcos"**
- **Strong views about evolution**
 - Gradualism
 - Minor role for natural selection
- **Agreement with Chomsky**

COMPARISON

- **Chomsky**
- **Evidence**
 - Poverty of stimulus
 - Language window
 - Pidgins and creoles
 - Deep-structure
- **Language organ**
- **Large brains evolved**
- **Language is a by-product of large brains**
- **Too little time for language to be adaptive**
- **Atran, Bloom, Boyer**
- **Evidence**
 - All societies have religion
 - 50,000 year history
 - Deep-structure
- **“Religion organ”**
- **Sophisticated cognitive neurostructure evolved**
- **Religion is a by-product of these brains**
- **Problems for adaptive accounts**

SCOTT ATRAN



- **Anecdotes**
- **Magic box**
- **Empirical mistakes and survival**
- **Heider and Simmel**
- **Agent detection**
- **Causal reasoning**
- **Theory of mind**

PAUL BLOOM



- **Work with Pinker**
- ***Descartes Baby***
- **Opiates and fraternities**
- **Bodies and souls**
- **Natural born dualists**
- **Evolved to be creationists**
- **Religion & science**