

F6

# Cognitive Systems

*2020 edition*

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# PSI 3560 – COGNITIVE SYSTEMS

*class F6*

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# HUMAN QUEST

Human universals – human universals of brain and mind - extra theme

Session F6

# Summary

– First session ( 7:30 – 9:10 )

- The Human Quest

- Human universals of brain and mind

- Coffee break

- Second session ( 9:20 – 11:00 )

- T6

# Section 1

- The Human Quest
- Human Universals
- Discussions from the Human Quest video
  - the nature of human nature
  - <https://www.films.com/id/8076>

# The Human Quest

- Human universals
  - Roger Bingham
    - The mind isn't shaped solely by culture
      - There are universals in capacities and behavior shaped by evolution
      - Every child has innate capacities that lead to these universals, independently of culture
    - The brains have the traces that lead to mind universals



# The Human Quest

- Human Universals
  - Language acquisition
  - Detecting emotions
  - Sense of self
  - Perception of status
  - Color terms
  - Object recognition
  - Landscape preferences
  - Mental maps
  - Food aversion, flavor preferences
  - Deception, humor, gossip, nepotism, envy, ....
  - Sexual attraction, romantic love, jealousy, pregnancy sickness
  - .....

# The Human Quest

- Language

- Steven Pinker

- Many languages
    - Many kinds of language
      - Verbal, gestural, pictorial, etc.
    - “Put the same child in different places, and she will learn that’s place language”



- Williams' syndrome

- Good verbal expression
    - Good social skills
    - Problems with spatial language
      - Pictorial, organizational



# The Human Quest

- Motherese
  - The way mothers use to communicate with babies and young children
  - Anne Fernald
    - Musical sound of words is more important than word content.



# The Human Quest

- Evolution
  - Alfred Russell Wallace
  - Charles Darwin
    - Human behavior universals derive from evolution by natural selection



# The Human Quest

- Evolutionary psychology
  - John Tooby
    - The mind doesn't come as a blank slate
    - Evolution by natural selection provides de basic startup
  - Leda Cosmides
    - The mind as a set of specialized functions instead of a general purpose device





# Section 2

- The Human Quest
- Human Universals

# The Human Quest

- Object permanence
  - Renee Baillargeon
    - Very young children are able to deal with object permanence laws
      - If the baby doesn't know that objects are permanent, she would not be surprised by the experiment of sudden disappearance of the doll
        - » But she is...



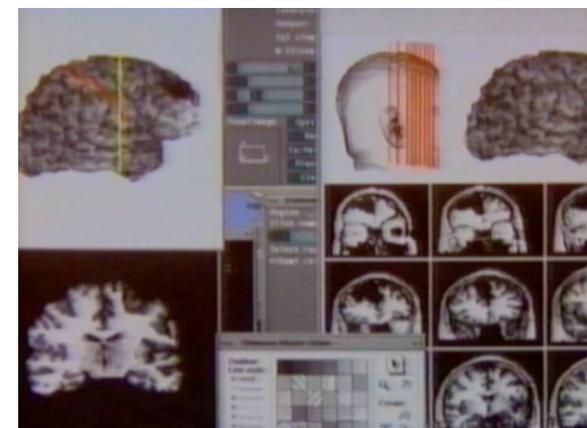
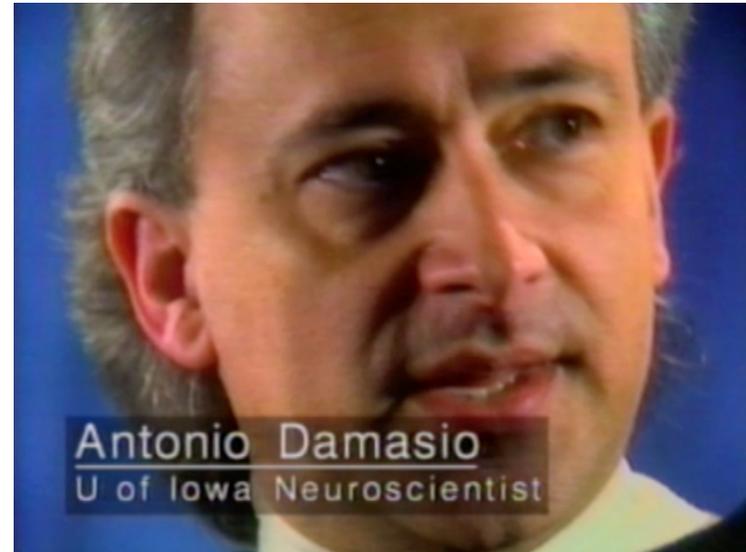
# The Human Quest

- Physical primitives
  - Renee Baillargeon
    - There are circuits in the brain enabling it to deal with primitive physical properties
    - The resulting behavior cannot be explainable only in terms of nurture



# The Human Quest

- Brain maps
  - Antonio Damasio
    - Encode knowledge about the landscape of the daily survival environment in the form of a map
      - Visual memory at multiple scales and levels of detail and landmarks



# The Human Quest

Universals (Nature)

versus

Culture



# Coffee break

10 minutes