9.916

Ingroups and Outgroups
Social relationships depend on a continuous trade-off between competition and cooperation

One mind thinking about another:
- stable
- universal

Social relationships:
- dynamic
- co-dependent
- context-bound

(1) Today: Between-group competition, within-group cooperation
(2) Aggression & Dominance: Within group competition
(3) Mating & Parenting: Within group cooperation
# Today’s Lecture

<table>
<thead>
<tr>
<th>One mind thinking about another:</th>
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<tbody>
<tr>
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### Social relationships:
- dynamic
- co-dependent
- context-bound

Social relationships depend on a continuous trade-off between competition and cooperation

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What is a social group?
Why does group living evolve?
Why feel hostility towards other groups?

Ethology
Psychology
Economics
what is a “social group”?
- stable association of conspecifics excluding mates & parent-child pairs
- division / coordination of labor

NB social psychological usage == category
e.g. firemen, homeless, black businessmen
what is a “social group”?
- stable association of conspecifics excluding mates & parent-child pairs
- division / coordination of labor

why does group living evolve?

Costs:
- tolerate competitors
- sometimes, altruism
Living in Groups

**favouring groups:**
benefits to whole group ~ proportion coordination.
e.g. warfare (decrease likelihood of loss, slaughter),
large prey (increase food supply to all),
variance reduction: pool risk (avoid starvation),
pool information.

**favouring individualism:**
costs of altruism
e.g. opportunity cost, extra risk
Living in Groups

**Intergroup Public Goods Game**
- each person gets an endowment
- each person privately decides whether to contribute or defect
- group with majority of contributions shares whole prize
- tie splits the prize in half
- loser gets nothing

**The dilemma**
Group benefits most when everyone contributes
Individual benefits most when others make up the majority
Living in Groups

**Favouring groups:**
benefits to whole group $\sim$ proportion coordination.

**Favouring individualism:**
costs of altruism

**2 solutions:**
- minimize relative cost to individuals 
  e.g. kinship?
- maximize relative benefit to groups 
  e.g. rare resources

individual altruists

\[
\text{groups with many altruists}
\]
Path to sociality

Insect eusociality: 
~2% species 
>60% insect biomass

Precondition 1: persistent, defensible resource
  e.g. aculeate wasps: persistent nests 
  vs parasitoid wasps: lay eggs in prey

Precondition 2: division of labor in forced groups
  e.g. Lasioglossum bees, in forced pairs, divide guarding

Step 1: progressive provisioning
  feed larva successively, with “prepared” food 
  often requires opening and resealing cells

Step 2: daughters stay, help raise next generation
  e.g. sweat bee Halictus sexcinctus: polymorphism determines 
  cooperative provisioning of nest

Wilson (2008)
Path to sociality

Insect eusociality:
~2% species
>60% insect biomass

hard to reach very successful

depend on high relatedness?
e.g. haplodiploidy

BUT new evidence:
(1) common in diplodiploidy species
uncommon in parthenogenetic species

(2) ingroup recognition by odor
acquired by imprinting in first 12 hours
not correlated with relatedness

Wilson (2008)
**Living in Groups**

**favouring groups:**
benefits to whole group ~ proportion coordination.

**favouring individualism:**
costs of altruism

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2 solutions:

- minimize relative cost to individuals
  - e.g. kinship

- maximize relative benefit to groups
  - e.g. rare resources, war

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**solidarity norms**
e.g. patriotism, commitment

**leveling norms**
e.g. equality, monogamy

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Tuesday, December 1, 2009
Living in Groups

**favouring groups:**
benefits to whole group ~ proportion coordination.

**favouring individualism:**
costs of altruism

**solidarity norms**
e.g. patriotism, commitment

**Costly signalling:**
e.g. learning “giving charity” influenced by model donation, not by verbal statements

permanent signals of group membership:
e.g. visible scars, piercings

Henrich (2009)
What is a “social group”?
- stable association of conspecifics excluding mates & parent-child pairs
- division / coordination of labor

Why does group living evolve?

Costs:
- tolerate competitors
- sometimes, altruism

Ingroup benefits
- Direct benefits of group living
- Commitment: altruists benefit each other
- Reduced costs: levelling norms
Living in Groups

What is a “social group”?  
- stable association of conspecifics excluding mates & parent-child pairs  
- division / coordination of labor

Why does group living evolve?

Why feel hostility to other groups?

Potential “super-group”:  
- trading partners  
- mates (genetic diversity)

- Between group competition
Between group competition

**Intergroup Public Goods Game**
- each person gets an endowment
- each person privately decides whether to contribute or defect
- group with majority of contributions shares whole prize
- tie splits the prize in half
- loser gets nothing

**Some results:**
- more cooperation if other group equal in size & wealth
- more cooperation with conversation, commitments
- (less cooperation with larger groups)

Bornstein (2003)
Between group competition

Robber’s Cave
- Rattlers & Eagles
- 11 twelve-year-old boys
- friction raising:
  - competition for territory
  - direct competition in sports
- terminated early

Competitive goals
High competence
Low warmth

- targets of envy
- passive association/ active harm
- schadenfreude

Fiske (2006), Sherif (1954, 1961)

Living in Groups

What is a “social group”?
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Why does group living evolve?

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Potential “super-group”:
- trading partners
- mates (genetic diversity)

- Between group competition
- Direct intergroup hostility
War

- maximize relative benefit to groups with more altruists

War:
- high costs to whole group of losing war
  ~ 4% mortality / generation, including civilians
- win more wars with more parochial altruists

tolerant of outsiders
selfish towards everyone
no wars

hostile to outsiders
altruistic to ingroup
many wars

Figure removed due to copyright restriction.

Choi & Bowles (2007)
Living in Groups

- Cultural groups
- Cultural transmission
- Flexible boundaries

**Minimal groups**
- Arbitrary, trivial groups → ingroup favoritism

**Repairing groups**
- “Superordinate” goals and identities
  e.g. Robber’s Cave
- Contact Theory
What is the role of intergroup hostility?
How are group boundaries fixed & recognised?
How can intergroup hostilities be reduced?