INSTITUTIONS AND INSTITUTIONAL DESIGN

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Henrich and Henrich 2007
Why Humans Cooperate

Literature

- Henrich, Joseph, and Natalie Henrich. 2007. *Why Humans Cooperate A Cultural and Evolutionary Explanation*. Oxford: Oxford University Press
  1. Evolution, Culture, Cooperation, and the Chaldeans
  2. Dual Inheritance Theory: The Evolution of Cultural Capacities and Cultural Evolution
  3. Evolutionary Theory and the Social Psychology of Human Cooperation
  4. The Chaldens: History and the Community Today
  5. to 9. Cooperation among Chaldeans
  10. Cooperative dilemmas in the world today

Foci for trust investigation

- Kinship
- Reciprocity and reputation
- Social norms
- Ethnicity

- Theoretical background
  - Models based on evolutionary game theory
- Empirical investigation
  - Chaldeans in Detroit, ethnography and experiment

Co-evolution

- Culture
  - socially learned behaviours, beliefs, values, etc.
- Genes
  - Genetically determined emotions and patterns of reacting

It is assumed that also culture can affect the distribution of genes in a population

Cultural evolution

- All cultural traits (learned behaviour, beliefs, preferences, strategies, practices) presuppose the infrastructure of the brain, ear, and vocal apparatus and an ability for complex, high-fidelity learning
- Explanations
  - Ultimate: natural selection -> psychology
  - Intermediate: cultural growth -> learned skills
  - Proximate: genetic and cultural traits drive behaviour

Evolved psychological mechanisms for learning culture

- What cognitive learning abilities are needed to extract adaptive ideas, beliefs, and practices?
  - Information is costly, thus the trade-off: less accurate and less costly info may have its advantages; and accumulation of collective (cultural) information is often less costly than individual acquisition
    - Content biased information (content appeals to learner)
    - Context biased information (models for learning appeals to learner)

Context bias: success and prestige

- Cues of prestige, success, and skill based on indirect measures leads to rather indiscriminate imitation. Not only traits related to success but a host of irrelevant traits are copied. In a complex world with costly information this strategy is what natural selection would favour
- The evidence for such learning mechanisms is substantial

Evidence for selective cultural learning

- Imitation occurs in contexts of monetary incentives in both social and non-social situations
- Imitation occurs across many different contexts (such as beliefs, food preferences, dialects, conflict strategies)
- Imitation increases with uncertainty
- Imitation is not related to how the model's domain of competence relates to the learned item
- Experimental findings and field observations agree

Conformity bias

- If indicators of success and prestige seem unrelated to behaviour people tend to imitate the majority
- The propensity for conformist learning increases with how noisy the information about the success of various role models is
- Much empirical evidence supports this particularly when problems are complex
  - Information conformity in solving difficult problems may result in changing beliefs
  - Normative conformity in groups results more often in changes of behaviour without affecting beliefs

Conformist learning of behaviour

- In non-social situations such as solving a practical problem or adopting a new technology
  - Conformist bias increase with the importance for high uncertainty problems and decrease with importance for low uncertainty problems
- In social situations when people are uncertain about how to behave they copy others

Learning of altruism and selfishness

- Children spontaneously imitate a role model both in altruism and selfishness, and the more a model is observed the more is imitated
- The imitated behaviour remains also without the role model present as long as circumstances are similar
- Children imitate what is done preaching has no effect or a negative one
- Of course, the same process also works on adults

Culture-Gene Co-evolution

- Cultural learning is also something we inherit, in time it may affect the genetic composition by changing the selective environment faced by genes
  - Case: lactose absorption in adults everywhere but in populations that had not developed cheese and yogurt technology

Evolution and social psychology

- Why do we help others, strangers, even when it is costly to ourselves?
- Often we do not help
- There is a pattern to whom we help: family, friends, acquaintances, strangers
- What are the rules for each group?
- First proximate causes: psychological mechanisms (cpr Elster), preferences
- Second ultimate causes: evolutionary processes producing the psychological mechanisms

Cooperation&Prosocial behaviour

- Cooperation means to provide a benefit to some other person or people at a cost to yourself (voting, food sharing, recycling, ..)
- Non-cooperation: defection, free-riding, cheating
- Prosocial behaviour includes cooperation but also altruistic punishment, meaning that a person pays a cost to inflict a cost on another person to uphold a norm or behaviour in a group
- Altruistic punishment may explain some otherwise puzzling forms of cooperation

Why cooperate?

- If cooperation is costly: why do anyone do it?
- Case of “food sharing gene”
- Classical evolutionary models unable to explain cooperation
- More recent models can explain it by many different mechanisms
- Human cooperation is different from other species by sometimes involving very large numbers and increasing over historical time. It is also variable across domains of activity

Intelligence and cooperation

- Intelligence is not the explanation. Many types of intelligence leads to deceptive behaviour breaking down cooperation
- The variation of cooperation is difficult to explain as a result of intelligence. Only cooperative insects can be compared to the scale of cooperation in humans

Social psychology of cooperation

- The core dilemma: $\beta b > c$ where c is cost paid by the cooperator in order to deliver benefit b to another individual or group and β is the propensity for an individual to bestow benefit b. If $\beta b > c$ natural selection may favour the spread of genes that code for the proximate mechanisms of cooperation
- Green bearded cooperators and the stability of β
- Reliable linking between cooperators is the core dilemma

Kinship

- May provide the reliable link by providing the proximate clues that may link cooperators (proximity, similarity, scent, ..)
- Case: mothers with “help infant genes”
- Culture may modify how kinship is conceived (New Guinea: partible paternity)
- Empirically it is a fact that the most costly cooperation is reserved for close kin

Reciprocity (1)

- May sustain cooperation in tit-for-tat exchange strategies
- It seems to rare in other species, but abundant in human societies because of the cultural leaning capacity, but also fragile based on ability to judge past behaviour
- Direct reciprocity as in the prisoner's dilemma
- TFT strategy works well if group is small and number of interactions is sufficiently large
- Other factors: noise, ecology of strategies, networks and partner choice
- Noise may require less provocativeness and more generosity or maybe contrite strategies (susceptible to errors of perception). Good memory is not an advantage.

Reciprocity (2)

- Duration
  - NICE strategies starts with cooperation and depends on clues to duration
    - Be nice if you think interactants are long term
    - Be not-nice in short term interactants
    - Be wary first then nice if the population is mixed
- Ecology of strategies
  - For any strategy there is a mix of other strategies that will destroy it
  - Cultural learning may be the only mechanism that can make cooperators adapt their strategies to new ecologies

Reciprocity (3)

- Social networks and partner choice
  - Recent experiences are weighted most in selecting partners and leads to networks wher NICE strategies are used. Outside it is not
- Reciprocity in non-humans is rare
  - Because of shifts in the ecology of strategies, noise in signalling and group size.
  - The all-purpose reciprocity mechanism does not exist
- Humans are different
  - Due to cultural learning on how to adapt to a shifting mix of strategies. Culture changes much faster than genes. Genes provide learning ability, culture provides the learning by imitation and experience the local ways of reciprocating

Reciprocity Psychology

Table 3.2 Heuristic Categories of Direct Reciprocity

Categories of partners	Context and ecology	Psychology and behavior
	Substantial noise—exchanges across many domains	CONDITIONALLY NICE GENEROUS CONTRITE
Close friends	High *b/c* Longer memories of important interactions Small # of preferred partners (memory constraints)	
Distant friends, and other acquaintances	Low noise—in-kind, 1-for-1 exchanges Medium *b/c* Short memories of interactions Potentially large # individuals	LIMITED NICE PROVOKABLE NOT GENEROUS
Others	*n*-person dilemma (public goods situation) Short time horizon (low ω) Low *b/c*	SUSPICIOUS PROVOKABLE

Indirect reciprocity and reputation I

- Involves knowledge of behaviour outside the current interaction (history or reputation)
- Dissemination of information is a key and social norms may strengthen it
- Little theoretical work done, but it suggests that group size and accuracy of information are critical. Norms about gossiping important for accuracy. Strategies of reputation assessment
  - Scoring: condemn anyone not helping given the chance
  - Standing: condemn anyone not helping those with good reputation
  - Judging: condemn anyone not helping those with good reputation and those who help those with bad reputation

Indirect reciprocity and reputation II

- Assessment needs linking to action. Helping those with good reputation outcompete strategies involving helping those with bad reputations. Unconditional altruists are destructive for cooperation
- Cultural evolution seems to have linked reputation to kinship and conceptualised it as transmitted through genealogical lines
- Culture may improve on reputational information, but it has to be accurate. In this cultural learning mechanisms help

Indirect reciprocity III

- Ethnic bias in interaction is part of this process
- Costly cooperative acts may function as signals to future cooperators, this require spectators/ observers
  - If reputation effects are possible it should increase cooperation
  - Interacting with strangers should trigger SUSPICIOUS startegy
  - Individuals are unlikely to cooperate in large groups unless reputation building is involved
  - Dense, bounded networks sustain most reputation based interaction
  - Few public goods problems will be solved by reputation based interaction
  - Culturally transmitted beliefs tie reputations to kin and will promote cooperation and comformity

Social norms

- Prescribes, prohibits or permits behaviour
- Is found in the minds of people, their beliefs, and attached to often strong emotions (anger, guilt, shame)
- Are culturally learned and enforced by punishment
- Stabilized by prestige bias and conformist transmission
- Norms affecting costly cooperation are not exempted
- Through group competition norms benefitting groups may spread in a larger population
- Then evolution may favour prosocial genes resulting our social norms psychology
- Following costly norms, vs punishing those breaking the costly norm vs punishing those who do not punish norm breakers: conformist transmission may stabilized the norm fairly cheaply independently of any benefit
- Group competition will further the spread of prosocial norms

Ethnicity, norms and cooperation

- Our ethnic psychology may be explained as a coordination problem solution (reinforced by punishment and reputation mechanisms)
  - People use ethnic cues to figure out whom to learn from
  - People prefer to interact with individuals sharing their ethnic markers
  - This results in sharing of beliefs, norms, and values among people sharing ethnic markers
  - This leads to clustering both socially and geographically
  - Ethnic markers tend to be hard to fake providing reliable signals about norms