Resource Management:
INSTITUTIONS AND INSTITUTIONAL DESIGN
SOS3508
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Behaviour and Interactions

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Literature

- Elster, Jon. 2007. *Explaining Social Behaviour: More Nuts and Bolts for the Social Sciences*. Cambridge: Cambridge University Press.
  - Ch 18-26

Selection models in social science

- With high rates of change in the environment, firms needs to anticipate change to keep even with competitors
- Large firms and lobbying groups may be able to shape the environment (e.g.: path dependence mechanism)
- Modelling markets: There is a vast space between "improving efficiency" and "maximizing returns"
- Compare: Adaptive efficiency (North 2005)
- Electoral market models do not do justice to variations in motives among politicians (opportunists, reformers, activists)
- Outside arenas of competition the selection model of "as-if" rationality is even less plausible
- Constraints (before the fact) and selection (after the fact) contribute to explain behaviour. But choice is the core concept to understand

Interaction

1. Outcome for each depends on outcomes for others
2. Outcome of each depends on the actions of all
3. The actions of each depends on anticipated actions of all
4. The beliefs of each depends on the actions of all
5. The preferences of each depends on the actions of all

- Interdependencies arise through
  - (1) independent action of individuals
  - (2) collective decisions binding all
  - (3) organisations creating rules to coordinate actions

18 Unintended consequences

- Unforeseen
  - Actions based on some desire may change the desire (addiction, loss aversion: endowment effect on valuing gains versus losses, closing off opportunities, but this can often be foreseen, depending on cognitive or motivational deficit)
- Externalities (positive or negative)
  - Material consequences suffered without having been part of the choice of action generating the consequence
  - Set x= initial state, y= intended state, z= resulting state
  - Z>Y>X : positive externality
    - Adam Smith: the invisible hand
  - Y>Z>X : weakly negative externality
  - Y>X>Z : strongly negative externality
    - Karl Marx: falling profit rate (actually wrong),
    - Keynes: unemployment as the "contradiction of capitalism"
    - Tragedy of the commons explanations

More unintended consequences

Internalities
- Benefit or harm conferred on future selves from actions today (e.g. addiction)

The younger sibling syndrome
- Believing other agents are not as strategic or rational as oneself
  - The cobweb cycles of betting on future demands and reacting to current prices (hog cycles)
  - Non-voting believing your candidate will win
  - Enacting legislation believing behaviour will not adapt

19 Strategic interaction

Game theory – simultaneous decisions

- N players with strategies and outcomes that can be ranked
- Dominant strategies if no other strategy can improve on the outcome regardless of what others do
- An N-tuple of strategies is an equilibrium if no player can improve on her outcome by unilaterally deviating
- Dominant strategies may produce equilibriums
  - All have the same dominant strategy
  - Rational adaptation to players with dominant strategies
- Coordination equilibriums or conventions: what you do is not so important as the fact that all do the same

Equilibriums without dominant strategies

- Duopoly
  - Price competition of two firms
  - Location competition of two firms (or political parties)
- Model games illuminating cooperation and coordination
  - Strategies are C=cooperation and D=defection
    - Prisoners dilemma (strategy C or D)
    - Stag hunt (assurance game) (strategy C or D)
    - Chicken (strategy C or D)
  - Strategies are A or B arbitrarily different
    - Battle of sexes (strategy A or B)
    - Focal point game (strategy A or B)
    - Telephone game (strategy A=redial or B=do not redial)

Prisoners dilemma

	C	D
C	3,3	0,4
D	4,0	1,1

- Assuming only selfish motivation
- Assume payoff in utility units
- Risk of being sucker?
- Benefit from free riding?

Cases:

- Join labour union or not?
- Cooperate with OPEC or not?

Stag Hunt

	C	D
C	4,4	1,3
D	3,1	2,2

- C=hunting stag, requires cooperation D=hunting hare, individual activity
- Risk of being sucker?
- Benefit from free riding?
- Can we assume payoff is common knowledge?
  - If not, actions may confirm wrong beliefs f.e. of PD preferences in the game
- Cultures of corruption may be a belief-dependent, not a motivation dependent phenomenon
- Disease control, counterterrorism

Transforming games

- Payoffs arise from the causal structure of the situation
  - Thresholds may make individual efforts pointless
  - Efforts may show "economies of scale", increasing returns on number of co-operators
  - Changing preferences from egoistic to altruistic or to conditional cooperation by institutional means (including punishments and rewards)

Chicken

	C= swerve	D
C	2,2	1,3
D	3,1	0,0

- Cars driving towards each other, the first to swerve loose honour
- The outcome is indeterminate

Cases

- Cuban missile crisis
- Irrigation system needing only one to maintain it (free rider vs. sucker)

Battle of sexes

	Ballet	Boxing
Ballet	1,2	0,0
Boxing	0,0	2,1

Coordination
- Man and wife needs to agree tacitly since they have no way of communicating
- The outcome is indeterminate
- Multiple coordination equilibriums seem to abound in social life
  - Choice of constitution, standards of measurement

Telephone game

Caller / Receiver	Redial	Do not redial
Do not Redial	2,2	0,0
Redial	0,0	1,1

- If a phone call is broken, who redials?
- The one who initiated the call or the one who received it?
- Which is best?

Focal point game

	A	B
A	1,1	0,0
B	0,0	1,1

- In coordination problems with indeterminate equilibrium psychological or social clues may furnish a focal point suggesting how to choose
- Focal points have been demonstrated experimentally
- Choice of ruler, following customs, democratic rule, …

Sequential games

- The game tree
  - Backward induction
  - Rationality and information is common knowledge
- Is the threat of war credible?
- Problem of commitment (promises, threats)
  - Pre-commitment
  - Reputation
  - Burning bridges
- Case: Authoritarian rulers and promises to citizens

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        G I
       /   \
     3,3    G II
            /   \
          4,2   1,1
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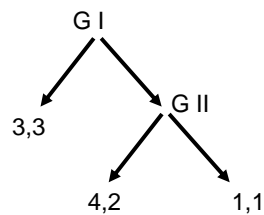
20 Games and behaviour

- To what extent can we say the game theory explains behaviour?
  - Often there are alternative explanations to the game theoretic one of intention of achieving a desirable outcome
  - Pride and passion may be an alternative to interest, and may be involved in strategic reasoning
- Experiments may help us distinguish between different types of motives

Ultimatum and dictator games

Ultimatum game
- Player I propose a division (x, 100-x), player II accepts or rejects, On rejection no one gets anything

Dictator game
- Player I dictates a division (x, 100-x) that is the outcome provided x<100
- Rationality assumptions predict x to be as close to 100 as the rules allow
  - This is not the way people behave. The offer to player II is typically higher than that
  - Use of computers or strong anonymity and rotation of players rules out personal relations or reputation building. Also experimenter effects, lack of information or common knowledge can be rules out.
  - Failure of rationality or non-self-interested behaviour cannot be ruled out
  - Altruism in dictator games can be rejected by results from the ultimatum game, offers are less generous than in the ultimatum game
  - Fear of rejection and norms of fairness seem to affect ultimatum game behaviour
  - Other games show strong reciprocity behaviour (trust game)

Backward induction

- If it is rational to defect in the last game of a finite series then it is rational to defect in the next to last, etc all to the first game
- People do not behave like this. If the logic of backward induction is explained people do follow it suggesting that this is a kind of reasoning that do not come "naturally"
- Cases: sequences of PD games show a higher level of C choices than predicted. The chain store paradox: predatory pricing is more frequent than predicted.
  - What is the role of uncertainty about some aspect of the game? (number of games, type of player)
  - Are there focal points?
  - Reasonable individuals will cooperate where rational will not

Keynes' beauty contest

- Pick the most beautiful person based on pictures. Enter a raffle if you pick one of the 6 most beautiful.
- "It is not a case of choosing those X which, to the best of one's judgement, are really the prettiest, nor even those which average opinion genuinely thinks the prettiest. We have reached the third degree where we devote our intelligence to anticipating what average opinion expects average opinion to be."
- If people do not conform to the rationality predictions it may be because they are less than rational or more than rational.
  - In the younger sibling syndrome and in failing to apply backward induction one is less than rational
  - To be reasonable is to transcend rationality
  - To focus on the property of obviousness and reasonableness may reflect higher standards than mere rationality. But these properties are hard-to-define and highly context dependent

21 Trust

- Trust is "to refrain from taking precautions against an interaction partner, even when the other, because of opportunism or incompetence, could act in a way that might seem to justify precautions."
- Distrust may show up as avoidance or as precautions in interactions. The volume of avoidance is hard to observe
- Reasons for trust
    - Precautions: costs too high, signal something of value, incompatible with emotional relation, prior beliefs about a person, effort to induce trust in a relation
- Reasons for trustworthiness
    - Past behaviour, incentives, signs and signals
- Trusting: the propensity to trust others is especially important in getting cooperative ventures off the ground
- Trust may induce trustworthiness: trust game with indications of return level and option of punishment, but not chosen, shows highest return. The game without option for punishment (blind trust) show less trustworthiness

22 Social Norms

- Values: moral and social norms, religion, political ideology
- Beliefs: opinions about factual matters, causal relations
- Emergence of social norms difficult to explain
- Content of beliefs are highly variable, while mechanisms for emergence, propagation, change, and collapse are more invariant
- Social norms operate through informal sanctions directed at norm violators sometimes affecting material benefits often compounded by gossip. They require an observer
- Most important: 1) gossip, 2) avoidance, 3) ostracism affecting emotions: shame in the violator and contempt in the observer. May lead to avoidance and material losses
- Why sanction if it is costly or risky?
    - Non-punishers may risk punishment? Triggering of anger and contempt?

Social norms and other norms

- Conventions (mostly self-enforcing)
- Legal norms (enforced by specialised agents)
- Moral norms (work without observers)
- Quasi-moral norms, (reciprocity, and conditional cooperation), (triggered by an agent observing what others do)
- Social norms (work when others observe what an agent is doing)

Externalities, conformism, codes of honour

- Norms against small negative externalities are prevalent (case: spitting) including group generated
- Many such norms emerge through public intervention
  - However, the statement that norms against tragedies of the commons have not emerged spontaneously is debateable
- The Law of Jante: often bad for the community
- Behaviour in feuds, vendettas, duels, revenge are often closely regulated
  - Explanations for their existence are not good enough (instead of ordinary third party law enforcement, maintaining reputations for retaliation (cattle-people), maintaining war skills (aristocrats) cannot provide the mechanisms for the functional maintenance)

Etiquette, use of money, drinking and tipping

- Rules about dressing, behaving etc. often pointless but punished severely. The puzzle is why inconsequential matters come to be seen as important
- Legal restraints, restraints among friends, neighbours, and strangers
- Religious prohibitions, moderation, prescriptions of heavy drinking, conditional reversals, …
- Some tipping reasonable to ensure good service, other times incomprehensible. Once a norm exists following the norm is understandable
- Why norms? Their importance and proximate mechanism of operation are understood. Their origin is a puzzle.
    - Evolutionary emergence of emotions of shame and contempt, OK
    - But why are there different norms in different societies?

23 Collective belief formation

- Conforming to majority views
    - With variable knowledge, the majority is probably right
    - Power will persuade what is right (ridicule, shunning, etc) all the way down to firm beliefs
- Outward vs. inward conformism
    - Fear of disapproval, learning, dissonance reduction
- Cognitive vs. motivational mechanisms
- Wrong beliefs do not persist over generations if validation by observation continues
- Pluralistic ignorance – believing one's belief to be an exception to the majority belief
- Culture of hypocrisy – public display of a belief that everybody knows no one believes
- Mechanisms: fear of disapproval or punishment
- Conformism may unravel or non-conformism may snowball
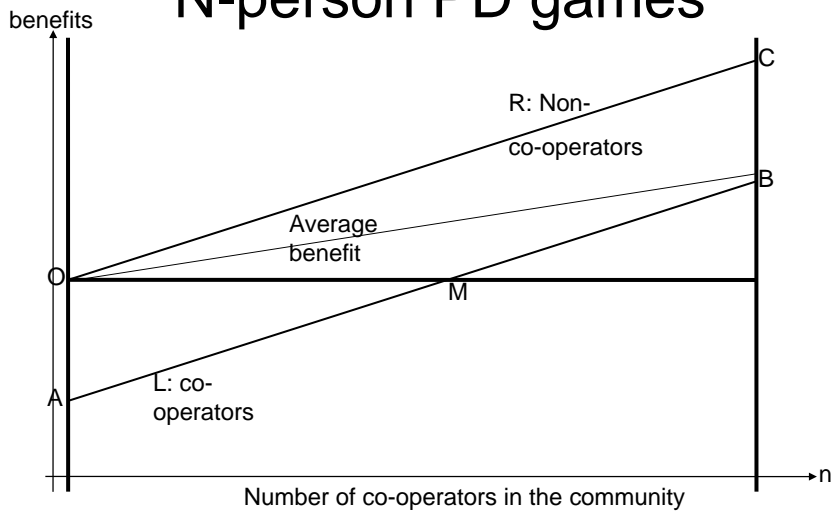   - E.g. by the child in Anderson's tale "The emperor is naked!"

Rumours, fears, hopes

- Rumours will usually grow in significance as they are retold
- Origin, speed and mechanism of propagation are seldom studied
- Reactions to rumours observed at a distance was taken as proof of the rumour
- Propensity to believe in conspiracy (malevolence) made it difficult to see similarity of condition as a source of similarity of rumours
- Rumours will usually follow pre-existing cultural schemata with weak (but real) foundation in historical experiences
- Rumours based on fear more prevalent than those based on hope?
- Counter-wishful thinking and fear based rumours cause people to modify behaviour. Wishful thinking based on hope do not have nearly as much impact on behaviour.
- Economic markets may be an exception. How the interactive belief formation works here is not understood
- Information cascades: access to private information and knowledge about previous formed beliefs may in sequences (roll calls, reviews) lead to false beliefs even if each would have reach a correct conclusion if the raw data was available rather than the conclusion

24 Collective action

- How can one sustain collective action without centralized authority?
- Public goods game: variation of individuals according to propensity to cooperate may create unravelling or snowballing
- The problem of collective action (a social dilemma) is in its simplest form defined by:
  - Individual defection beats individual cooperation, but
  - Universal cooperation beats universal defection

N-person PD games

benefits

C

R: Non-
co-operators

Average
benefit

O   M   B

A

L: co-
operators

n

Number of co-operators in the community

Notes 1 to figure

- Vertical axes define two person PD game
- Unilateral defection/ free riding is the "rational" choice,
- Universal cooperation the next best
- Universal defection third best and
- Unilateral cooperation when all else defect the worst (one is exploited, taken for a sucker)
- If M< N cooperate they are all better off even if free riders do even better

Notes 2 to figure

Note:

- Here the cost of cooperation is a constant, that may seldom be the case.
- Both increasing and decreasing marginal return may be observed
- Further: the benefit of cooperation is linear in n
- Curve linearity may be more reasonable with variable both positive and negative marginal utility

Figure 24-2

- Vertical axes define two person PD game
- Unilateral defection/ free riding is the "rational" choice,
- Universal cooperation the next best
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- Unilateral cooperation when all else defect the worst (one is exploited, taken for a sucker)
- If M< N cooperate they are all better off even if free riders do even better
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Free-riders

- Rational outcome oriented self-interested motivations is insufficient to elicit cooperation
  - Except: indefinitely repeated games with a grim trigger strategy, or
  - An outside agency imposing selective sanctions on participants
    - Creating such an organisation is a collective action problem
    - Some promises of rewards may not be credible

Variable marginal utility from joining collective action: Average benefit is a function of n (# already cooperating)
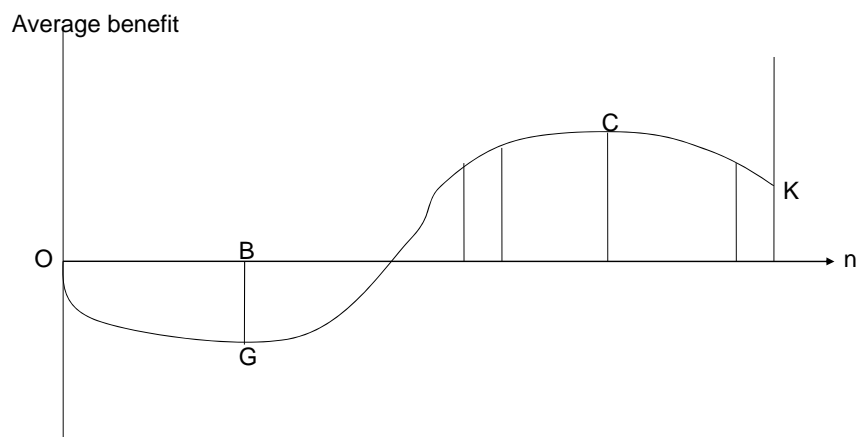
Notes 1 to figure

A variable threshold for participation may at each stage trigger new participants in a snowballing effect

Starters:

- unconditional co-operators
- selfless utilitarians – cooperate if unless her actions will harm other innocent bystanders
- full utilitarians – cooperate if their contribution increase the average benefit not counting costs to themselves

Notes 2 to figure

- Conditional co-operators
  - Cooperation based on fairness considerations
  - Cooperation based on social norms
  - Cooperation based on "process benefits" / essential by products from the collective action

Voluntary cooperation Fig 24-3

- A variable threshold for participation may at each stage trigger new participants in a snowballing effect
- Starters:
  - Unconditional co-operators
  - Selfless utilitarians – cooperate unless her actions will harm other innocent bystanders
  - Full utilitarian – cooperate if their contribution increase the average benefit not counting costs to themselves
- Conditional co-operators
  - Cooperation based on fairness considerations
  - Cooperation based on social norms
  - Cooperation based on "process benefits" / essential by-products from the collective action

25 Collective decision making

- Aggregation of individual preferences to decisions binding on all
  - Including transformations and misrepresentations of preferences
  - Aggregation mechanisms: arguing, bargaining, and voting
    - Arguing is to persuade by giving reasons
      - Public debate drives out self-interest, encouraging misrepresentation, opening for shifts in preferences ("the civilizing force of hypocrisy"); but of course also genuine sincere arguing may change preferences.
      - How public should debates be? Too public and arguments degenerate, too closed and bargaining ensue

Voting

- Issues in popular voting:
  - Franchise,
  - Mode of voting (secret or open)
  - Majority needed for a decision
  - Quorum (sometimes in referendum systems)
- Issues in assembly voting:
  - Quorum
  - Majority needed for a decision
  - Roll call or show of hands voting (secret voting is rarely used) [this is different from secret/ open proceedings]
- The reasons for needing to vote may be
  - Diverging fundamental preferences
  - Diverging beliefs

Aggregation of beliefs

- Aggregation of beliefs by voting will seldom be able to disentangle beliefs from preferences
  - On jury majority voting: One may increase the chance of getting the right decision (forming the right belief) by 1) increasing the chance of each having the correct belief (quality), or 2) increasing the number of voters (quantity)
  - Qualifications may be a direct function of numbers
  - Incentive for rational ignorance increase with numbers and will (probably) offset the qualification effect
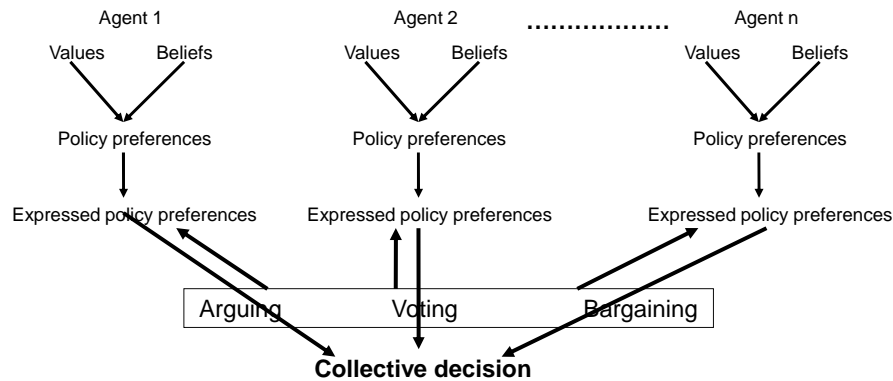
Aggregation of preferences

- Problem 1: misrepresentation
  - Open rather than secret voting may induce votes against one's most preferred alternative
  - Also in secret voting one may achieve an outcome better than the likely result of sincere voting by voting for a second best alternative (voting for one's most preferred alternative is seldom a dominant strategy)
- Problem 2: indeterminacy of outcomes
  - With more than 2 alternatives and more than 2 groups there may appear cycling rank orders of alternatives based on the order of voting
    - To overcome the indeterminacy one might measure intensity of preference or aggregate degree of individual need satisfaction (this is beyond what can be done today)
    - How serious the problem is in reality is unknown
    - Case: Stortinget voting on choice of airport localisation

Bargaining

- Reaching agreement through credible threats and promises
- Problem 1: Credibility
  - of promises depends on degree of self-interest in keeping a promise, resources and ability to deliver, time horizon of relationship, reputation
    - Logrolling (A promises to vote for an issue important to B on condition that B votes for an issue of importance to A)
  - of threats depends on the default condition (if no bargaining result obtains), the available resources for carrying out the threat, the time horizon of the negotiators, degree of risk aversion, reputation

Collective decisions

Agent 1	Agent 2	....	Agent n
Values Beliefs	Values Beliefs		Values Beliefs
Policy preferences	Policy preferences		Policy preferences
Expressed policy preferences	Expressed policy preferences		Expressed policy preferences

Arguing   Voting   Bargaining

Collective decision

The aggregation mechanism contributes to shaping the input to the mechanism itself

26 Organisations and institutions

- Institutions and organisations relates to each other as tokens and types (an instance of a concept and the concept itself) [This analogue may not further our understanding as much as "the rules of the game" analogue of North 1990]
- Organisations are collective actors
- Institutions are ways of doing things

Monitoring

- Principal and agent have different interests: principal (hard work, honesty), agent (easy work, power, personal extra incomes and favours to friends)
    - How can the principal ensure that the agent does her bidding faithfully?
    - In employing monitors who will guard the guardians?
    - Asymmetries of power, incentives, and information
- Problems of shirking, corruption, proliferation of hiring, etc. may be countered by acting on incentives and/ or opportunities of agents
    - Monitoring and sanctioning is costly

Trust and distrust

- Trust my help in lowering monitoring and sanctioning costs
- Some constitutions aspire to create a system of checks and balances, they are organised distrust
    - Assuming that those who hold power will work to retain and expand it
    - Assuming the constituent assemblies are acting AS IF they are motivated by reason – the civilizing force of hypocrisy
- 12 topics to consider in setting up constitutional checks and balances (p.436-438) :

Preventing degeneration of democracy

1. Preventing the government to engage in political justice
2. Preventing the government from manipulating the electoral system
3. Preventing the government manipulating the flow of information
4. Preventing the government manipulating the flow of money
5. Prevent central bankers from implementing disastrous monetary policies
6. Preventing the government from manipulating statistical information
7. Preventing the government from starving the opposition
8. Preventing the government from enacting self-serving legislation
9. Preventing the government from bypassing these restriction by using its majority in parliament
10. Preventing the government from ignoring these restrictions
11. Preventing the government from manipulating judicial reviews
12. Preventing judges to ignore large popular majorities

The problem of the second best

- If not all the above conditions are fulfilled it is not certain that the more are fulfilled the better
  - e.g. judicial review without checks on the judges may be worse than no review
  - Often incompetence will temper despotic rule
  - Removing one ill only to discover it kept a second greater ill at bay is not uncommon

Concluding chapter:
Is social science possible?

What counts as a science?

1. General agreement on what is true, what is false and what is conjectural
2. A cumulative process of discarding theories and explanations forever
3. Main concepts and theories can be expressed in a way accessible for all willing to expend time and effort
4. The "classics" are read mainly by the historians of science

Social sciences

- Soft social science
  - Postmodernism, postcolonial theory, subaltern theories, deconstructionism, Kleinian or Lacanian psychoanalysis etc are all far from the ideal
- Qualitative social science
  - Including history, case studies do not do well on all criteria. It does best on criterion 3
- Quantitative social science
  - Including measurement, data analysis, and modelling
  - Modelling is evaluated doing well on criterion 3 and 4.
  - Hard core rational choice does not fare better than soft social science.