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The Economics of Convention

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What is a convention?

- A pattern of behavior that is **customary, expected** and **self-enforcing**.
- Everyone conforms, everyone expects others to conform, and everyone has good reason to conform because conforming is in each person's best interest when everyone else plans to conform.
- Examples: rules of the road, dressing in a conventional way, using words with their conventional meanings, etc.

Why are conventions needed?

- Conventions resolve problems of indeterminacy: when there are multiple equilibria, a convention is the equilibrium actually used and everyone expects.
- Economic significance: conventions reduce transaction costs.
 - Drivers don't need to get out and negotiate which side of the road to take every time.
 - Legal contracts: less costly to fill in the blanks of a standard contract. The signatories have greater confidence that the terms are enforceable because of legal precedents.
- Contrast with norms driven by other motives
 - Avoiding punishment, internalized values, etc.

How conventions are established

- Central authority
 - Example: After the French Revolution, horse-drawn carriages in Paris had to keep to the right side of the road (symbolic).
- Gradual accumulation of precedent
 - Right-hand driving in many other parts of Europe

Evolutionary model

- One-shot game played repeatedly by different players drawn from a large population
- Rules and strategies are fixed, but payoffs may depend on who is playing
- Players are **boundedly rational** and **partially informed**
 - Act according to limited information about what the other players have done recently
 - Takes random sample of size s from the most recent m time periods and chooses a best reply to the sample
- **Unexplained variations in behavior**
 - Each player chooses a strategy randomly with small probability ε

Evolutionary model: qualitative predictions

- **Local conformity effect:** Within a community of interacting agents, most of the population will be using the same convention most of the time.
- **Global diversity effect:** Two communities starting from similar initial conditions may end up using different conventions at some future point in time.
- **Punctuated equilibrium effect:** A convention tends to last for a long time, but eventually will be dislodged by random shocks (no lock-in).
- There is statistical regularity in the frequency with which different conventions are observed, independent of the initial conditions.

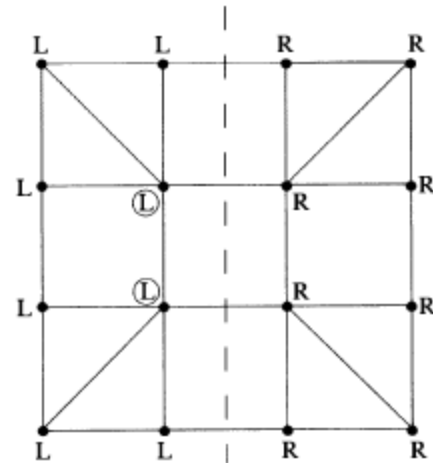
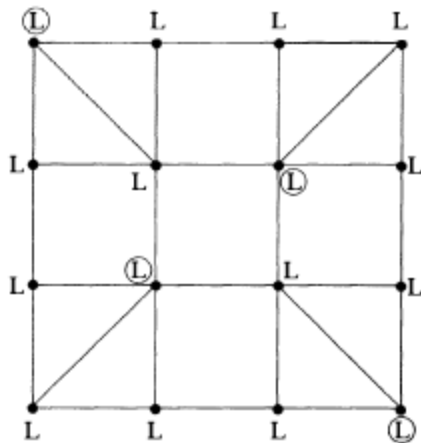
Case study 1: Right or left?

- Consider countries as individuals, with an incentive to switch to a rule that conforms with its neighbors.
- Until the end of the 18th century, the dominant convention in western Europe was to keep left.
- France switched to right-hand driving after the Revolution. Napoleon adopted this convention for his armies and some occupied countries. Eventually more and more countries followed their neighbors and switched. Today most of continental Europe has mostly right-hand driving.

Case study 1: Right or left?

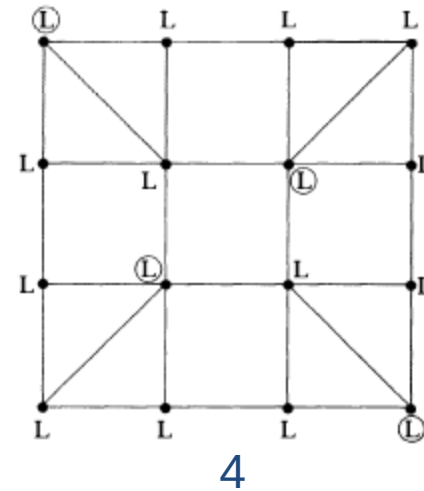
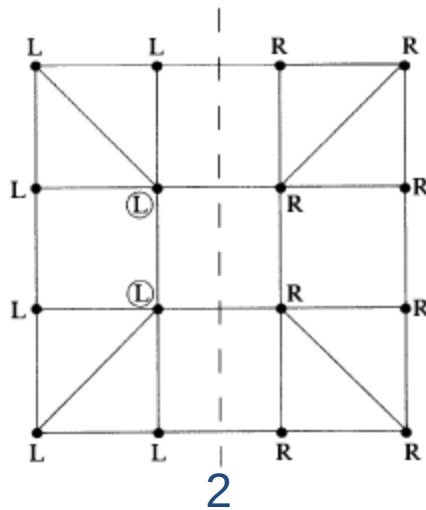
Neighborhood structure model: a cost is incurred by two neighboring countries if they have different rules. A country switches if it can reduce its total cost.

Two equilibrium configurations for same structure:



Case study 1: Right or left?

- Conventions can be destabilized by “random” switches (e.g., the French Revolution).
- How many switches does it take?



- Uniform equilibrium is harder to destabilize (lower stochastic potential).

Case study 2: Distributive bargaining

- In what proportions do two people divide a common “pie”?
- Classical game theory predicts that the outcome depends on the alternatives of the parties and their aversion to risk; but in experiments people almost always divide it 50-50.
- Real life examples: In the U.S., a lawyer conventionally gets $\frac{1}{3}$ of the award in a malpractice suit. Real-estate agents get 6% of the sale price. Proportions do not fluctuate according to supply and demand.

Case study 2: Distributive bargaining

- Sharecropping: how much of the harvest the landowner gets, and how much the laborer gets.
- In a sample of over 300 villages in India, more than 2/3 had a single type of contract, and over 95% had at most 2 forms of contract (**local conformity**).
- Similar villages can have very different contract terms (**global diversity**).
- In over 2/3 of the villages, 50-50 was the dominant form of contract, and in most cases, the only form.
 - *Stochastically stable equilibrium*, robust under small, persistent random shocks.

Case study 2: Distributive bargaining

- Model the bargaining game as a Nash demand game:
If the demands by Landlord and Tenant are compatible ($x + y \leq 1$), each side gets what it asked for. Otherwise ($x + y > 1$), both get nothing.

		Tenants		
		H	M	L
Landlords	H	0, 0	0, 0	75, 25
	M	0, 0	50, 50	50, 25
	L	25, 75	25, 50	25, 25

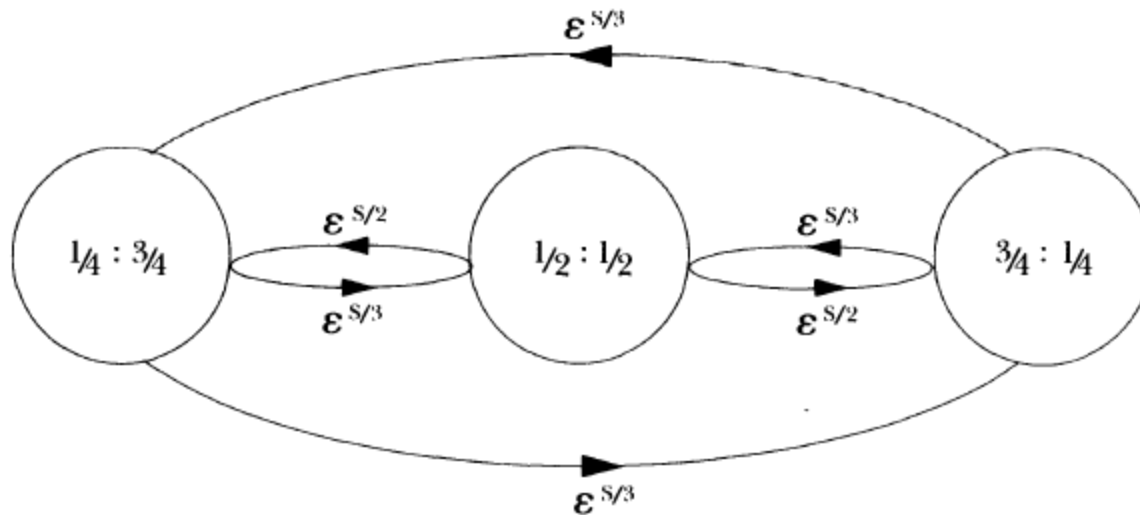
- 3 possible conventions: $1/4 : 3/4$, 50-50, $3/4 : 1/4$

Case study 2: Distributive bargaining

- Say we have $s = 12$, $\varepsilon = 0.01$. The current convention is $3/4 : 1/4$. If four tenants in a row “randomly” demand $1/2$ instead of $1/4$, then the landlord may have sample these data, come to believe that tenants demand $1/2$ one-third of the time, and act with his best reply, $1/2$. Next landlord may repeat.
- It takes 4 “mistakes” (probability ε^4) to change the convention.
- But if the current convention is 50/50, it takes 6 mistakes (smaller probability of ε^6).

Case study 2: Distributive bargaining

Transition probabilities between conventions:



50-50 is the stochastically stable convention, given that s is sufficiently large and sufficiently incomplete.

This becomes the *focal point* – not because it is more natural or more ethical *a priori*, but because it is the most stable in the long run.

Discussion

- Young focuses on conventions and coordination problems. How well does the evolutionary model generalize to other norms? (e.g., incorporate punishment?)
- How strong is his empirical evidence as support for his theory?
- Norms come into being because of their stability and may even acquire ethical force because they are stable. Ethical norms?