Signaling:
Actions as Messages (in War, Lobbying, and Protest)

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LSE

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Introduction

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Applications:

- Why do wars occur, and how can we prevent them? (continued)
- What does political spending accomplish?
- How will the internet change activism?

Job market signaling

Key features:

- **Information asymmetry**: Employers don't know workers' abilities
- **Misalignment of interests**: Employers want to pay as little as possible, workers wants as much as possible
- Possible **signal** (education): an action that is costly, especially for less productive workers

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- employers pay more for more educated workers;
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Even though education is totally unproductive in the model!

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Key insight from signaling model When there is information asymmetry (hidden types) and incentives to lie, the informed party can communicate through observable actions if

- the action is costly
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- incentives are such that the types "separate": "high types" do a lot of the action, "low types" do a little, etc.

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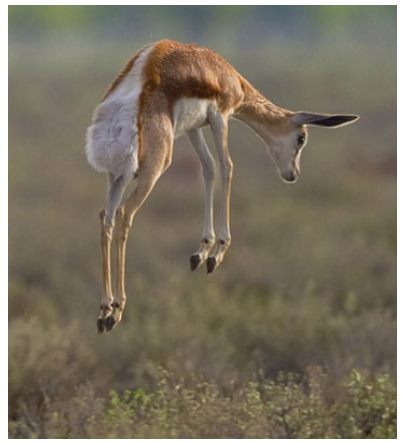
How do warranties work as a signal? What about marble cladding? What else might it help us to explain?

Springboks jumping ("pronking", "stotting")



Sender	Receiver	Hidden info	Signaling device	If signal is successful, receiver thinks ...
Springbok	Lion	Springbok's speed, fitness	Jumping	"Only a very strong and fast springbok can (afford to) do that; I won't bother chasing him."
Springbok	Potential mate	Springbok's survival fitness	Jumping	"Only a very strong and fast springbok can (afford to) do that; I will mate with him."

Yakuza tattoos

Sender	Receiver	Hidden info	Signaling device	If signal is successful, receiver thinks:
Aspiring gangster	Gang leader	Applicant's potential value as a gangster	Getting tattoos	"Only someone who is confident that he will be a successful gangster would make such an irreversible commitment to the underworld. I will promote him."
Gangster	Citizen	Gangster's willingness to use violence	Having a tattoo	"Only someone who is willing to use violence would make such an irreversible commitment to the underworld. I will believe his threats."

Gambetta, *Codes of the Underworld: How Criminals Communicate*, 2011.

Advertising campaigns

Sender	Receiver	Hidden info	Signaling device	If signal is successful, receiver thinks:
Producer	Consumer	Quality of product	Expensive advertising campaign	"This advertising campaign would only be worthwhile for a seller whose product is so good that consumers who buy it once continue to buy it (or tell others to buy it). I'll buy the product."

Milgrom and Roberts, "Price and Advertising Signals of Product Quality", *Journal of Political Economy*, 1986.

War as a puzzle: recap

Why do wars happen?

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Puzzle of war*:

Wars end with an agreement that divides resources.

Why can't they (and their **costs**) be avoided by an agreement that divides resources?

*And other costly conflicts, e.g. strikes, lawsuits.

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- Risk-acceptance (gambling)
- Desire to fight (e.g. glory, hatred, revenge)
- Agency problems (Kant, 1795; Jackson and Morelli, 2007)
- Indivisibility of the resource
- **Last week:** commitment problems (and attempts to resolve them)
- **This week:** Asymmetric/incomplete information $\Longrightarrow$ overconfidence, miscalculation, but also **attempts to signal resolve** that make conflict more more likely (saber-rattling)

Recap: model of conflict

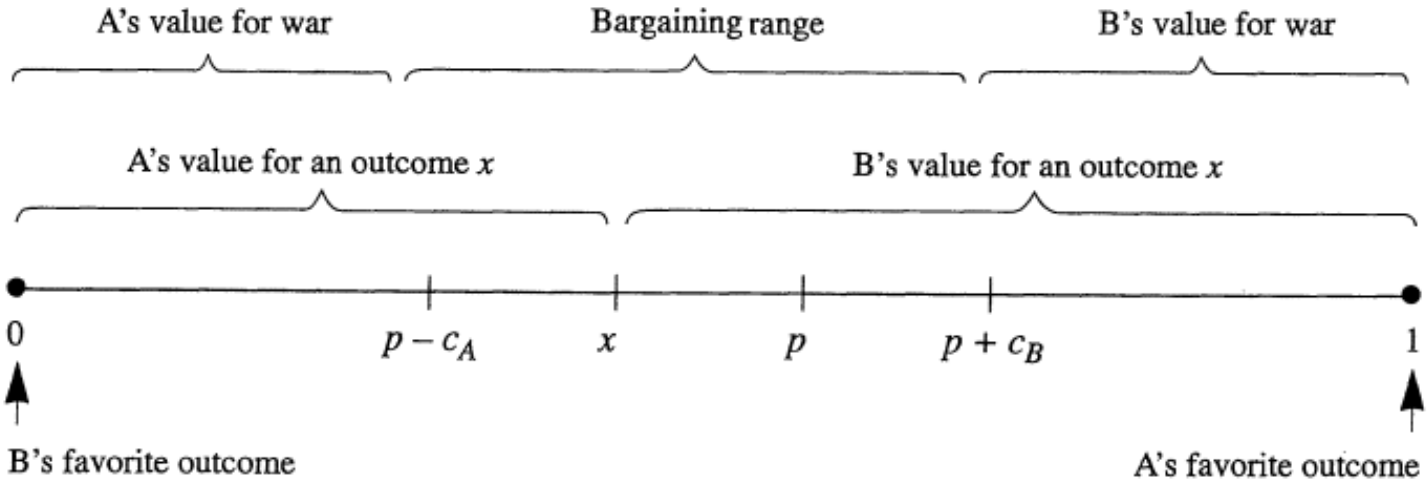
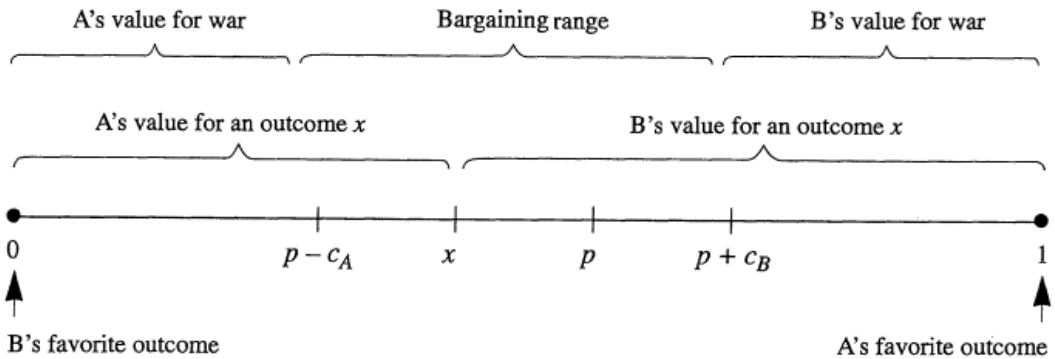


FIGURE 1. *The bargaining range*

- Countries A and B are deciding how to split a resource (e.g. territory) of size 1.
- Let x denote A's portion, such that $1 - x$ is B's portion.
- If they fight, A wins with probability p; the winner gets to take it all.
- Costs of war: c_A for A, c_B for B

War from incomplete information



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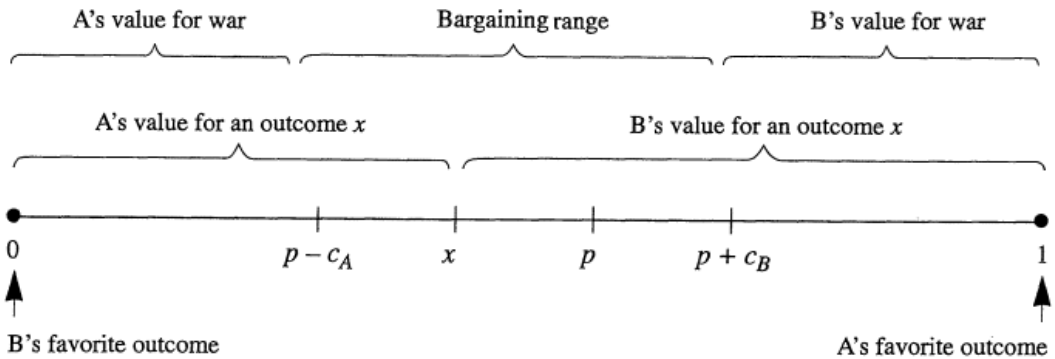

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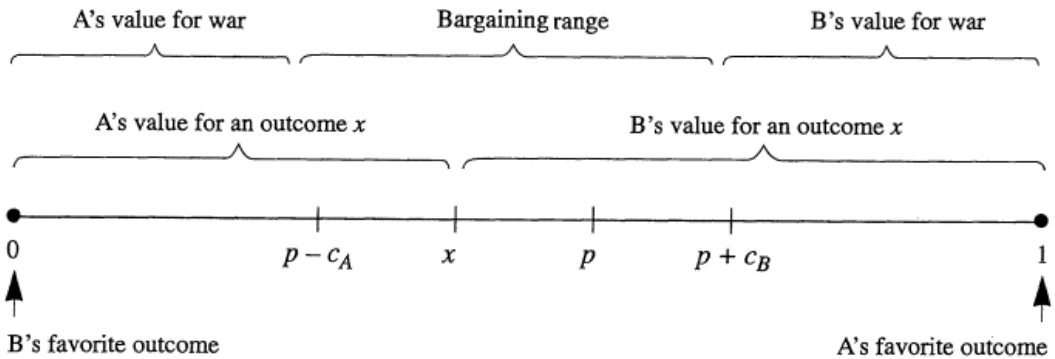

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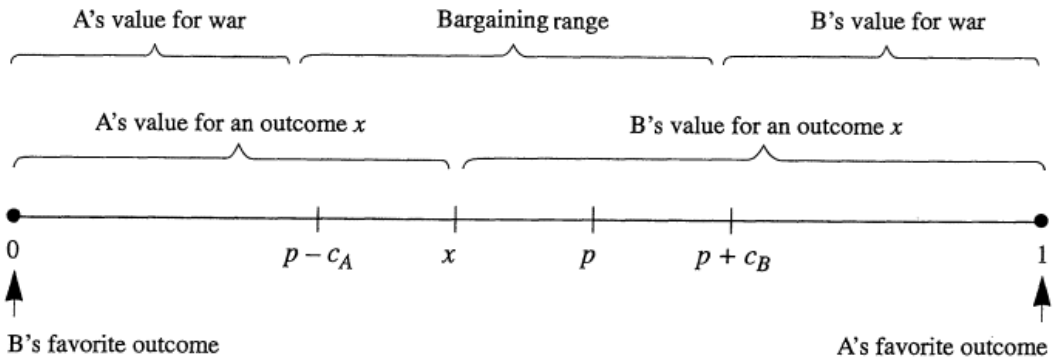

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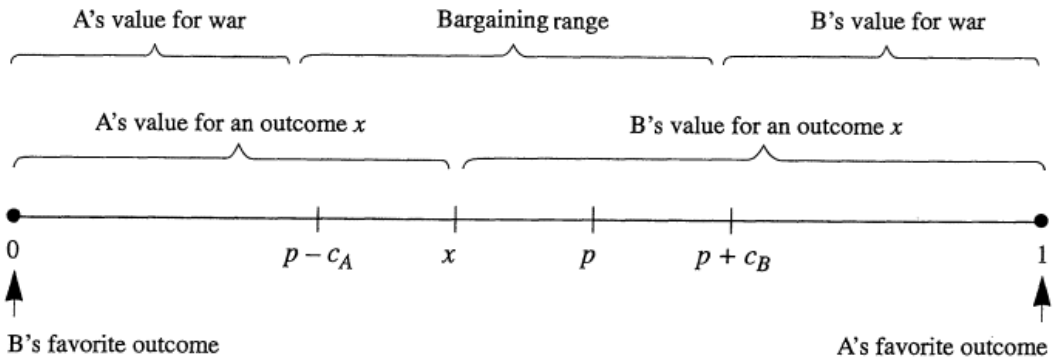

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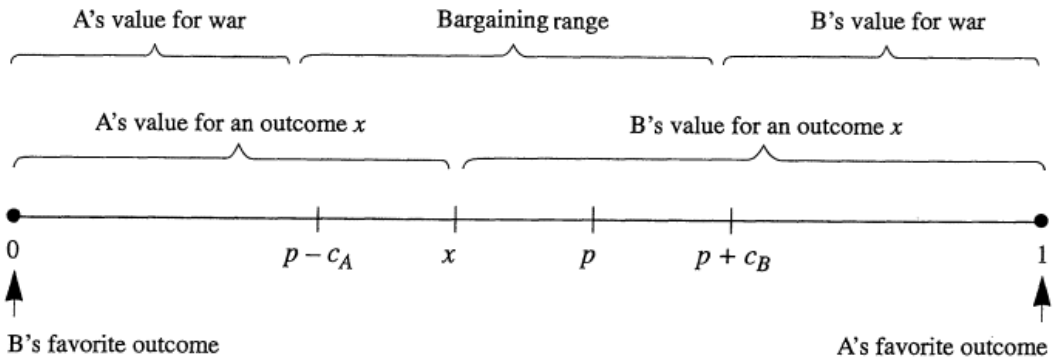

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$\Longrightarrow$ war from incomplete information. (Risk-return tradeoff, or "miscalculation".)

Incentives to misrepresent

Why is information (about costs of war, about military capabilities, etc) incomplete?

- "Why did German leaders in 1914 not simply ask their British and Russian counterparts what they would do if Austria were to attack Serbia?" (Fearon 1995, pg. 395)

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Because private information can increase one's own strength in war and in bargaining.

International crisis bargaining and signaling

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States often use costly signals of **resolve**.

Signaling device	If signal is successful, receiver thinks:
Mobilize troops	"Because mobilizing troops is costly, my adversary must have high resolve."
Make public statements of intention to fight	"Because my adversary's promises would be costly if he backs down, he must have high resolve."
Place forces in disputed area, or take other risky actions	"Because my adversary is willing to increase the risk of a war, he must have high resolve."

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By **high resolve**, we mean **a low cost of fighting and/or a high probability of winning** or a high value for the object. i.e. it is information about p, c_A, c_B in the model above.

Signaling and war

But note that signals of resolve (mobilizing troops, making public statements of intention to fight, placing forces in disputed area) also affect incentives – they make war more likely!

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> *We thus see that incomplete information can cause war both directly, through miscalculation, and indirectly, by forcing states to communicate their resolve in ways that can foreclose successful bargaining.* *(Frieden et al, 104)*

Implications

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What affects transparency?

- Technology (e.g. satellites)
- International weapons inspections regimes
- Government features:
  - Access to information about military capabilities
  - Clarity of political processes: what costs do leaders face for backing down from threats, from fighting a war, etc.

Democracy and conflict: some evidence

Schultz (1999) contrasts two views of democracy's effect on bargaining and conflict:

- **Informational view**: democracies are more transparent and have better tools to signal their resolve $\Longrightarrow$ other states **less** likely to resist when challenged by a democracy than by an autocracy.
- **Constraints view**: democratic leaders incur greater costs from fighting wars $\Longrightarrow$ other states **more** likely to resist when challenged by a democracy than by an autocracy.

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Shows, in analysis of wars 1816-1980, evidence for the informational view: when democracies make threats, the other side tends to take those threats seriously (more so than when autocracies make threats).

Gordon and Hafer (2005): Political spending as muscle-flexing

Different ideas of why interest groups contribute to politicians, hire lobbyists:

- Influence/bribery
- Legislative subsidy (Hall and Deardorff, 2006)
- Policy information/persuasion

See references in Hall and Deardorff (2006).

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What about lobbying (or more generally, political spending) as a **signal**?

Gordon and Hafer (2005): Political spending as muscle-flexing (2)

Sender	Receiver	Hidden info	Signaling device	If signal is successful, receiver thinks:
Firm	Regulator	Cost to the firm of following the rules $\Longrightarrow$ firm's willingness to fight	Hiring lobbyists, making campaign contributions	"Only a firm that is very willing to fight against us would spend so much on lobbyists and contributions. I will not regulate it closely."

Very similar logic in dealing with another firm: spend on lobbyists and contributions in order to signal "resolve".

Gordon and Hafer (2005): Political spending as muscle-flexing (3)

Evidence from regulation of nuclear plants in the US (Gordon and Hafer, 2005):

- Firms that paid the most in contributions were investigated the least
- Effect of contributions on investigations was large enough that "high cost" types would pay it but not "low cost" types (i.e. a separating equilibrium is plausible)
- Some evidence that when violations are public (and thus investigations become mandatory) expenditures decrease

Q: Which of these are consistent with political spending as bribery?

Threshold models, revisited

Recall Kuran's threshold model of collective action, applied to 1989:

> *Because the* **costs of participation** *depend on the number of participants, a small event can trigger a large movement.*

Lohmann (1994) provides a different explanation:

> *Because the* **information available about the regime** *depends on the number of participants, a small event can trigger a large movement.*

Signaling in mass movements, Lohmann 1994

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- Citizens possess private information about regime.
- $\Longrightarrow$ turnout for **costly** anti-regime demonstration conveys information about regime
- $\Longrightarrow$ protest movements can grow because of **information cascade**

Kiev, 1 Dec 2013

Signaling in mass movements (2)

Kricheli et al (2011) offer a variation on the same idea. (Protest conveys information not about the regime, but about other citizens' preferences toward the regime.)

> *The protest's information-revealing potential is maximized when it is very costly for citizens to signal their opposition to the regime. (pg. 6)*

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They provide evidence that, when they happen, protests are most likely to cause regime change in the **most repressive** regimes.

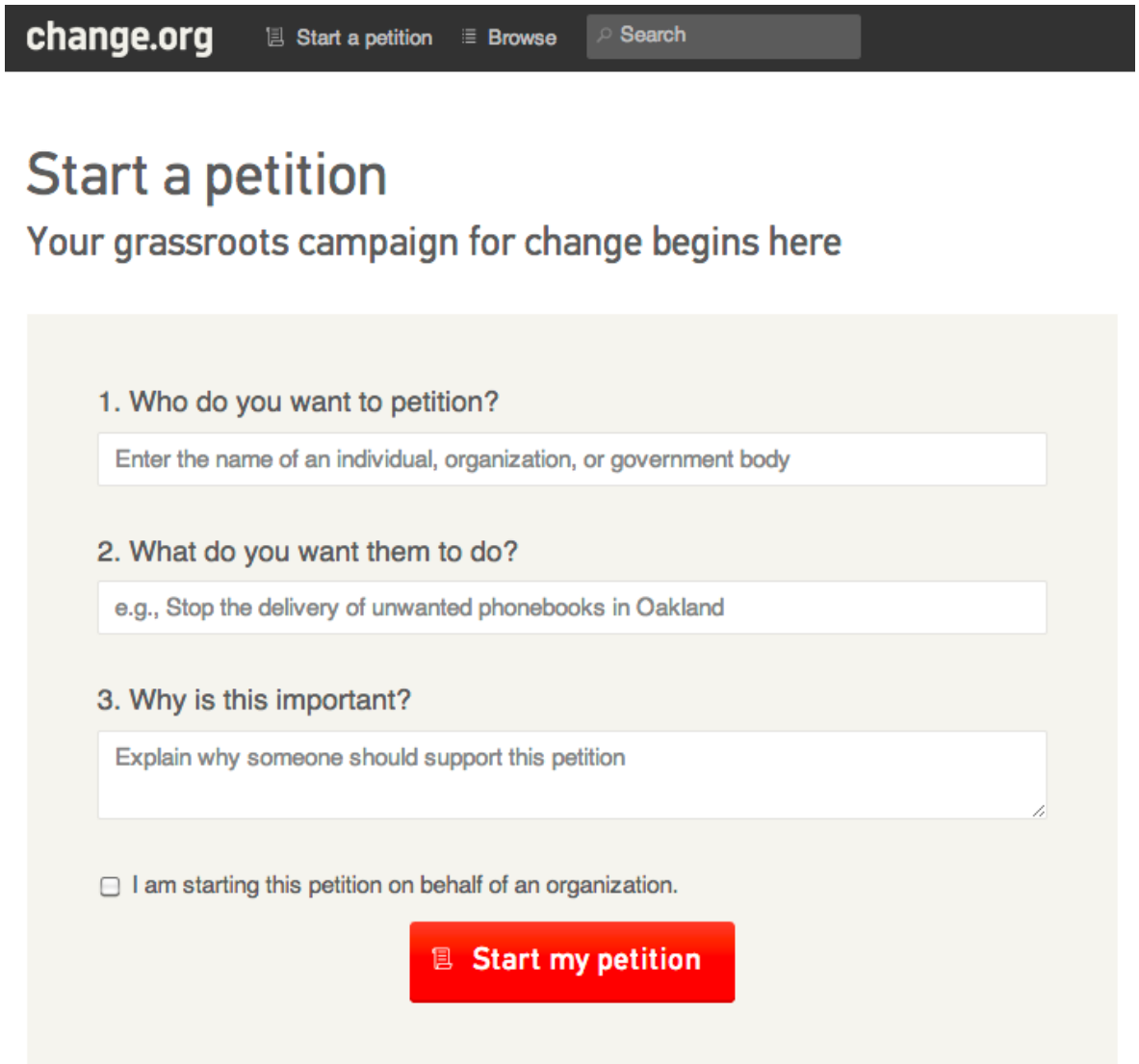
Protests as costly signals

Actions taken by protesters can be quite costly:

- Actions that are risky because they are **illegal** – protest *per se* in repressive regimes; trespassing ("sit-ins", Occupy)
- Actions that are intrinsically **uncomfortable or painful** – sleeping out in the cold, hunger strikes, self-immolation

Clicktivism

Question: What is accomplished by making protest cheaper?



Marriage as a signal

Recall the **marriage game**: having a marriage ceremony affected the man's future payoffs in a way that made the woman willing to have children with him.

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Marriage was a **commitment device**.

Marriage could also be seen as a **signaling device**.

Sender	Receiver	Hidden info	Signaling device	If signal is successful, receiver thinks:
Man	Woman	Man's love	Marriage	"Only a man who really loves me would be willing to undergo this costly ceremony, build up social expectations that we will stay together, and enter into the marriage contract, etc. Let's have children."

Payoffs vs. beliefs

In other words:

- A commitment device makes your threat or promise credible by changing **your payoffs**.
- A signaling device makes your threat or promise credible by changing **your counterpart's beliefs about your payoffs**.

Recap

- **Info asymmetry**: key feature of many real-life interactions (political and otherwise)
- **Actions** can **convey information** about players' hidden **types** (i.e. preferences or capabilities) when **costs are related to type**
- Many examples from outside of politics (biology, business, culture)
- Political examples:
  - International conflict, where incomplete information can cause wars – but so can signaling strategies
  - Lobbying/political spending, where spending might reveal resolve
  - Protest movements, where **costly** political action can communicate information to the regime or to other citizens about citizens' discontent and willingness to fight

Next Friday: Kathy Settle, Director, Digital Policy and Departmental Engagement at **Government Digital Service**.

Thank you!