

# Game Theory

Thinking Strategically III: Nash Equilibria, Part 2

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# Commitment Strategies

## Commitment Strategies

**Example:** Burning Your Ships (and other commitment strategies)

Hawk/Dove Game

		2	
		h	d
1	H	-1, -1	10, 0
	D	0, 10	5, 5

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But Player 2 moves first...

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But Player 2 moves first...

What will happen?

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## Commitment Strategies

**Example:** Burning Your Ships (and other commitment strategies)

Hawk/Dove Game

But Player 2 moves first...

What will happen?

What could Player 1 do to gain an advantage?

		2	
		h	d
1	H	-1, -1	10, 0
	D	0, 10	5, 5

## Commitment Strategies

**Example:** Burning Your Ships (and other commitment strategies)

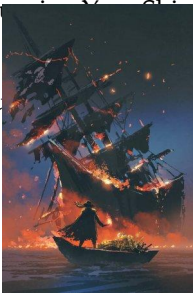
Player 1 could "burn their ships".

		2	
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1	H	-1, -1	10, 0
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## Commitment Strategies

**Example:** Burning Your Ships (and other commitment strategies)

Player 1 could "burn their ships":



		2	
		h	d
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Make it so that they cannot play D (even if they wanted to).

## Commitment Strategies

**Example:** The Doomsday Device (from *Dr. Strangelove or: How I Learned to Stop Worrying and Love the Bomb*)



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**Example:** The Doomsday Device (from *Dr. Strangelove or: How I Learned to Stop Worrying and Love the Bomb*)



Questions?

Introductions



Hobbes: Property in the State of Nature  
Hume: Property as Convention

# Hobbes

Hobbes on Property (in the  
State of Nature)

## Hobbes on Property

To this warre of every man against every man, this also is consequent; that nothing can be Unjust. The notions of Right and Wrong, Justice and Injustice have there no place. Where there is no common Power, there is no Law: where no Law, no Injustice. Force, and Fraud, are in warre the two Cardinall vertues. Justice, and Injustice are none of the Faculties neither of the Body, nor Mind. If they were, they might be in a man that were alone in the world, as well as his Senses, and Passions. They are Qualities, that relate to men in Society, not in Solitude. It is consequent also to the same condition, that there be no Propriety, no Dominion, no Mine and Thine distinct; but onely that to be every mans that he can get; and for so long, as he can keep it. And thus much for the ill condition, which man by meer Nature is actually placed in; though with a possibility to come out of it, consisting partly in the Passions, partly in his Reason.

## Hobbes on Property (State of Nature)

Player 1 / Player 2	Take	Leave
Take	3rd / 3rd	1st / 4th
Leave	4th / 1st	2nd / 2nd

Even if there were property rights in the State of Nature, would they be respected?

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How might the game change under the Sovereign?

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How might the game change under the Sovereign?  
Is this (still) a Prisoners' Dilemma? Is there a Nash Equilibrium?

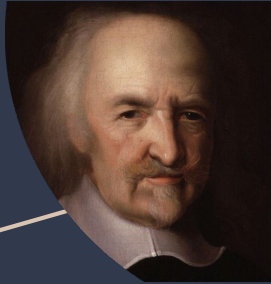
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Is this (still) a Prisoners' Dilemma? Is there a **Nash Equilibrium**?



## Hobbes on Property



There are **no** property rights in the **state of nature**.

Property rights only exist when there is some political authority who can enforce them.

# Hume

David Hume  
(1711 - 1776)

Scottish  
Philosopher

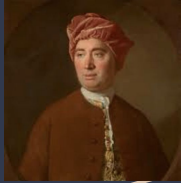


## Top 5 Hume Facts!



- 1.
- 2.
- 3.
- 4.
5. Best friends with Adam Smith.

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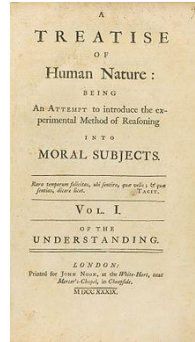


1. Took Rousseau in when no one else would. They had a falling out.
2. A famously agreeable philosopher (see: Adam Smith's reflections on Hume's death)
3. Was a diplomat to France; loved drinking and billiards.
4. One of the major figures of the Scottish Enlightenment.
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## Hume's *A Treatise of Human Nature*



"Of the Origin and Justice of Property"



## Hume on Property

observe, that it will be for my interest to leave another in the possession of his goods, provided he will act in the same manner with regard to me. He is sensible of a like interest in the regulation of his conduct. When this common sense of interest is mutually express'd, and is known to both, it produces a suitable resolution and behaviour. And this may properly enough be call'd a convention or agreement betwixt us, tho' without the interposition of a promise; since the actions of each of us have a reference to those of the other, and are perform'd upon the supposition, that something is to be perform'd on the other part.

## Hume on Property

### Property as Convention

Hume thinks that *conventions* arise in the following conditions:

1. People's interests are best served by coordinating their behavior;
2. What makes most sense for each of them to do depends on what the others do;
3. Successful coordination will be self-sustaining because everyone's interests will best be served by continuing to coordinate.

## Hume on Property

Does this sound familiar?

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Hume thinks it is in our mutual interest to respect property rights *so long as* others do as well.

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Hume thinks it is in our mutual interest to respect property rights *so long as* others do as well. (There are two Nash Equilibria.)

## Hume on Property

Two men, who pull the oars of a boat, do it by an agreement or convention, tho' they have never given promises to each other.



## Review: Hobbes vs Hume on Property

### Hume's Analogy: The Row Boat



Is Hume Right?

Two men, who pull the oars of a boat, do it by an agreement or convention, tho' they have never given promises to each other.

## Hume on Property

Player 1 / Player 2	Sit	Row
Sit	2nd / 2nd	2nd / 3rd
Row	3rd / 2nd	1st / 1st

Two people rowing a boat

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## Hume on Property

Player 1 / Player 2	Sit	Row
Sit	2nd / 2nd	2nd / 3rd
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Two people rowing a boat  
Is Hume right that the two cases are analogous?

## Hume on Property

### Rowboat

Player 1 / Player 2	Sit	Row
Sit	2nd / 2nd	2nd / 3rd
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### Property

Player 1 / Player 2	Take	Leave
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Discussion Question:

Is this a good analogy?

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Player 1 /  
Player 2

Sit

Row

2nd / 2nd

2nd / 3rd

3rd /

Take

2nd /

3rd /



## Review: Hobbes vs Hume on Property

### Row



3rd /

## The Circumstances of Justice

## The Circumstances of Justice

	Extreme Scarcity	Moderate Scarcity	Abundance
Complete Generosity	No utility	No utility	No utility
Moderate Generosity	No utility	<b>Very Useful</b>	No utility
Complete Selfishness	No utility	No utility	No utility

## Hobbes vs Hume on Property

Hume agrees with Hobbes that there are no *natural* property rights.

Property rights are human creations.

But Hume disagrees with Hobbes because he thinks they can exist absent some political authority to enforce them.

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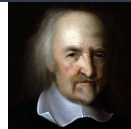
But Hume disagrees with Hobbes because he thinks they can exist absent some political authority to enforce them.

(How so?)

## Hobbes vs Hume on Property

**Hobbes**

Player 1 / Player 2	Take	Leave
<b>Take</b>	3rd / 3rd	1st / 4th
<b>Leave</b>	4th / 1st	2nd / 2nd



**Hume**

Player 1 / Player 2	Take	Leave
<b>Take</b>	2nd / 2nd	2nd / 3rd
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**Hobbes**

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Player 1 / Player 2	Take	Leave
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## Hobbes vs Hume on Property

### Hobbes

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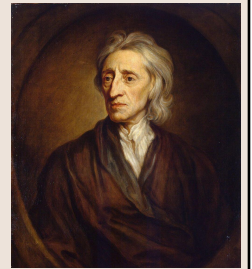


### Hume

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**Next Time:**  
John Locke disagrees...



# Questions?