

# The Art of War: Lesson

# 1

---

Dr. Vimal Kumar, Assistant Professor of Economics

Indian Institute of Technology Kanpur, [vimalk@gmail.com](mailto:vimalk@gmail.com)

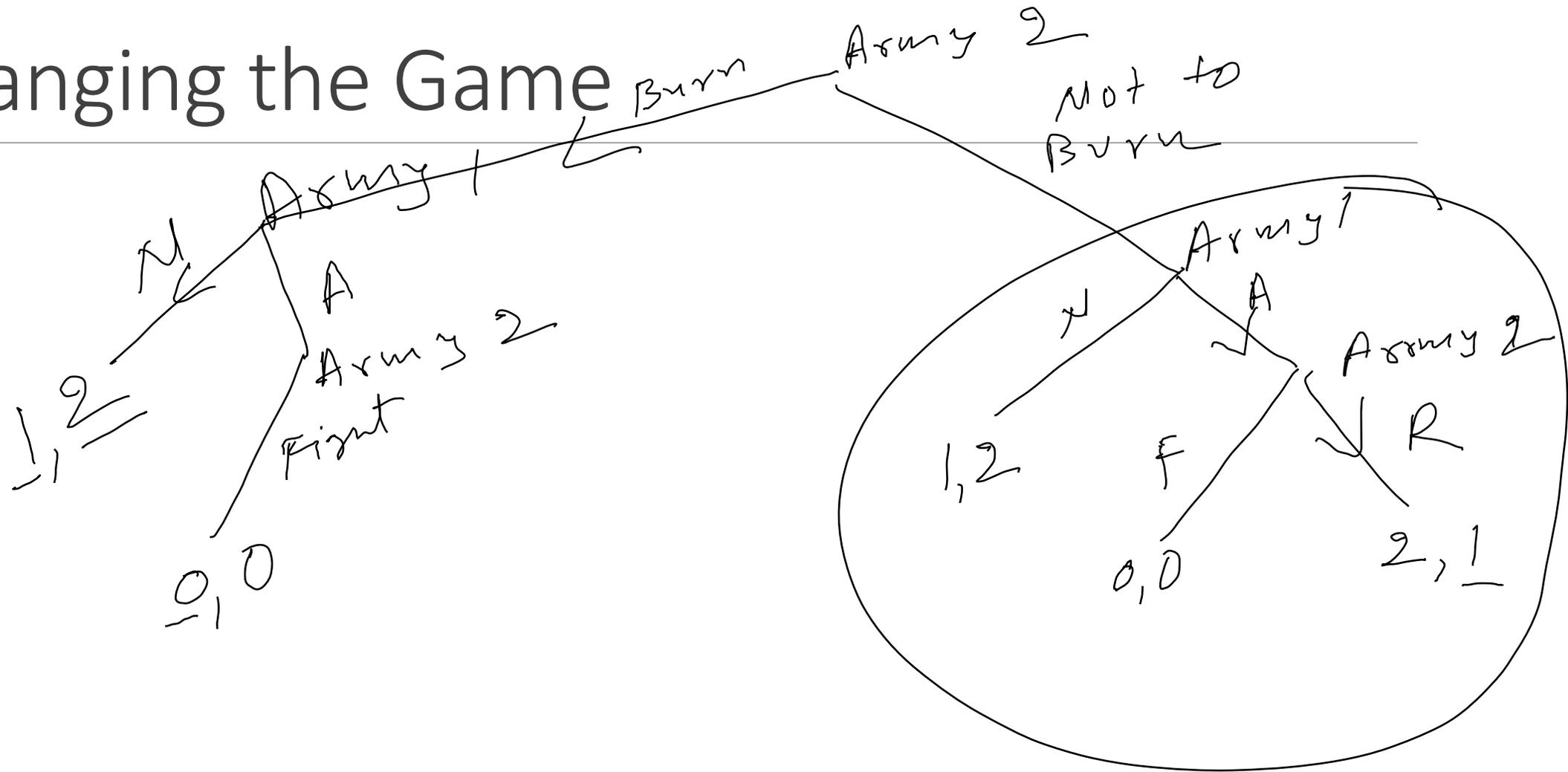


# Burning the Bridge

---

- *“When you surround an enemy, you must leave an outlet for him to go free.”* –Sun-Tzu
- Situation: Army 1 must decide whether to attack an island held by Army 2. If Army 1 decides to attack, Army 2 must decide whether to fight or retreat across a bridge to the mainland. Army 1 prefers attacking followed by a retreat of Army 2 to not attacking, but not attacking is better than a fight. Army 2 prefers not being attacked to retreating and retreating to fighting.

# Changing the Game



# Credible Commitments: Burning Bridges

---

- In non-strategic environments having more options is never worse
- Not so in strategic environments
- You can change your opponent's actions by removing some of your options
  - 1066: William the Conqueror ordered his soldiers to burn their ships after landing to prevent his men from retreating
  - 1519: Hernan Cortes sank his ships after landing in Mexico for the same reason

# Experimental Data

---

- Great Deal of Experimental work
  - Important to Distinguish between monetary and utility version.
  - Experimental work is restricted to monetary version
- General finding
  - “Unfair” offers are often rejected {irrational}.
  - These effects are observed even when the amounts of money are on the order of a month’s income.

# Experimental Game Theory

---

- Game theory:
  - how rational individuals should behave
- Experimental game theory:
  - Look at how people actually behave
    - experiment by setting up real economic situations
    - account for people's economic decisions