Week 1 – Competition

Objectives –

1. Get to know each other, break the ice!
2. Think through the consequences of competition for human interactions
3. Understand how cooperation changes the competitive dynamics
4. Understand how the initial distribution of resources influences competitive dynamics
5. Understand how chance influences competitive dynamics

“Survival of the fittest” is a core principle of modern biology. Resources are limited. Individuals compete for those limited resources. In nature – the ones that can’t compete die. Between species, competition works the same way. Species that compete better, grow faster and are able to get more resources. This principle is the baseline of ecological thought. We assume that species competition underlies all ecological communities. The theory of competition in Ecology comes entirely from models that were meant to describe humans. The first models of competition were developed by philosophers and economists who were trying to understand human population growth. They described competition among individuals for limiting resources as the predominant limiting factor for populations.

Today, you are going to examine how competition between individuals structures societies as a group. We will discuss this case-study and extend it further to modern social and ecological systems in class on Friday.

**STEP 1: Getting to know the game**

1. Go to [www.colonist.io](http://www.colonist.io)
2. Create a room

Graphical user interface

Description automatically generated

1. Invite your group mates to join you, set the game up so that it is private and hop onto the video chat platform of your choice

Graphical user interface

Description automatically generated

1. Set up a tutorial game and play through it as a group
2. Once you’ve played through the tutorial. Set up a private game.
3. Take a screenshot of your starting map and use it to fill out the table below

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Resource** | **Space 1 Value** | **Space 2 Value** | **Space 3 Value** | **Space 4 Value** |
| Wood | 4 | 6 | 2 | 4 |
| Brick | 5 | 8 | 11 |  |
| Wheat | 3 | 9 | 6 | 5 |
| Ore | 10 | 12 | 8 |  |
| Sheep | 11 | 9 | 10 | 3 |

Would you say that the resources are evenly distributed across the game board? Are there resource hotspots?

1. After you roll the dice for your turn, fill in the table below. In each column you should note the number of the resources you have (you may need to add rows to the table).

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Round** | **Wood** | **Brick** | **Wheat** | **Ore** | **Sheep** |
| 1 | 1 | 2 | 2 | 0 | 1 |
| 2 | 0 | 0 | 0 | 0 | 0 |
| 3 | 0 | 0 | 3 | 0 | 1 |
| 4 | 0 | 1 | 1 | 0 | 1 |
| 5 | 0 | 1 | 1 | 0 | 1 |
| 6 | 1 | 0 | 0 | 0 | 0 |
| 7 | 1 | 0 | 0 | 0 | 0 |
| 8 | 1 | 0 | 0 | 0 | 0 |
| 9 | 4 | 0 | 0 | 0 | 0 |
| 10 | 4 | 2 | 1 | 0 | 1 |
| 11 | 4 | 0 | 2 | 0 | 1 |
| 12 | 4 | 1 | 3 | 0 | 1 |
| 13 | 0 | 0 | 2 | 0 | 2 |
| 14 | 0 | 1 | 0 | 0 | 2 |
| 15 | 0 | 1 | 2 | 0 | 2 |
| 16 | 3 | 1 | 2 | 0 | 2 |
| 17 | 2 | 0 | 1 | 0 | 1 |
| 18 |  |  |  |  |  |
| 19 |  |  |  |  |  |
| 20 |  |  |  |  |  |
| **TOTAL** |  |  |  |  |  |

1. At the end of the game answer the following questions
2. Who in the group do you perceive to be the strongest competitor?
3. Why? Do they have the most total resources? Did they specialize on a single resource?
4. What role does luck play in the game?
5. What role does the starting distribution of the resources play in the game?
6. Why do you think that the winner won?
7. How did competition play out in this game? Did all players compete with other equally or were their biases in who competed with who?

STEP 2: Making competition stronger

Now – you are going to repeat the game but this time – you cannot trade with your fellow players.

Fill in the following tables again -

*At the beginning -*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Resource** | **Space 1 Value** | **Space 2 Value** | **Space 3 Value** | **Space 4 Value** |
| Wood |  |  |  |  |
| Brick |  |  |  |  |
| Wheat |  |  |  |  |
| Ore |  |  |  |  |
| Sheep |  |  |  |  |

Would you say that the resources are evenly distributed across the game board? Are there resource hotspots?

*Throughout the game -*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Round** | **Wood** | **Brick** | **Wheat** | **Ore** | **Sheep** |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
| **TOTAL** |  |  |  |  |  |

At the end of the game answer the following questions

1. Who in the group do you perceive to be the strongest competitor?
2. Why? Do they have the most total resources? Did they specialize on a single resource?
3. What role does luck play in the game?
4. What role does the starting distribution of the resources play in the game?
5. Why do you think that the winner won?
6. How did refusing to trade change the game?
7. How did competition play out in this game? Did all players compete with other equally or were their biases in who competed with who?