Prisoners and Spatial Structure

@NikoletaGlyn

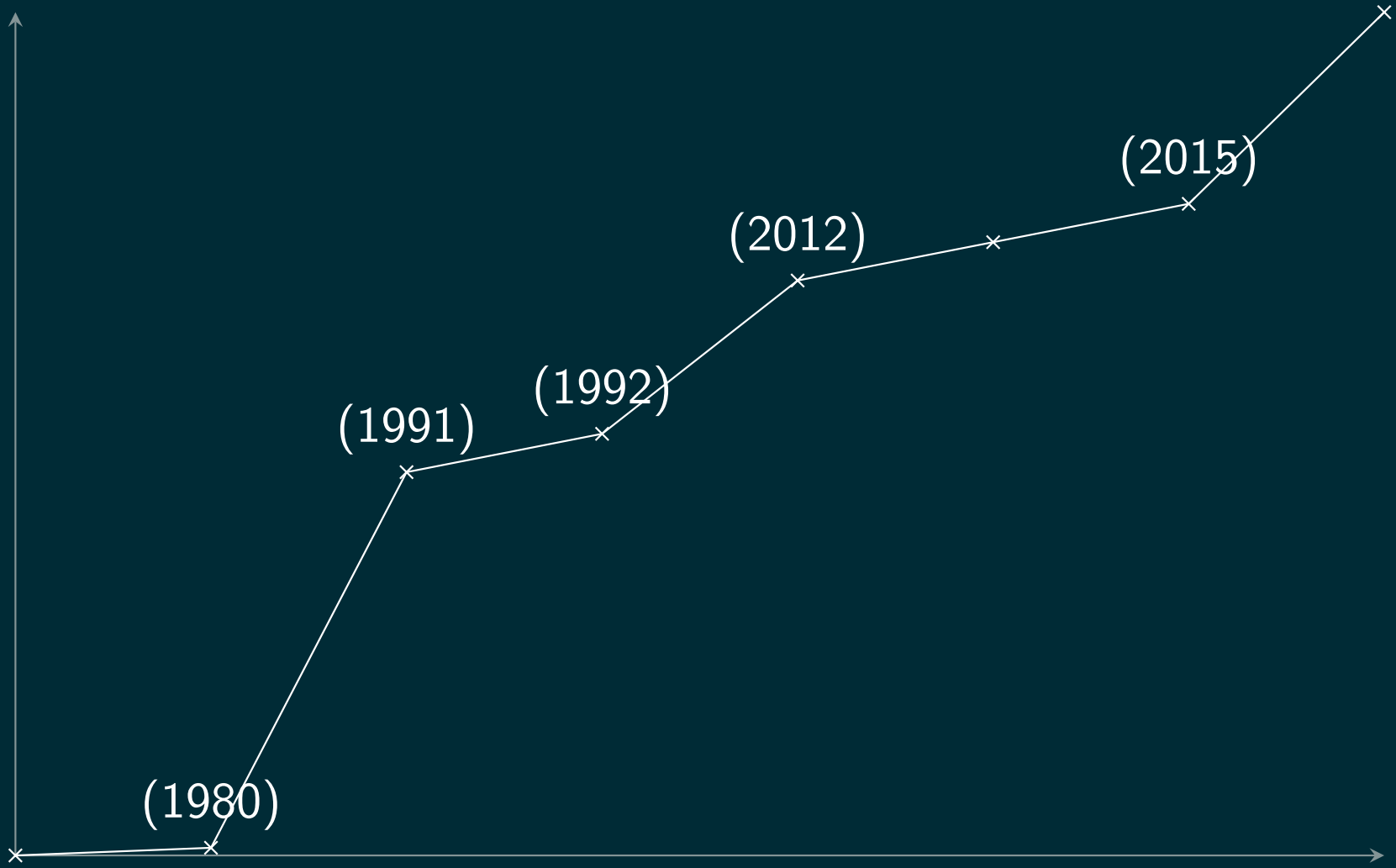
Prisoners and Spatial Structure

$$\begin{bmatrix} (3,3) & (0,5) \\ (5,0) & (1,1) \end{bmatrix}$$

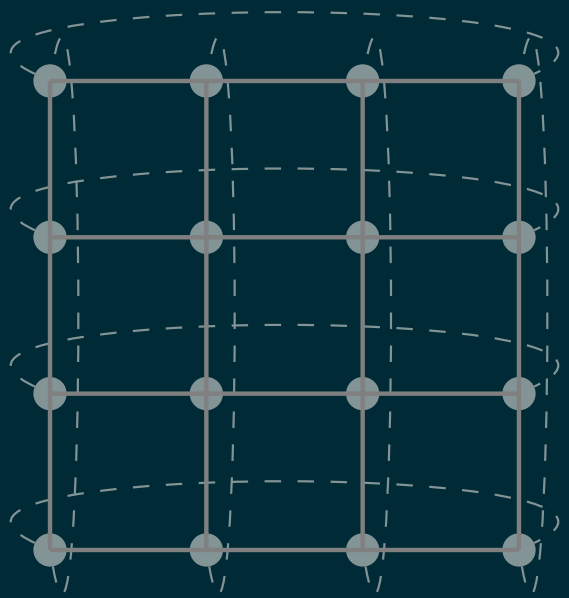
Strategy

```
class Grumpy(Player):
    """
    A player that gets grumpier the more the opposition defects,
    and nicer the more they cooperate. Starts off Nice, but becomes
    grumpy once the grumpiness threshold is hit. Won't become nice
    once that grumpy threshold is hit, but must reach a much
    lower threshold before it becomes nice again.
    """

    self.grumpiness = opponent.defections - opponent.cooperations

    if self.state == 'Nice':
        if self.grumpiness > self.grumpy_threshold:
            self.state = 'Grumpy'
            return D
        return C

    if self.state == 'Grumpy':
        if self.grumpiness < self.nice_threshold:
            self.state = 'Nice'
            return C
         return D
```

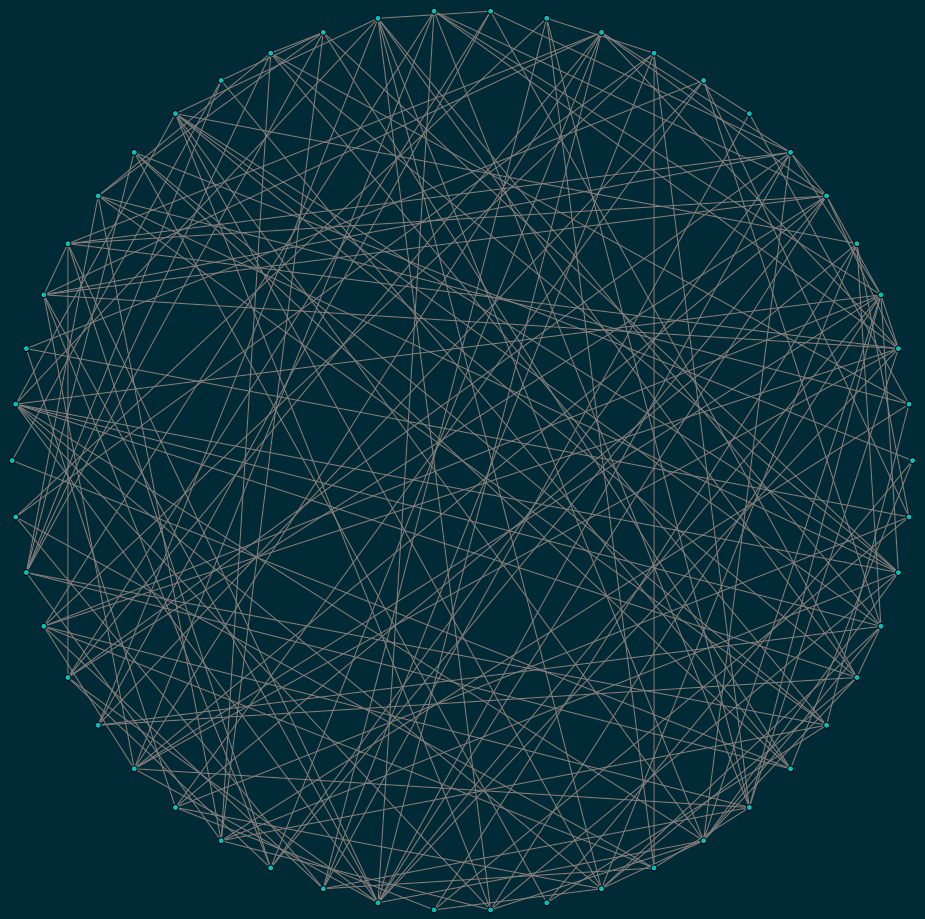
History Line



Nowak and May, 1992



What do real life interactions look like?



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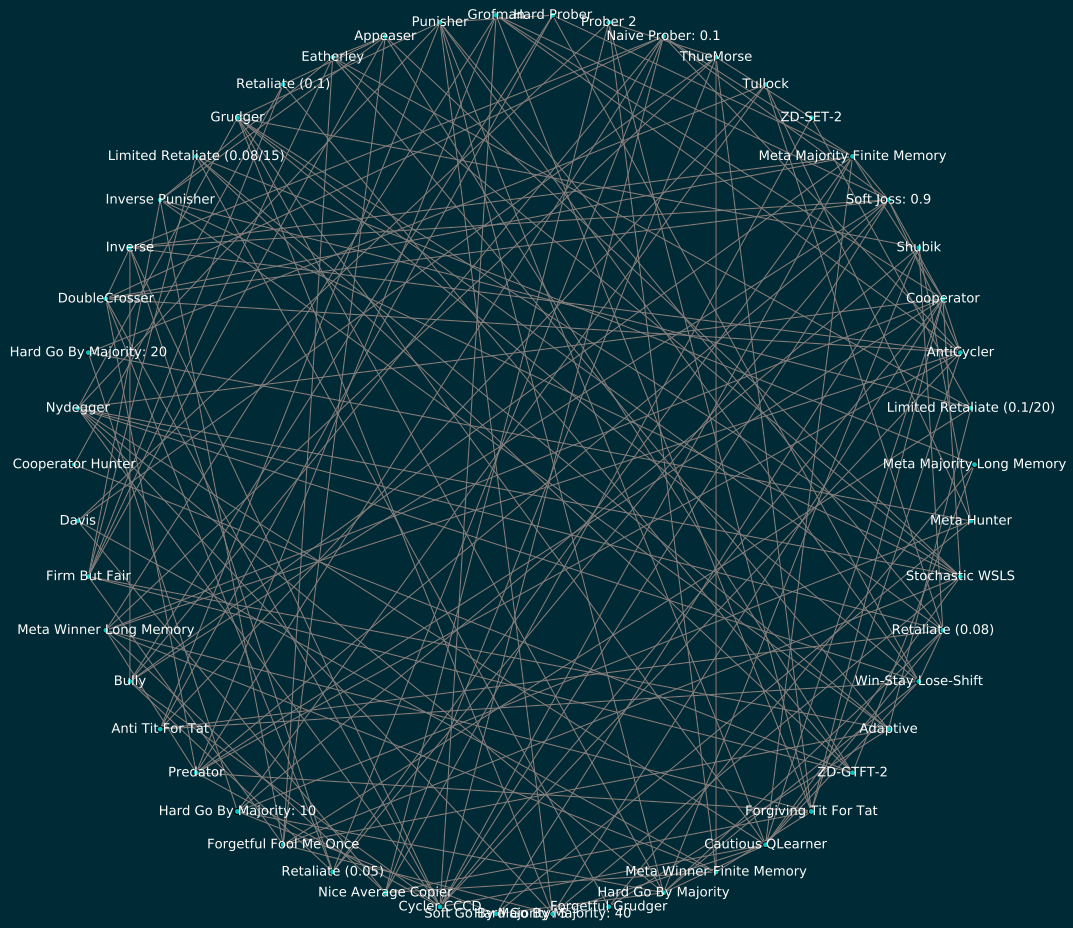
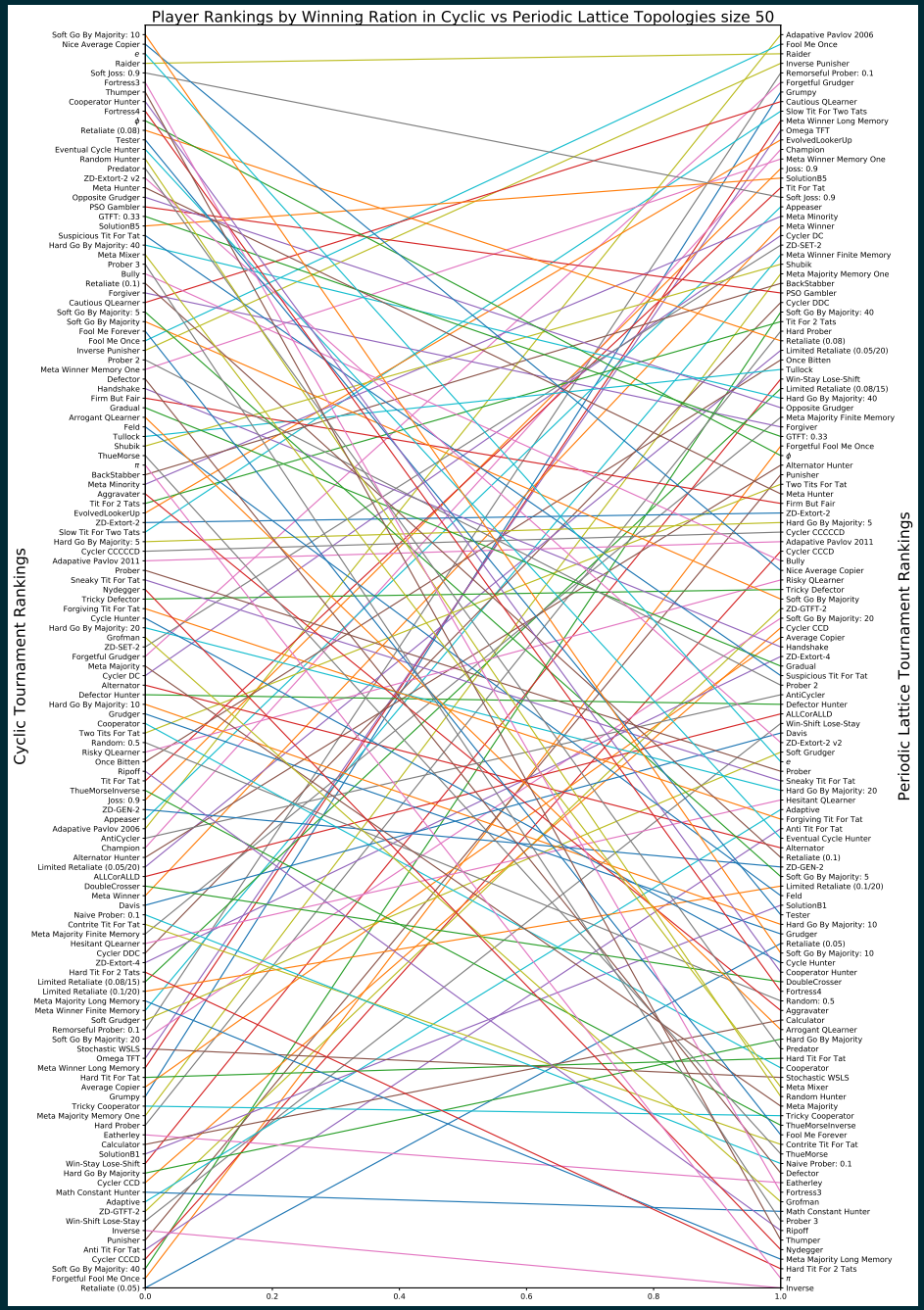


Measurements



@NikoletaGlyn
https://github.com/Nikoleta-v3
https://github.com/Axelrod-Python/Axelrod