Disobedience as a Mechanism of Change

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Introduction

Disobedience in Society

- **Disobedience** has been used historically as a form of resistance and call for change in unfair regimes.
- Among the factors that motivate widespread disobedience are:
  - **The iron law of oligarchy** - The tendency of rulers to change norms to their own benefit.
  - **Principled violation of policy** - Selective common-sense non-application of a sanction.

Disobedience as learning mechanism

- Can these notions be applied to **norm-governed MAS**?
- Can disobedience be a form of **social learning**, enabling the construction of adaptive systems?
- How can those concepts enable **rule- or ruler-change** of corruptive systems?

Base Premises and Operationalisation

Premises

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  - **P2** - Compliance is an individual decision
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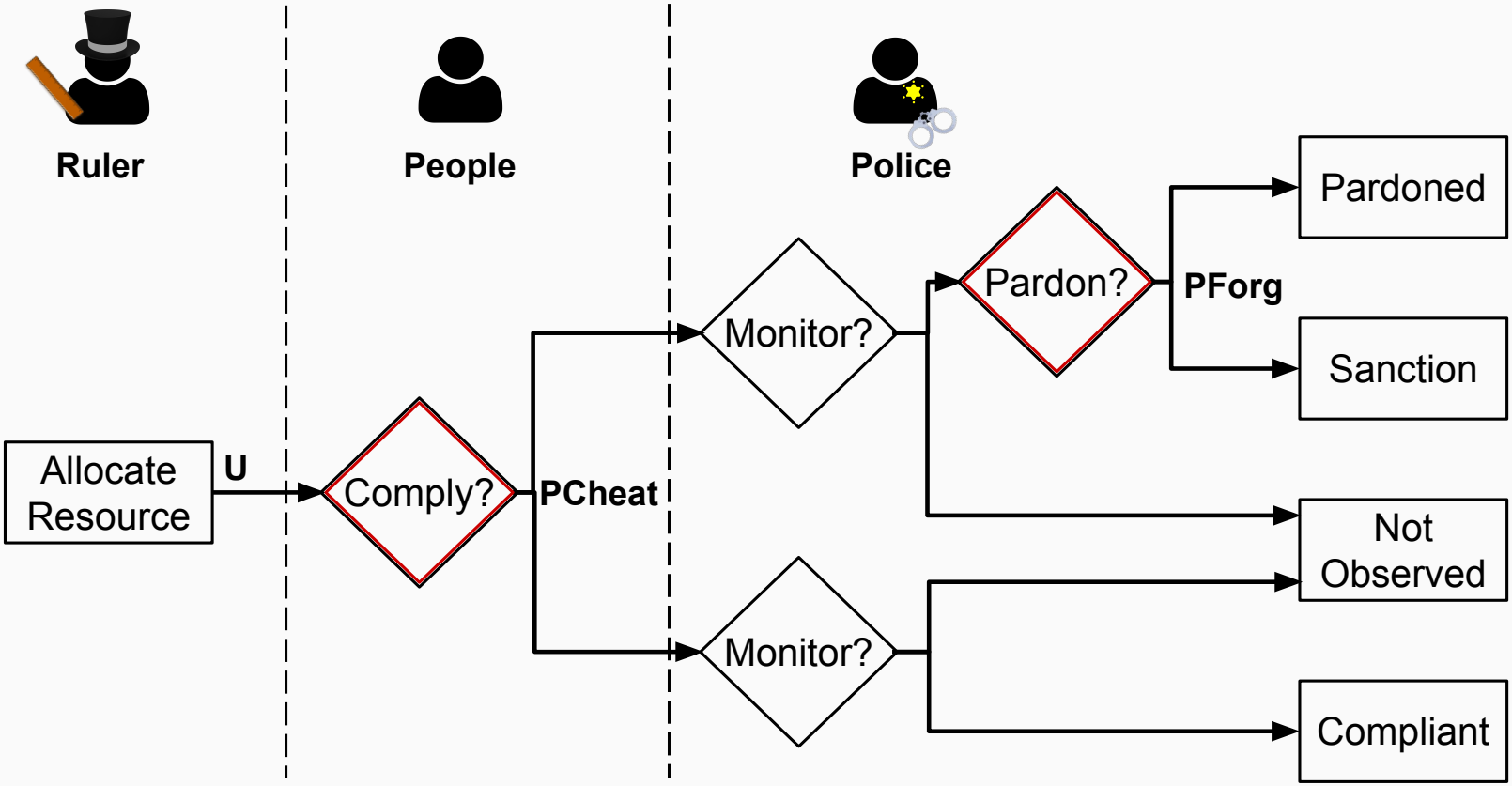
- Transformation Premises
  - P6 - Prescribed ruler destitution

Players and its roles

- **Rulers** - Resource Allocation Policy
- **Police** - Check if appppropriation = allocation
- **People** - Appropration of resource

Disobedience levels



Learning variables

Rulers

$\mathbf{U}$ - Corruption of allocation policy

$$U = f(t)$$

Police

$\mathbf{P_{forg}}$ - Probability of sanctioning pardon as function of perceived fairness

$$P_{forg} = f(fairness)$$

$$fairness \sim Gini(Satisf)$$

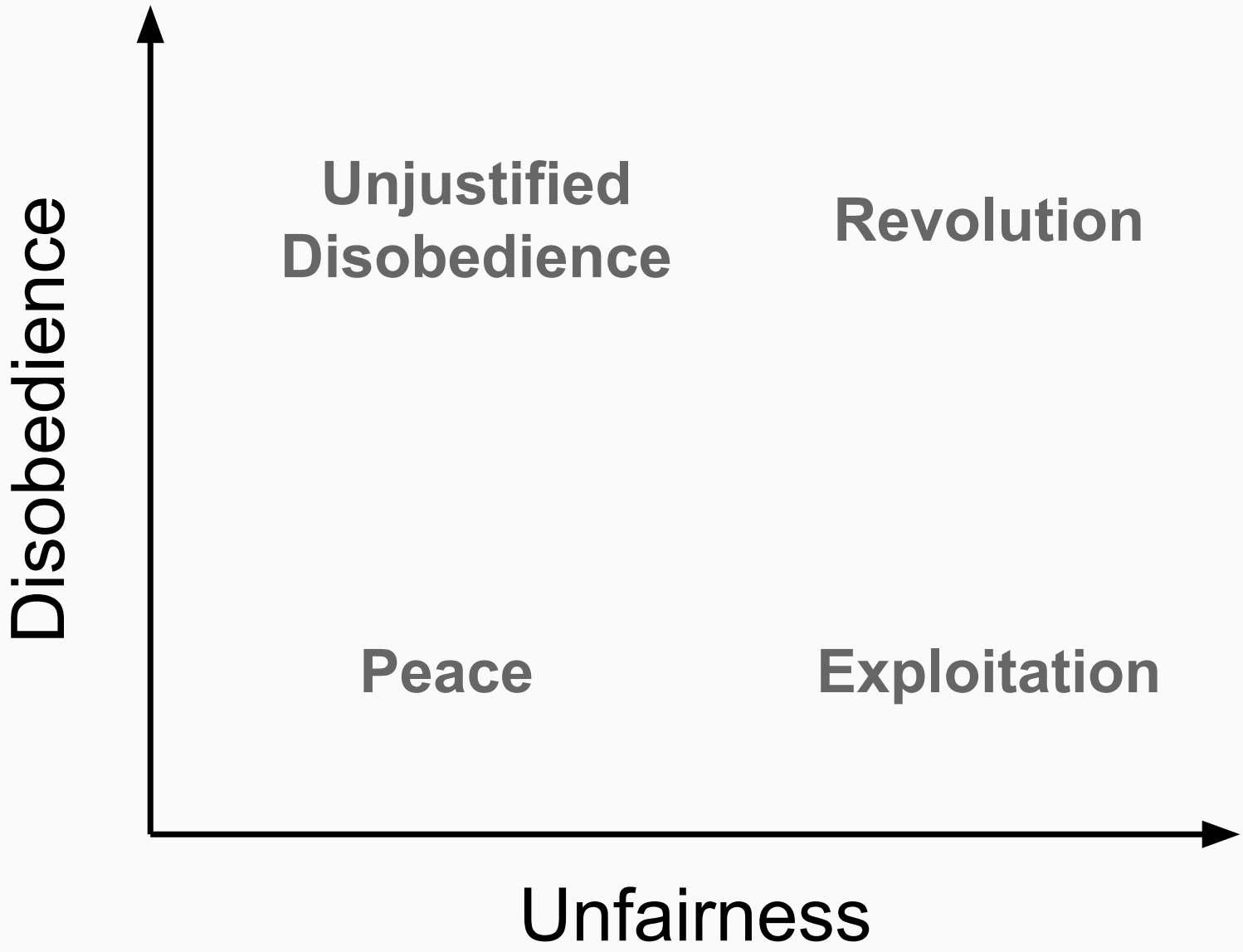
People

$\mathbf{P_{Cheat}}$ - Decision of compliance as reaction of system's feedback

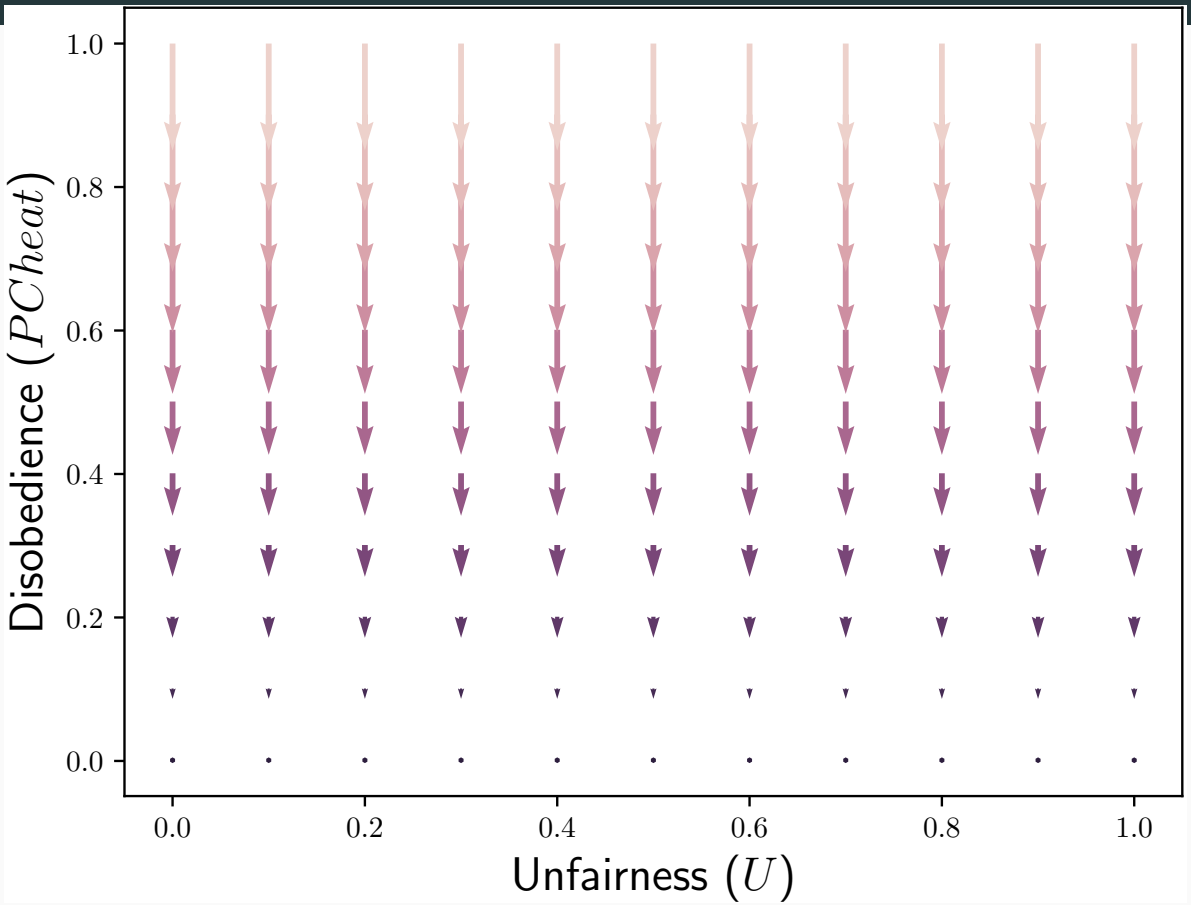
$$P_{Cheat} = f(fairness_i)$$

Experimanetal Results

Exploratory Space



Base Game



Without pardoning or reformation, People stay at the mercy of rulers, not having another rational choice than obeying, no matter how unfair is the current policy.

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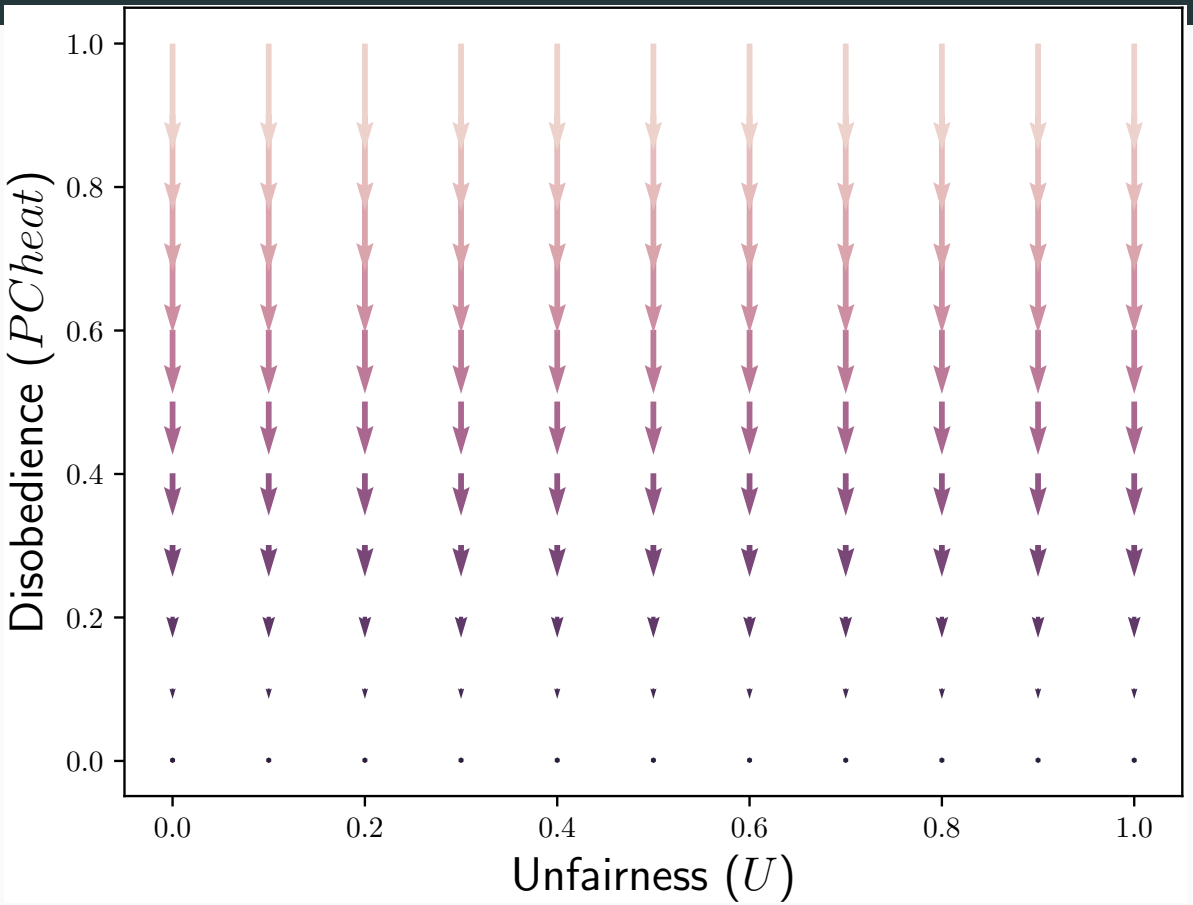

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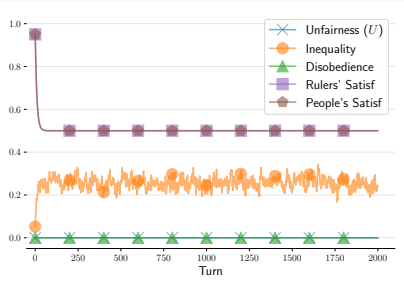
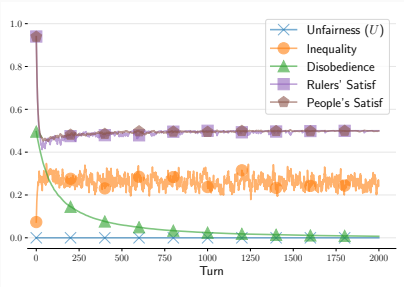
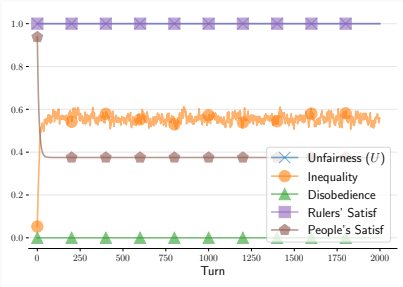
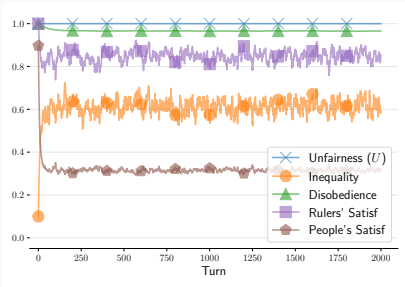
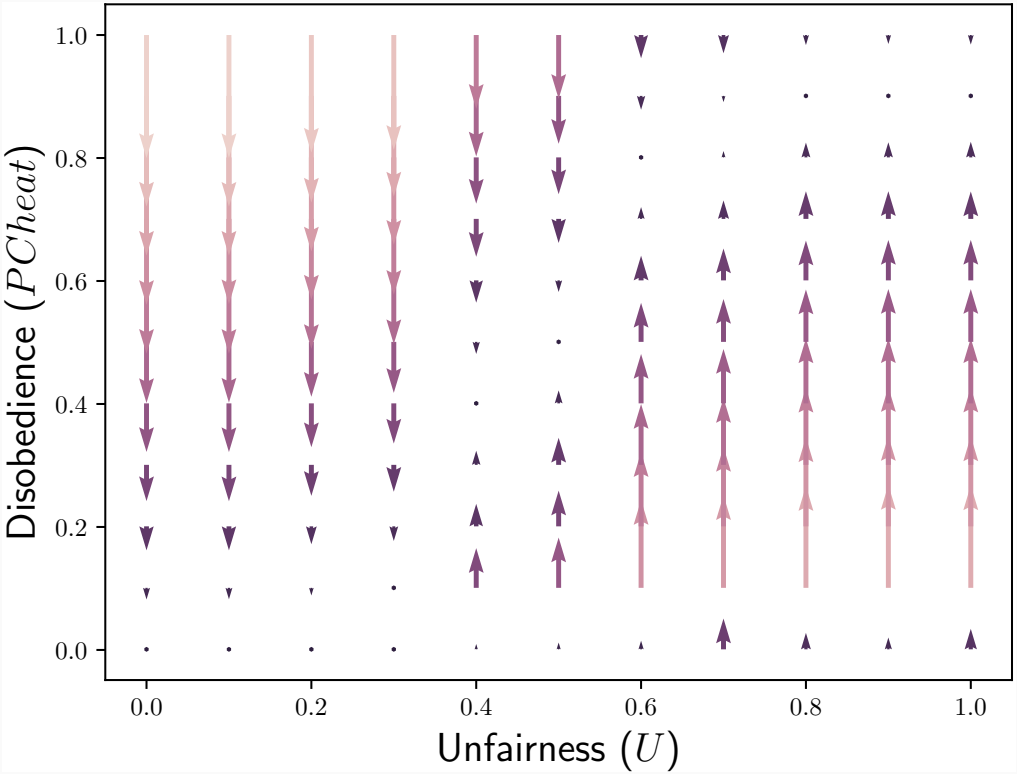








First Extension - Pardoning



- Obedience is now conditioned to unfairness level: if fair, agents obey; if unfair, tendency to non-compliance
- Differentiation between justified and unjustified disobedience: given unfair allocation policy, Police validate norms disobedience, pardoning transgressions

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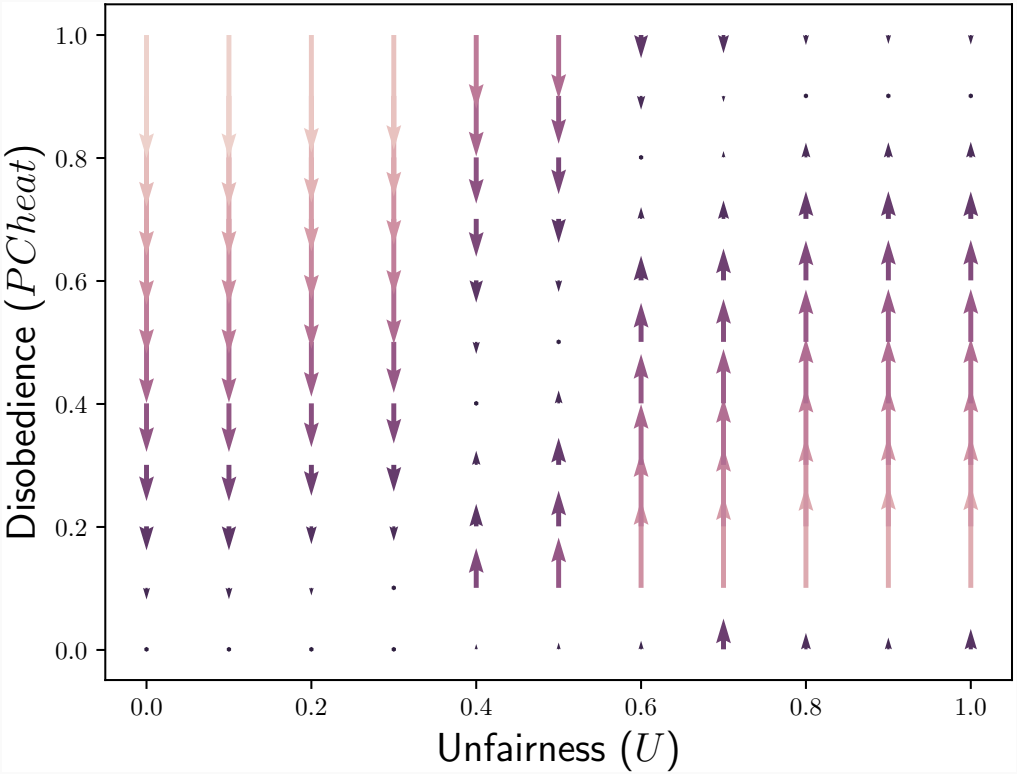


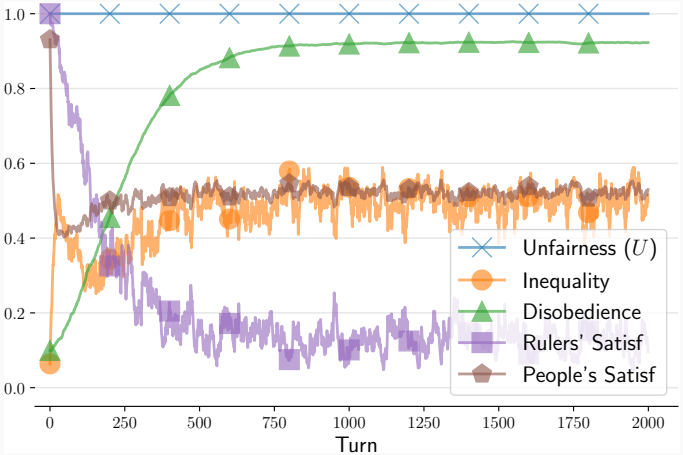
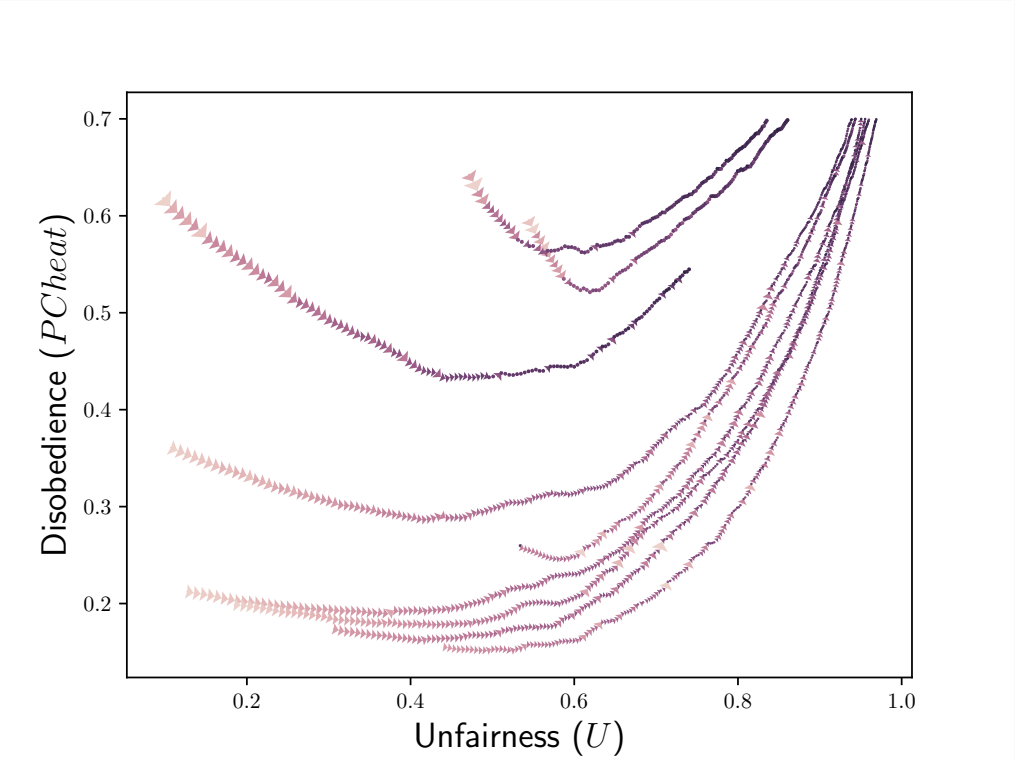


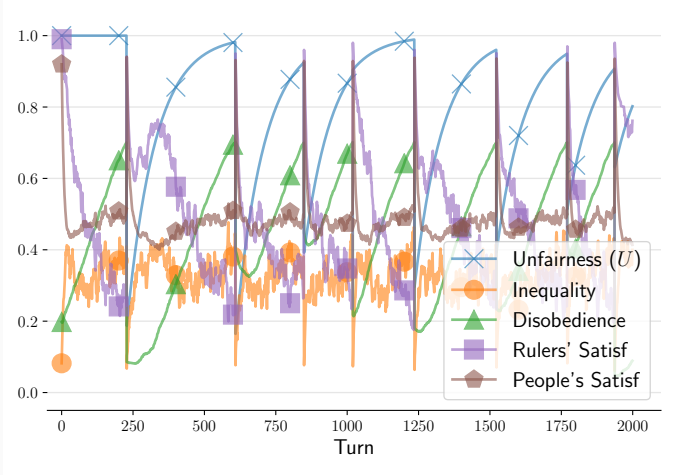
Figure 2: Revolution

Second Extension - Reformation

- Lost of governability implies in **ruler change**
- If $\overline{\text{NCompliant}} \geq \mathcal{T} \rightarrow$ Reformation
- Set of non Rulers become the new Rulers, individual satisfaction is randomly restarted

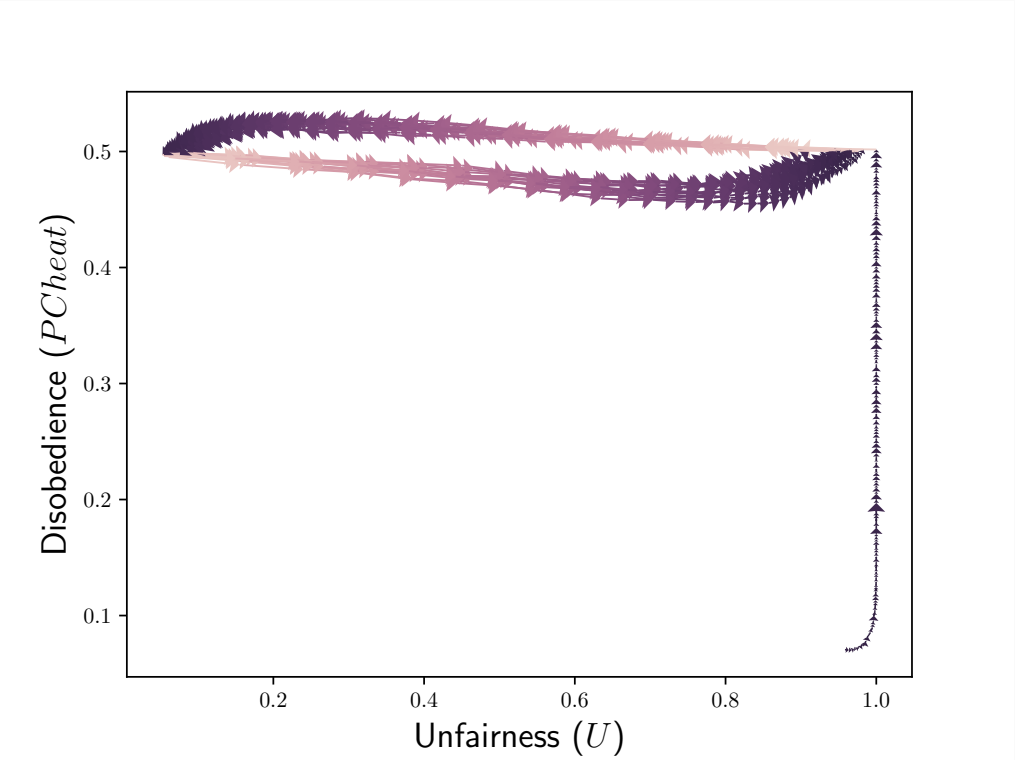
Equilibrium 1 - Reformation cycles

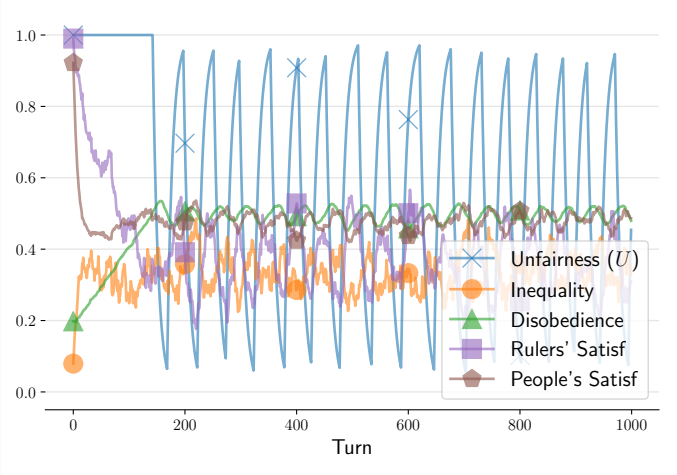




- Perpetual cycle of power change
- Alternation of power and higher overall satisfaction.
- Points out the need for post-revolution reconstruction.

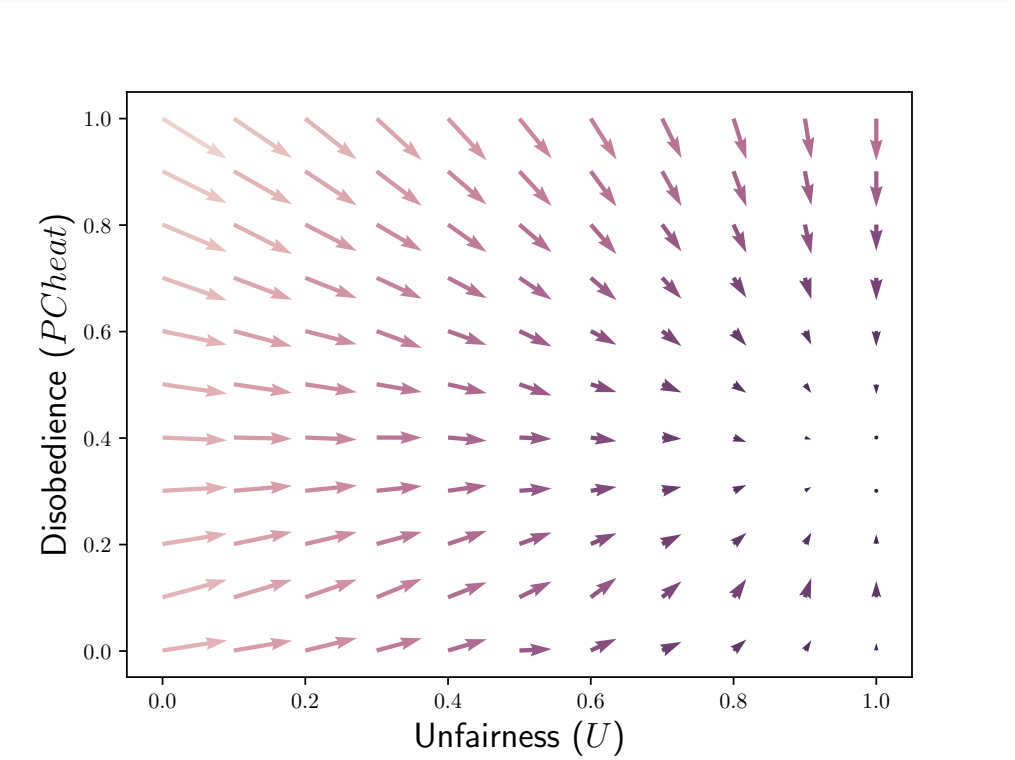
Equilibrium 2 - Popular control

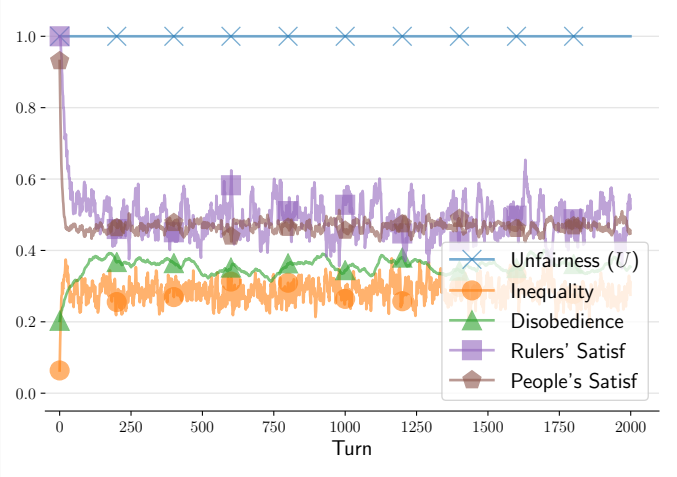




Knowing the Reformation Threshold $\mathcal{T}$, unfairness is manipulated so Rulers can please People with just the amount of resource needed so they disobedience remains in controlled levels.

Equilibrium 3 - Pragmatic revolution





People disobey just enough to guarantee that satisfaction (and resource) is the same for all agents.

Conclusion

Final Remarks

- Disobedience as tool for adaptive learning in norm-governed MAS
  - Standard norm-governed systems guarantees agents' **obedience**, but not **governance fairness**, allowing exploitation and oppresion of agents
  - The introduction of **pardoning mechanisms** changes the system's dynamic equilibrium by justfifying **disobedience** as a revolutionary behaviour for justice restoration
  - The introduction of formal **reformation mechanisms** changes the equilibrium once more, giving supplemenatary power to non-Rulers and enabling **cycles of change**
- Open questions / Future work:
  - Could have we defined subjective terms such as *fairness*, *obedience*, *unjustified*, *revolution* in different ways?
  - What would happen if agents had limited or subjective knowledge of events happening in the network? How interpersonal factors such as *social influence*, *trust* and *misinformation* would affect the system?
  - How to escape from simple system reformation and move towards post-revolution reconstruction?

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Thank you!