

# Robustness of ethnocentrism to changes in inter-personal interactions

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University of Waterloo

November 12<sup>th</sup>, 2010

(formerly: McGill University)



McGill



**NSERC**  
**CRSNG**

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  - Human placenta, ants, microbes (Biology: known as Green-beard effect)
- Ethnocentrism may have a basis in evolution

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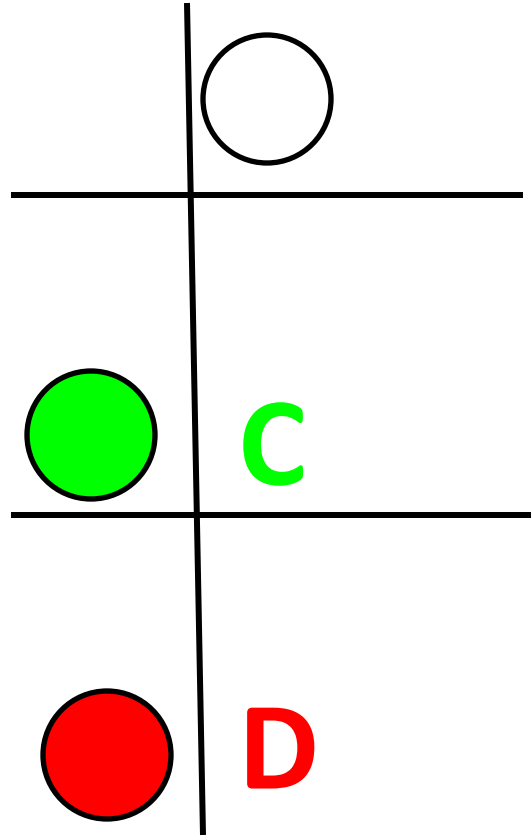
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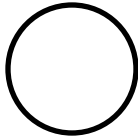
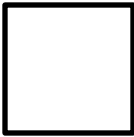
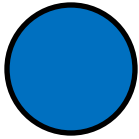
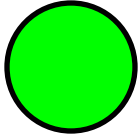
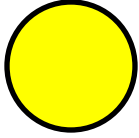
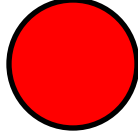
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# Strategy Space



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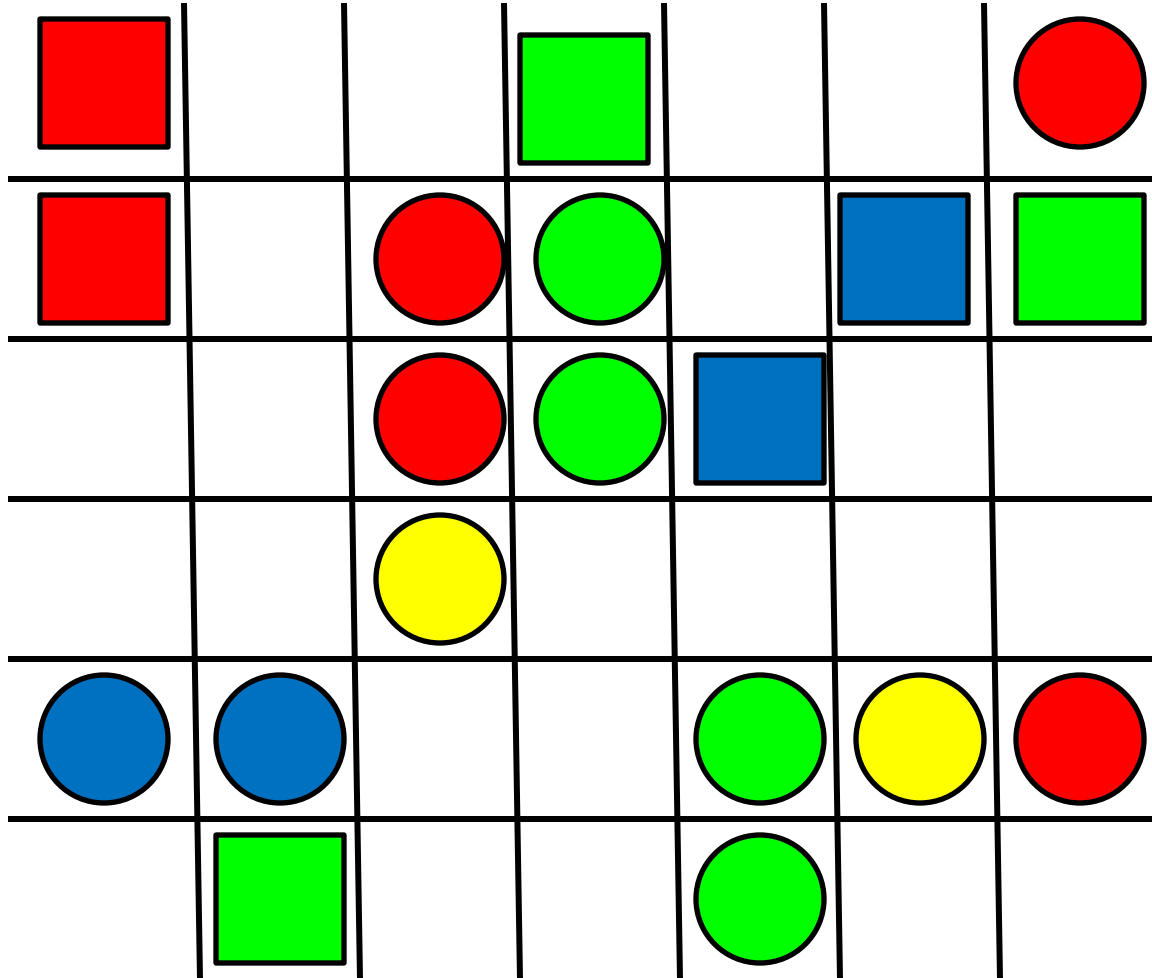
		
	C	C
	C	D
	D	C
	D	D

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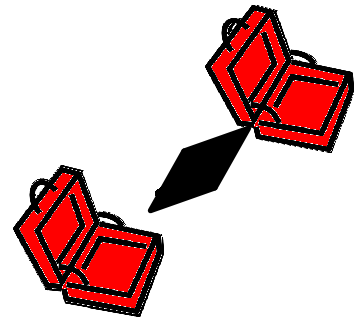
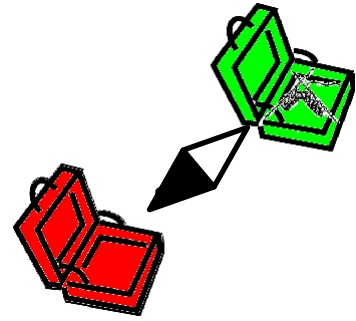
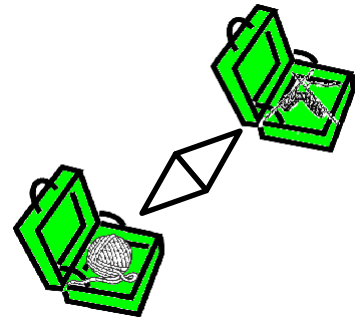
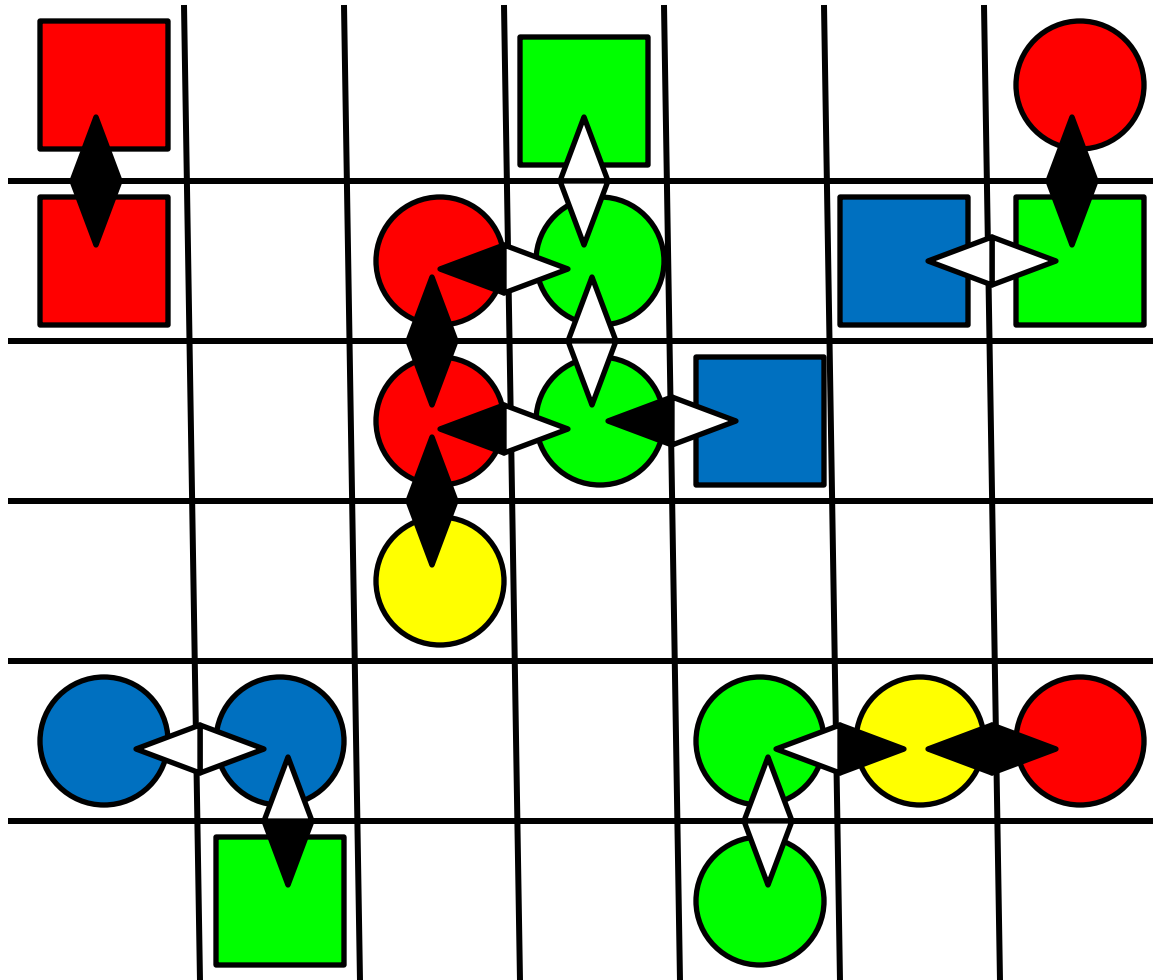
	○	□
●	C	C
●	C	D ← Ethnocentrism
●	D	C
●	D	D



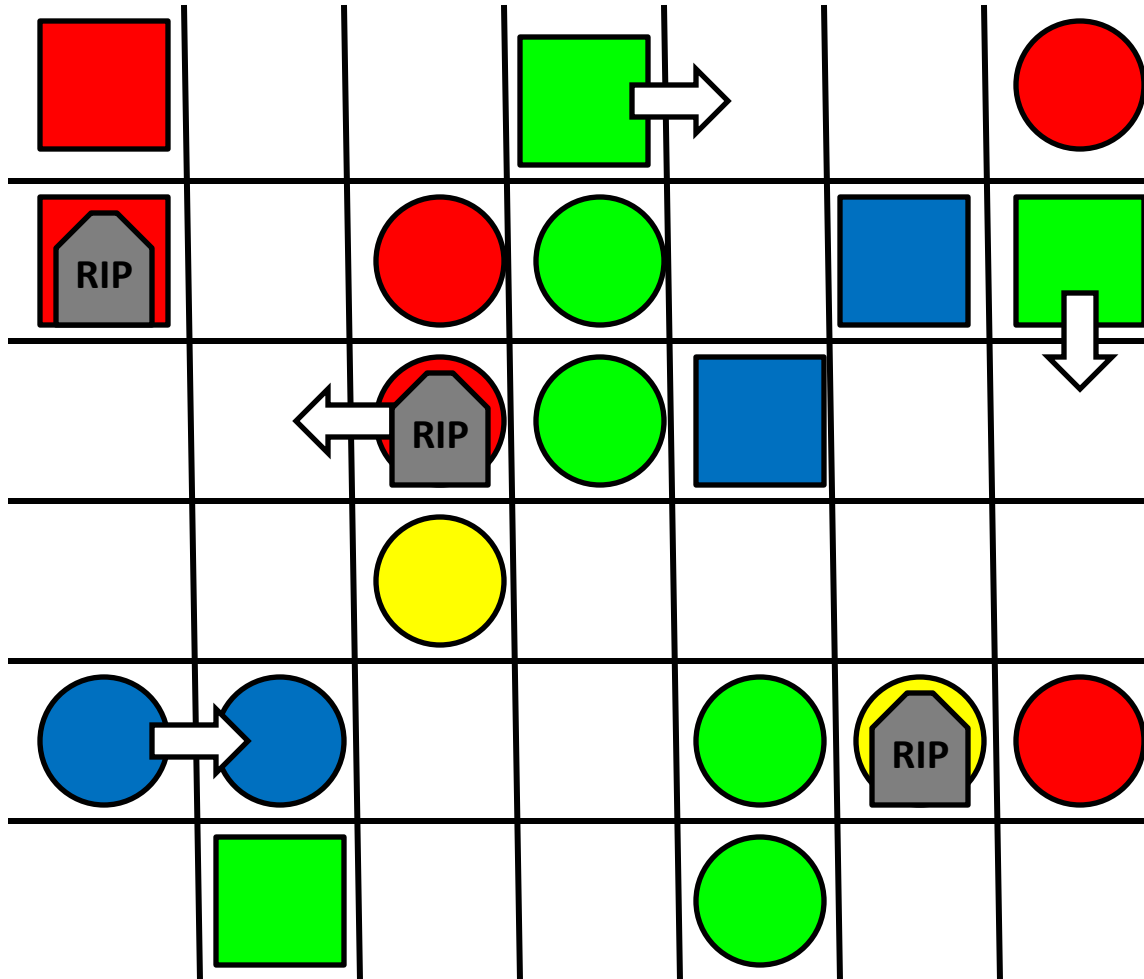
# Spatial Model



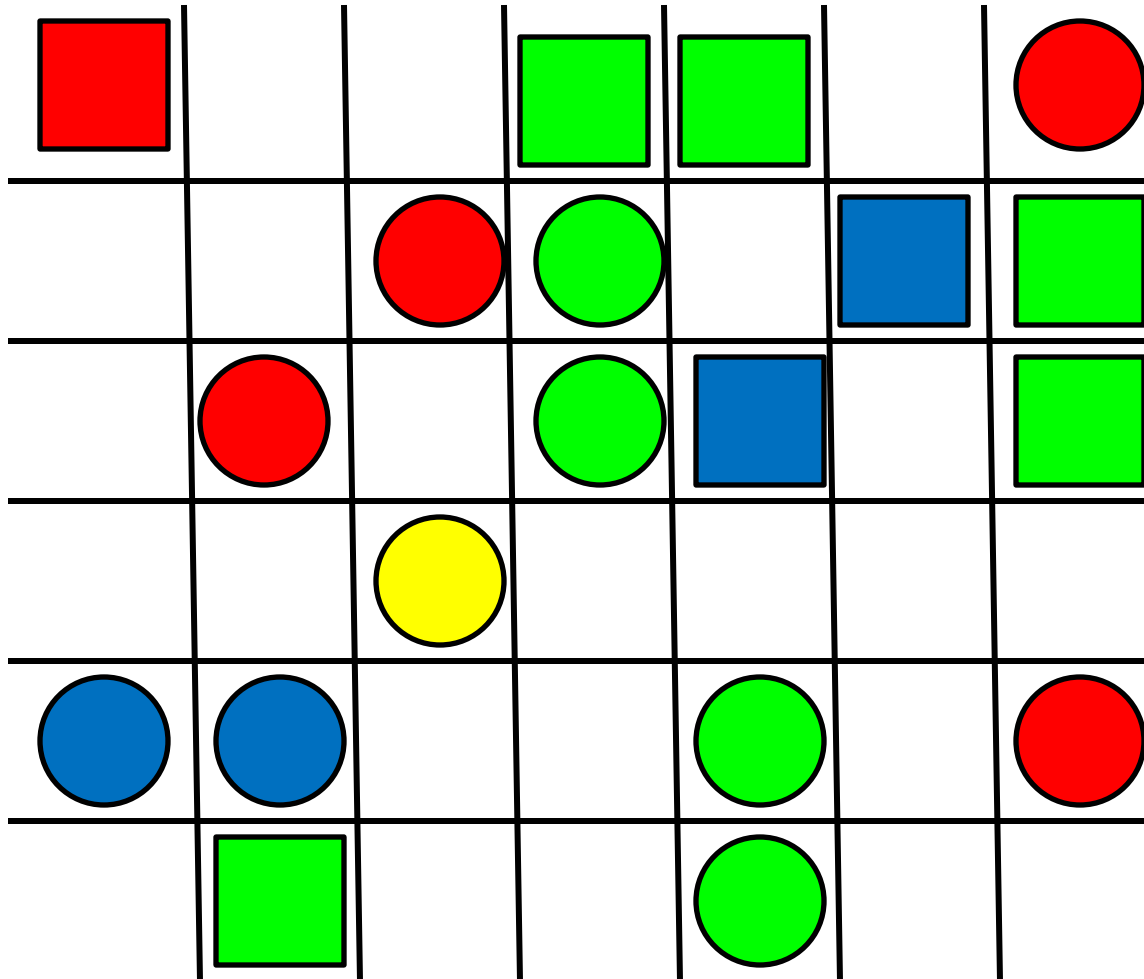
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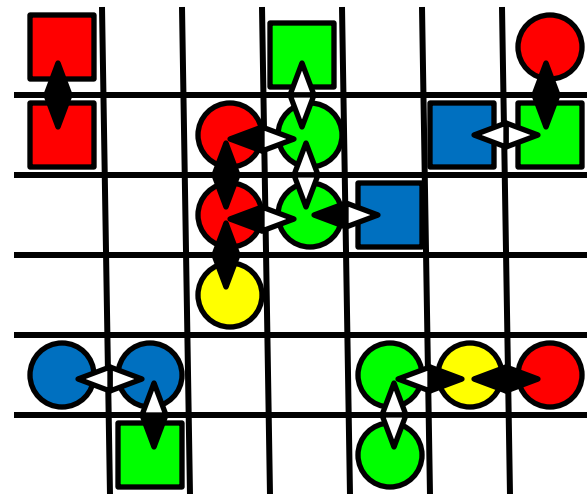
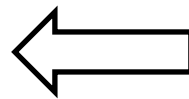
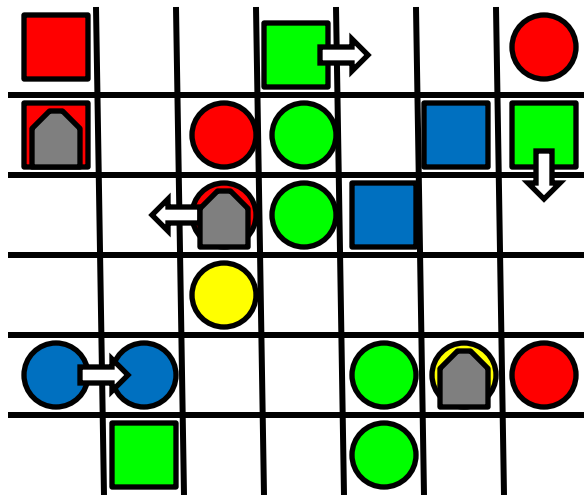
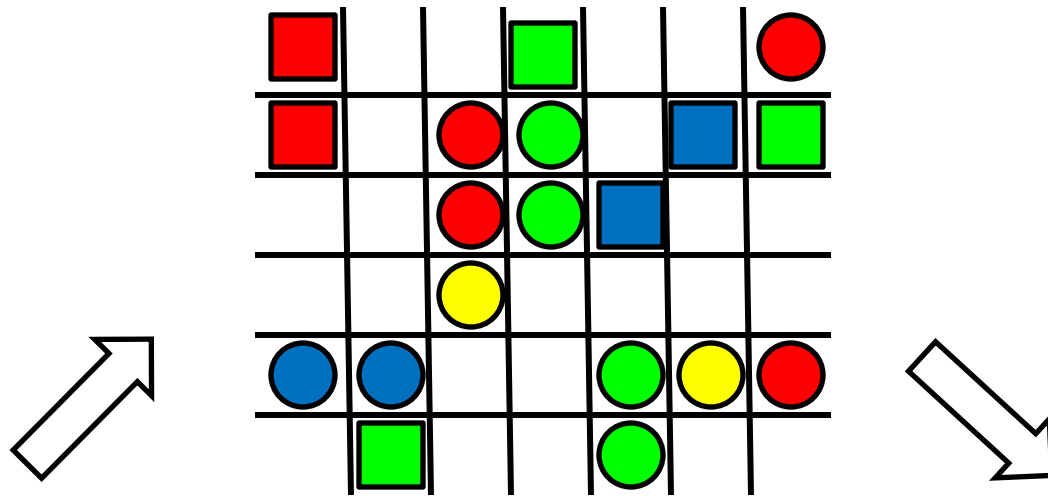
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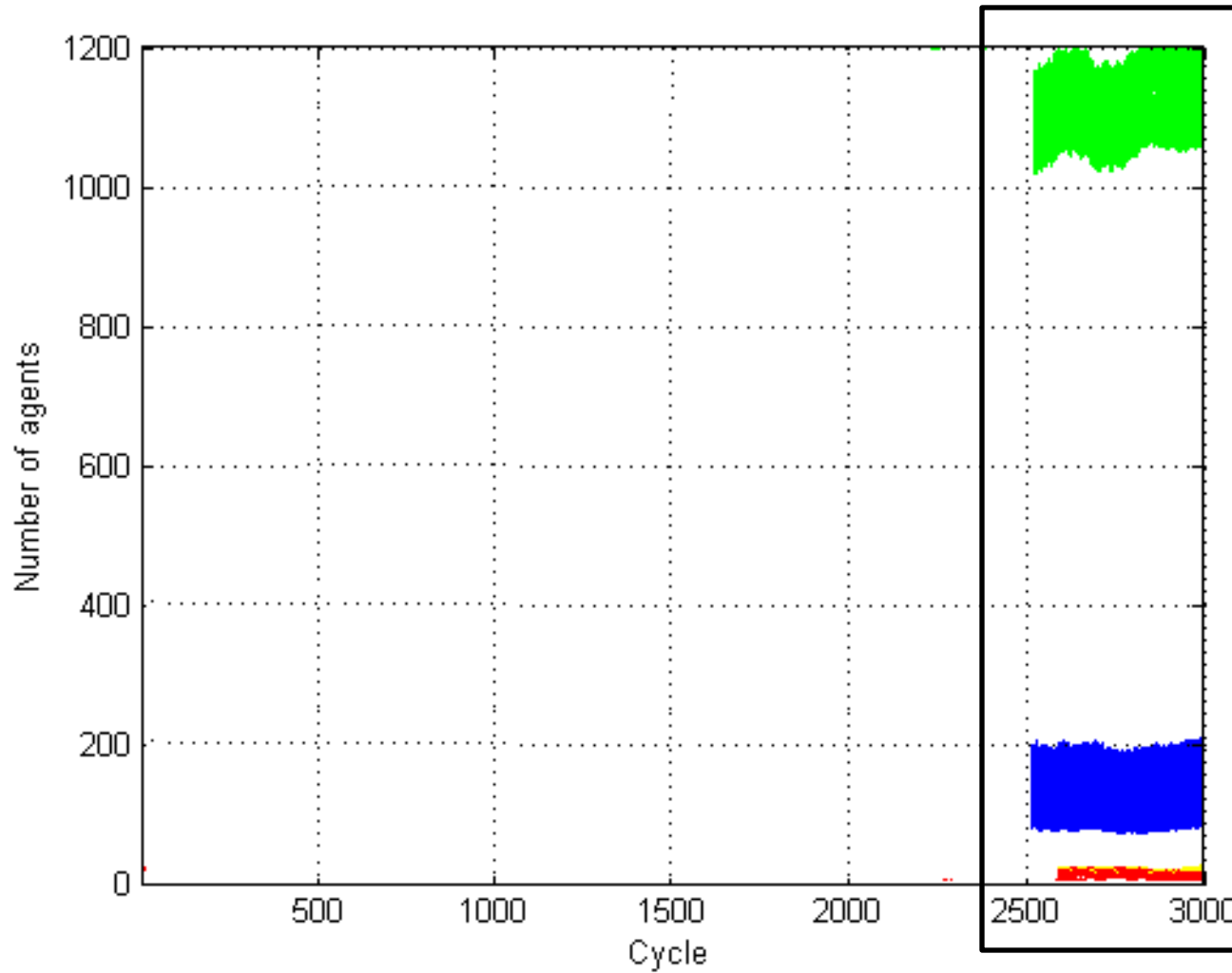
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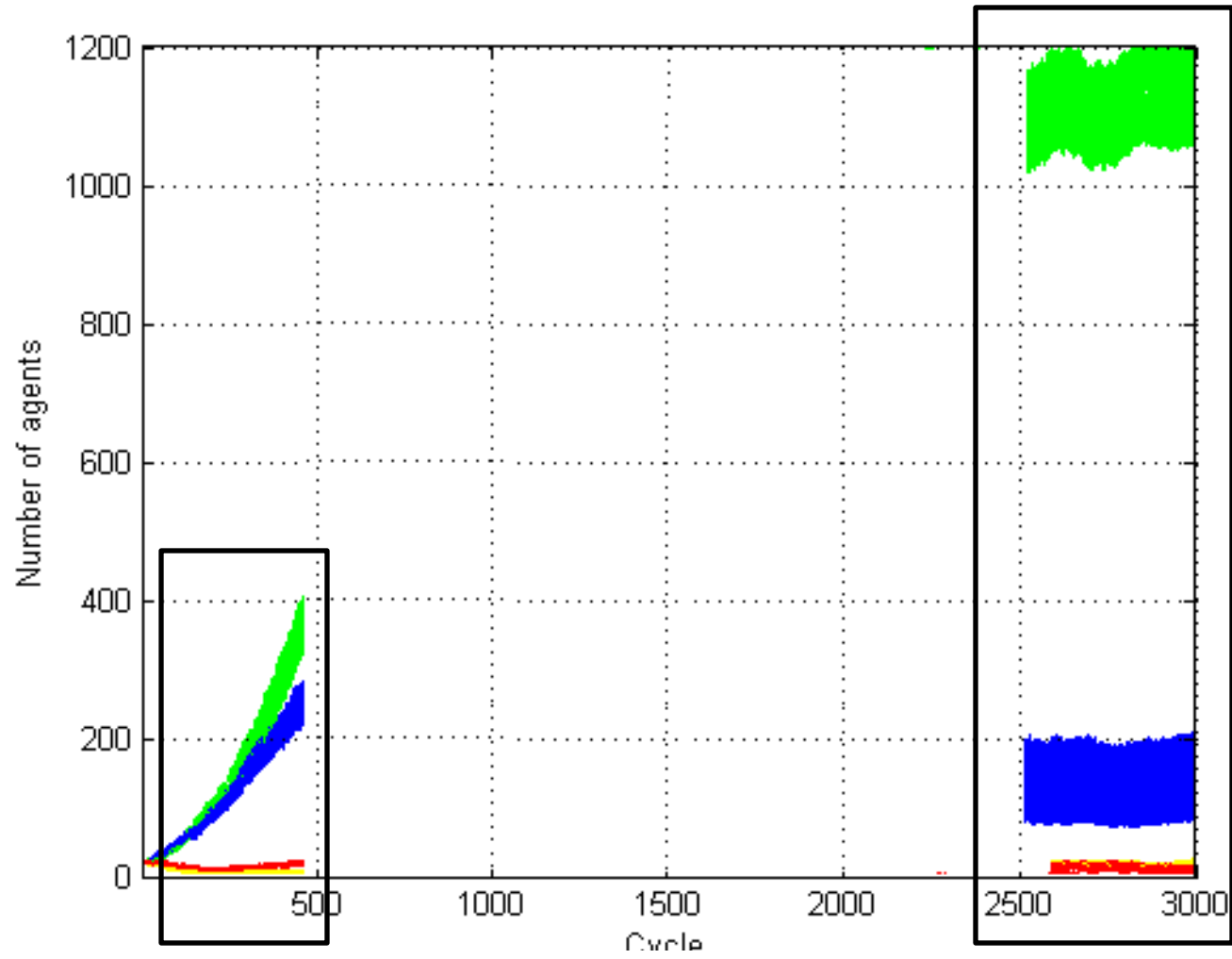
# Previous Results: PD



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**b = 0.025**  
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Hammond & Axelrod (2006)  
*Journal of Conflict Resolution*

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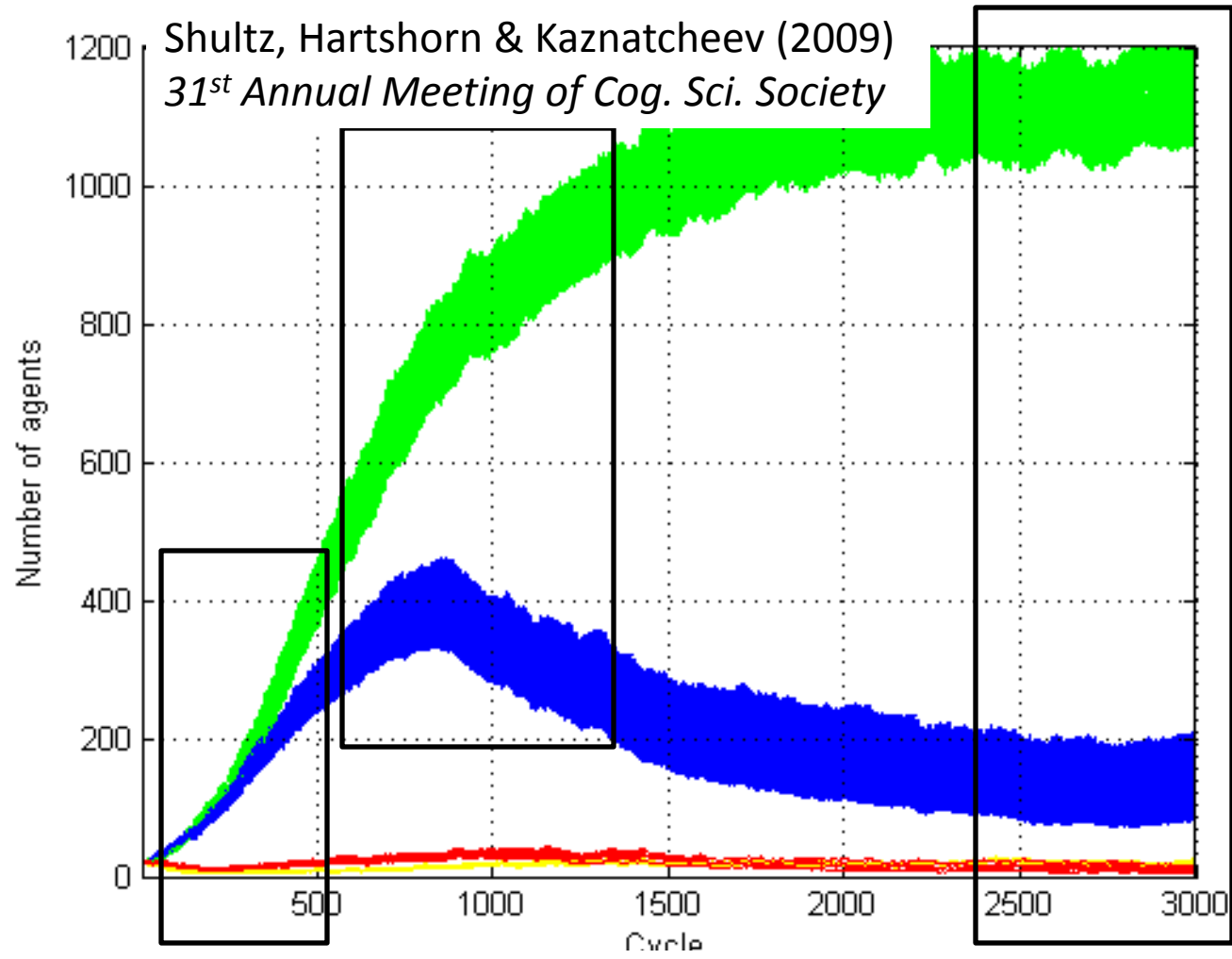


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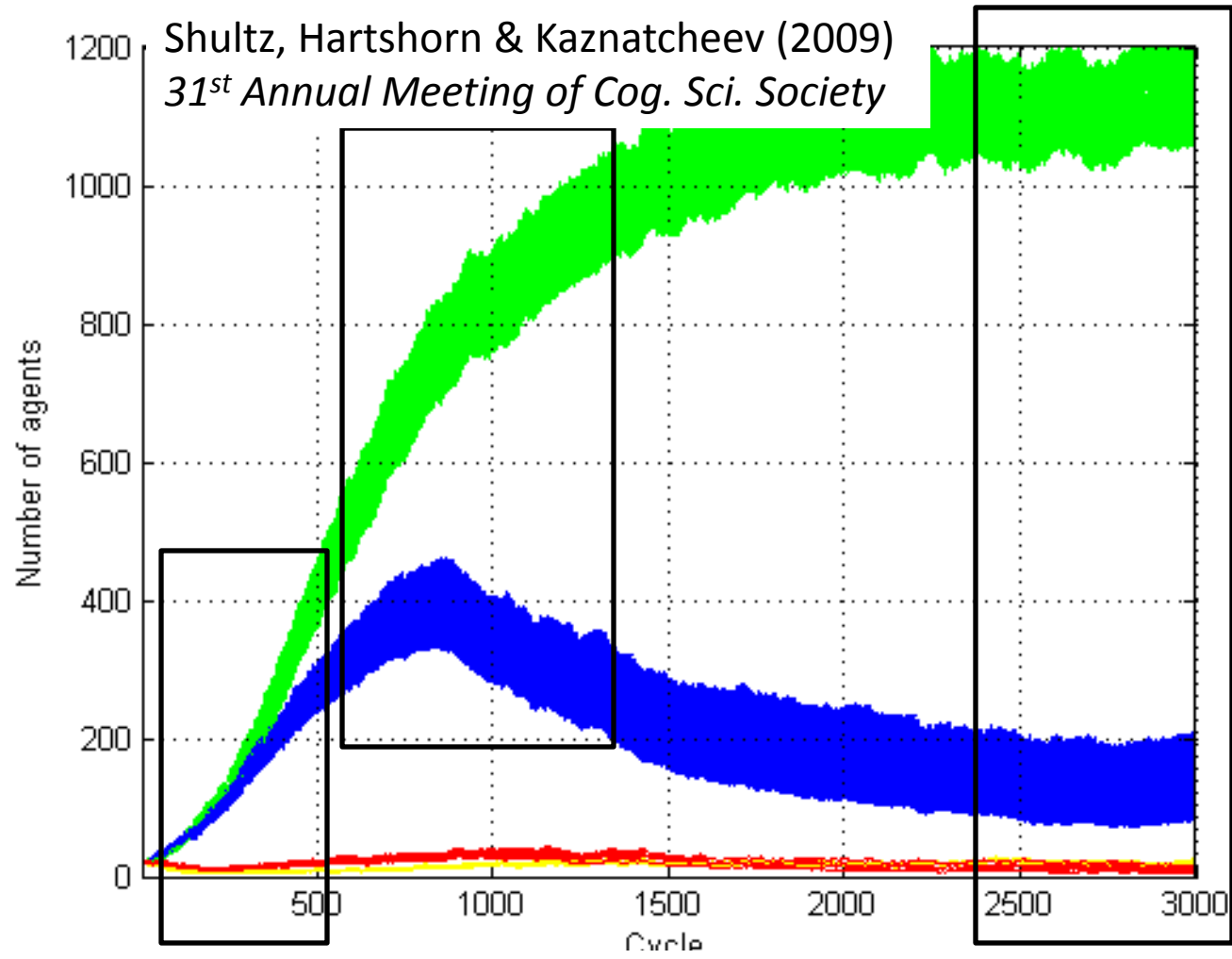
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- Important to study all cooperate-defect games!

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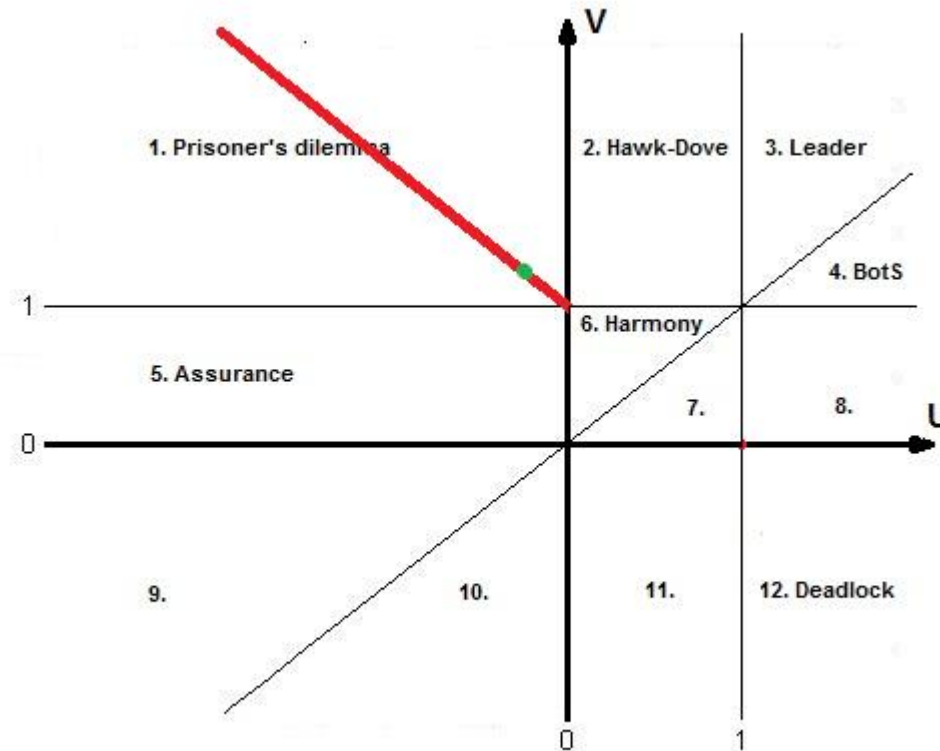
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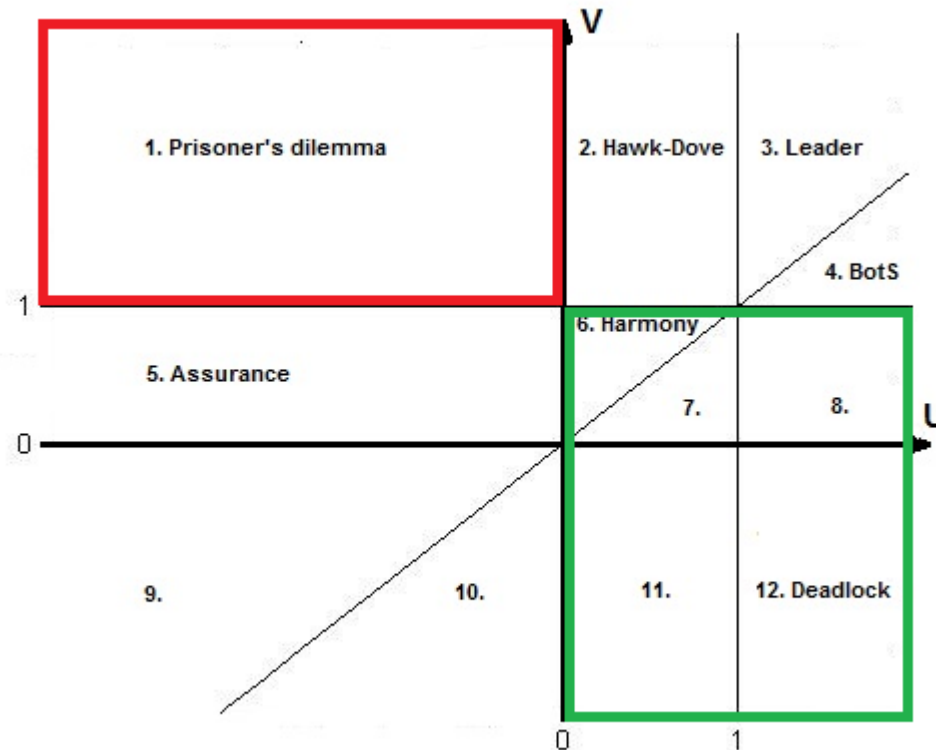
$$\begin{bmatrix} 1 & U \\ V & 0 \end{bmatrix}$$

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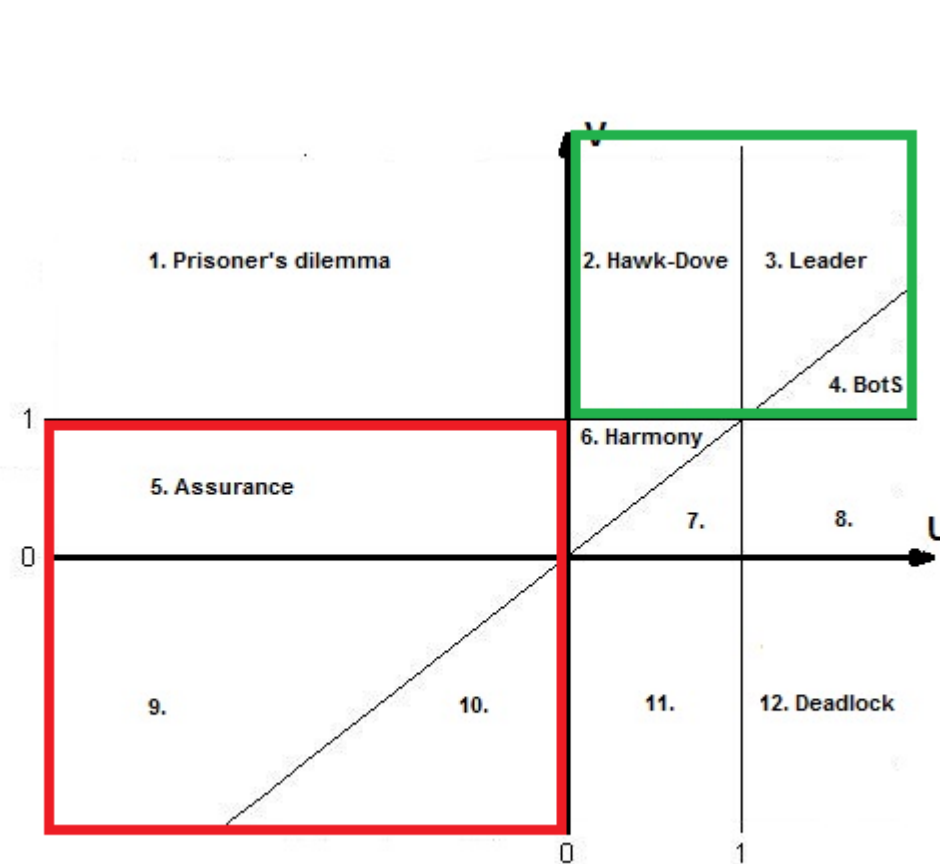
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$V < 1$ :  
C is Nash/ESS

$U < 0$ :  
D is Nash/ESS



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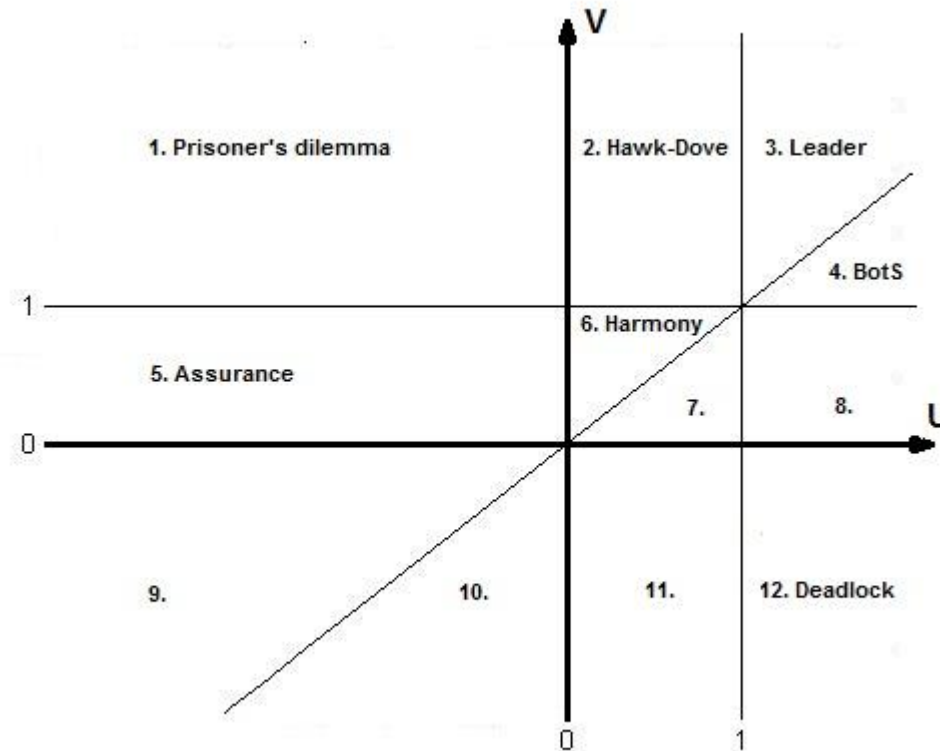


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$$p^* = U / (U + V - 1)$$

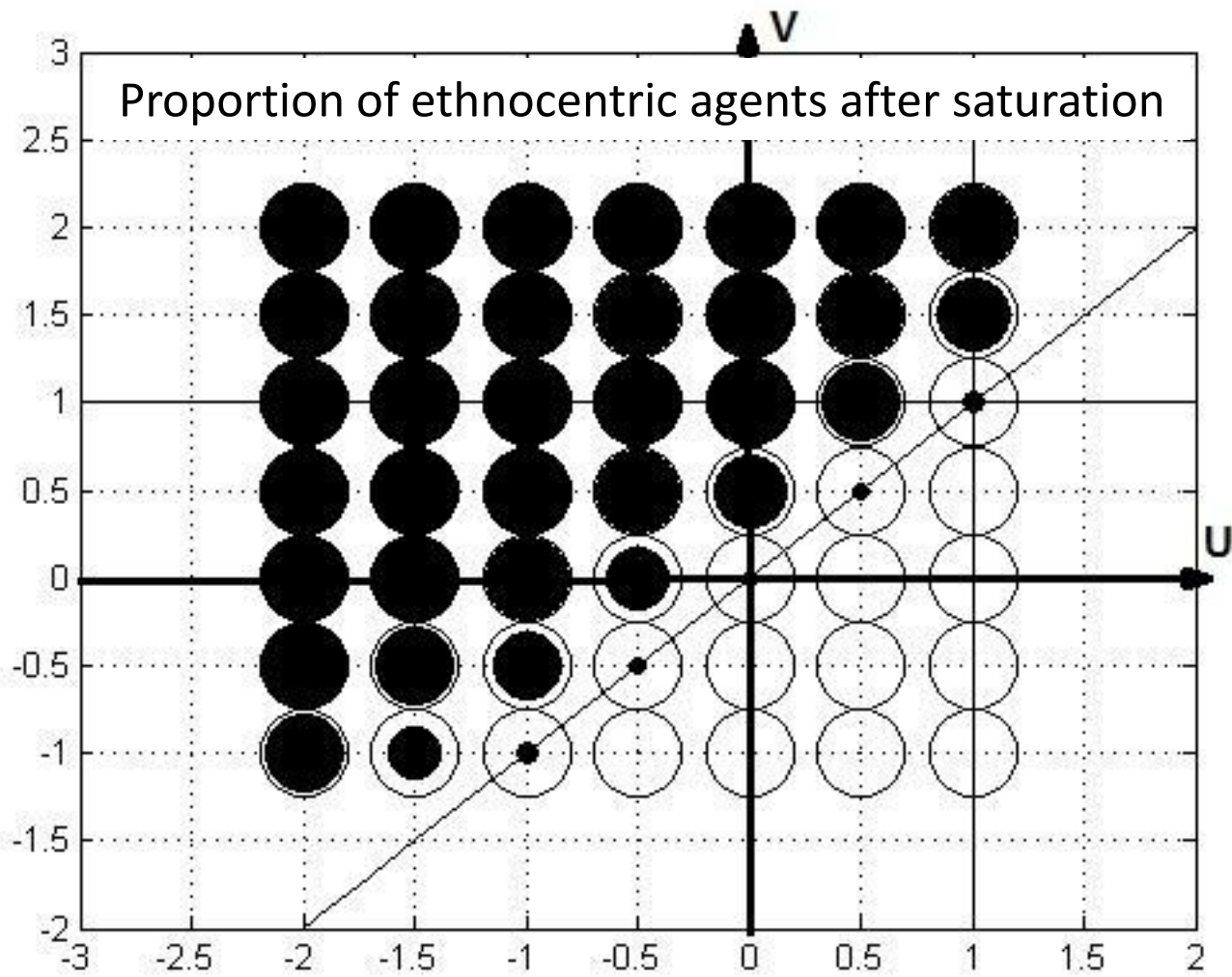


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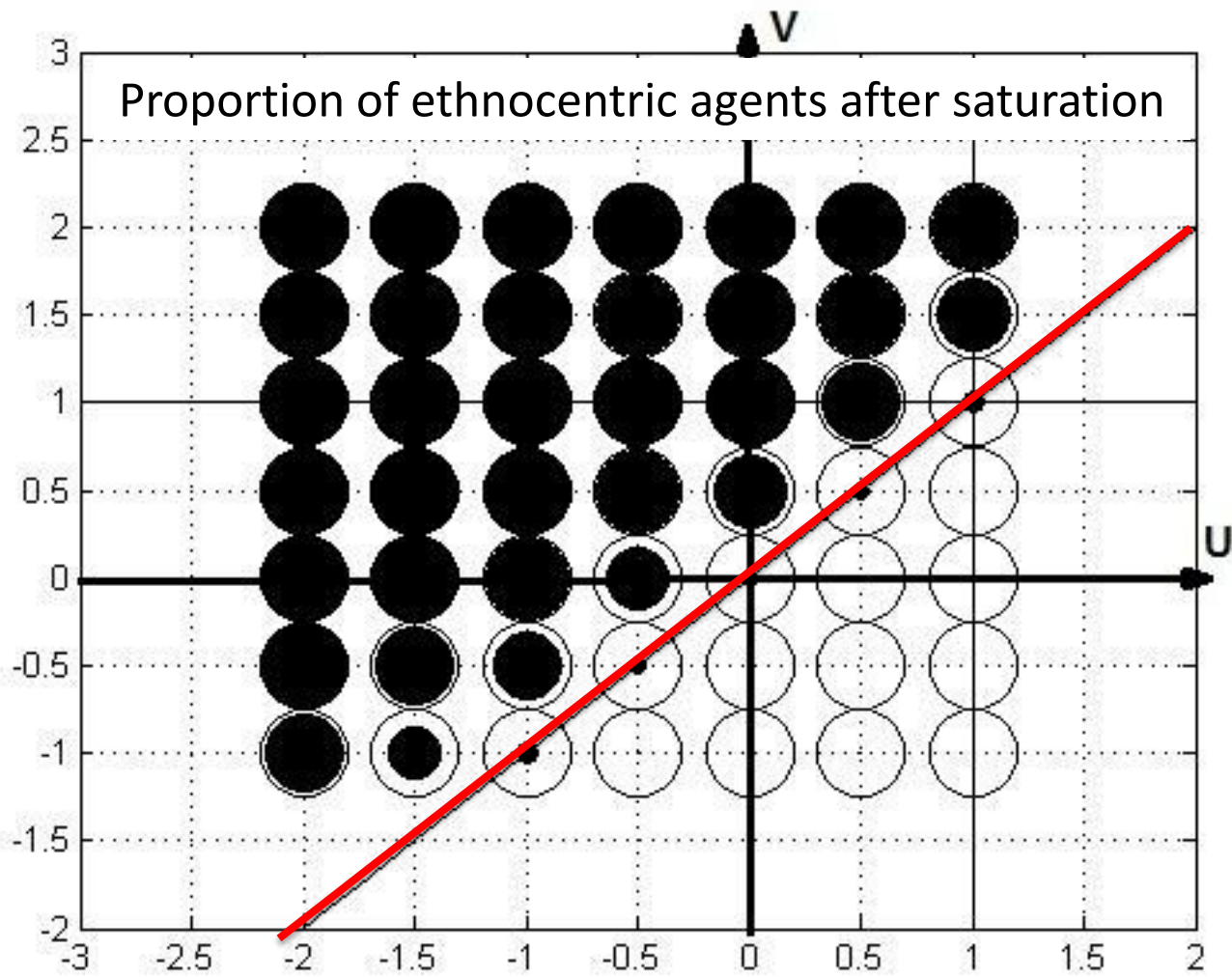
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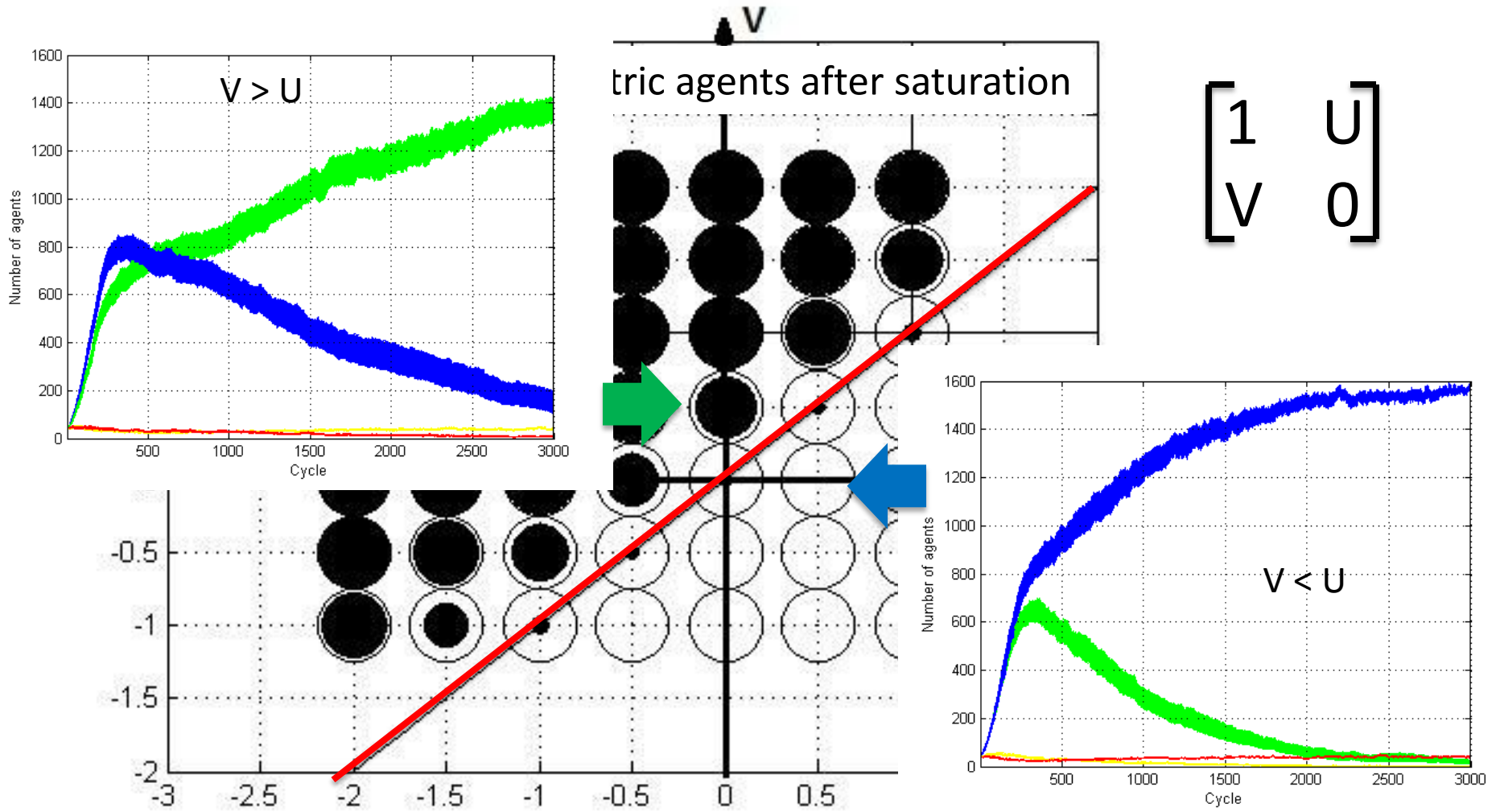
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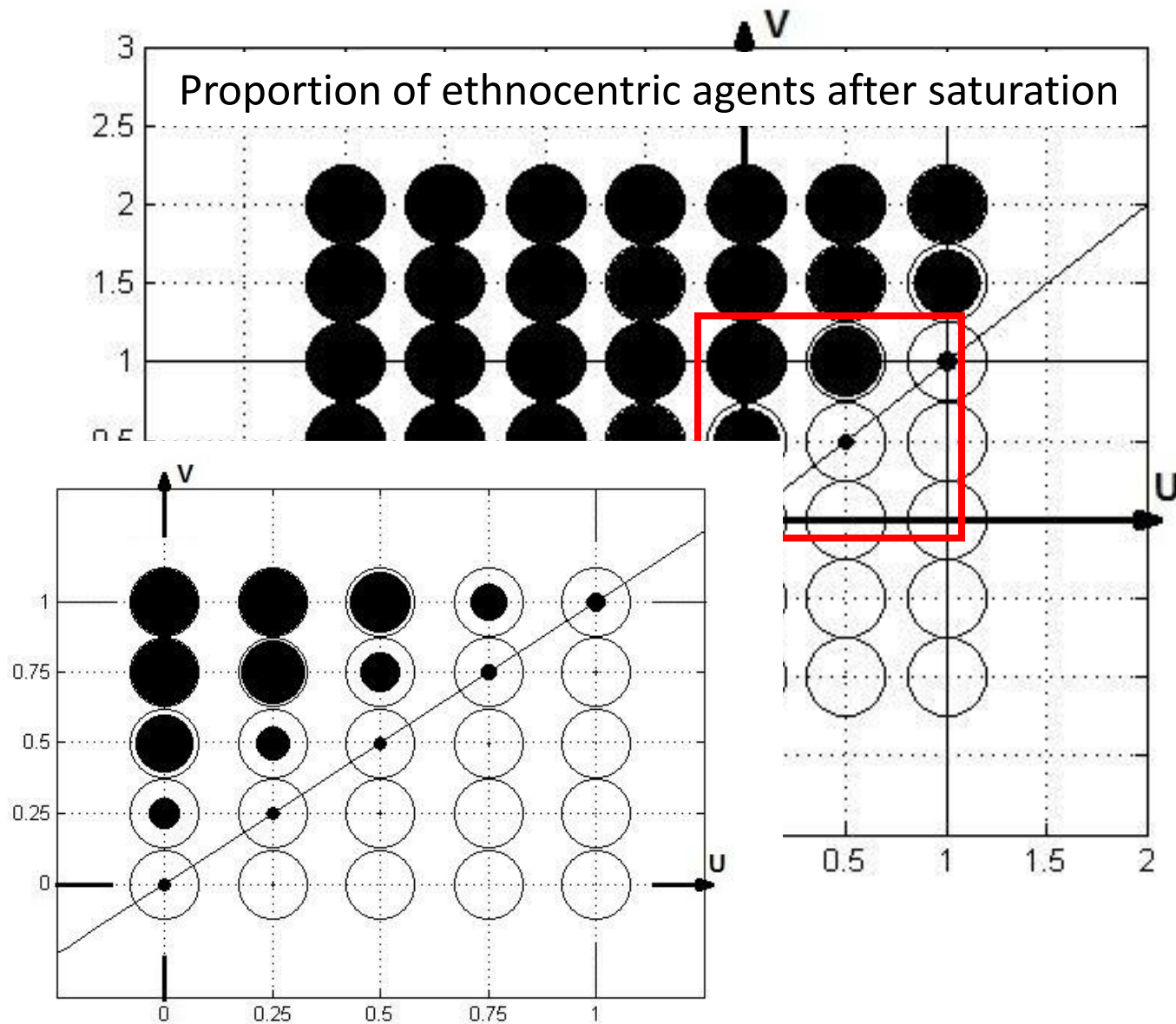


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Thank you!