## Instructions for the Property Rights Simulation

(For further information, please see the paper and algorithm structure on the webpage <u>http://www.santafe.edu/~bowles/artificial\_history/property\_rights.htm</u>)



1. By clicking "Default Value", the user can choose parameter values that were used in the paper. Also the user can choose different parameter values from the combo box (for example, the number of groups, group size etc).

2. The parameter values that were used in the paper are indicated by \*.

To play the Punishment Game (Grabber, Sharer, Punisher Game), choose the first button To play the Property Rights Revolution Game, (Bourgeois, Sharer, Punisher), choose the second button. If you choose the Property Rights Revolution Game, the ambiguity combo box will be activated, so you can choose the level of ambiguity over possession.

Click "Setup" first. Then click "Run" to run the simulation. To stop running the simulation, click "Stop". To exit the program click "Close". If you click "Slower" during running, the program will run slowly. To return to the normal speed, click "Normal"



Each circle in the simplex indicates the population frequency of Punisher, Sharer, and Grabber in each group. If the number of groups is 25, then there are 25 circles in the simplex.



Three bars in each box indicate the population frequencies of punisher, sharer, and grabber in each group. The blue bar indicates the population frequency of Punishers, and the red bar and the green bar are for Sharers and for Grabbers respectively.

Property Rights	-DX	Dynamics on Simplex	_D×	Strategy	Frequencies (			
The Number of Groups 25*		Al Punishers		_				
Group Size 20*	*			a <b>a a</b> a a a a a a a a a a a a a a a a	╇┹╼╇	╺┸┦╼┸┦		
Higration 0.1*	•							
Mutation 0.2*					╚╋┥╸╸╸╸			
V 2								
C 3		/	$\setminus$					
Constant for winning prob. 0.2				_				
Anbiguity cho	290 <b>X</b>			_				
Group War Every One Generation*		All Sharers A	aliGrabbers			- <b>- I</b> I <b>- I</b> I		
Cow (Post War Transfer) 3*	*	Population Frequencies o	í Punishers (I	lue), Sharers	(Red), Grabb	ers or Dourgeols	s (Green)	- 0 ×
# of Games Per Generation 5		Population Frequency of Punishers						
Cost of 2nd Punishment 0.3*		Population Frequency of Sharers						
Level of conformism (beta) 2*	•					quency of k	511a1 CI 5	
The Number Of Rounds 10000		Population Frequency of Grabbers						
Random Number Seed 1111	111	a say you wanted and						
Punishment Game Dr	Inde Value	Average Pavolls	2001-22-2	1. 10 M				- IDI XI
C Property Rights Revolution								A
Setup Run	Stop	and the second states						
Slower Normal	Normal Close The Average Pavoff in the total population							
0 5000 3	10000		··· ~					
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