



COOPERATION:[®]

The Wealth of Nations Game[®]

Computer Version 6

Blain and Gill 2014[®]

The game goal is to get five resources for your city:



You get resources by employing people from your city to produce them or by trading your surplus resources with other players.

By the draw of a Skill Card, each player's city will start out:

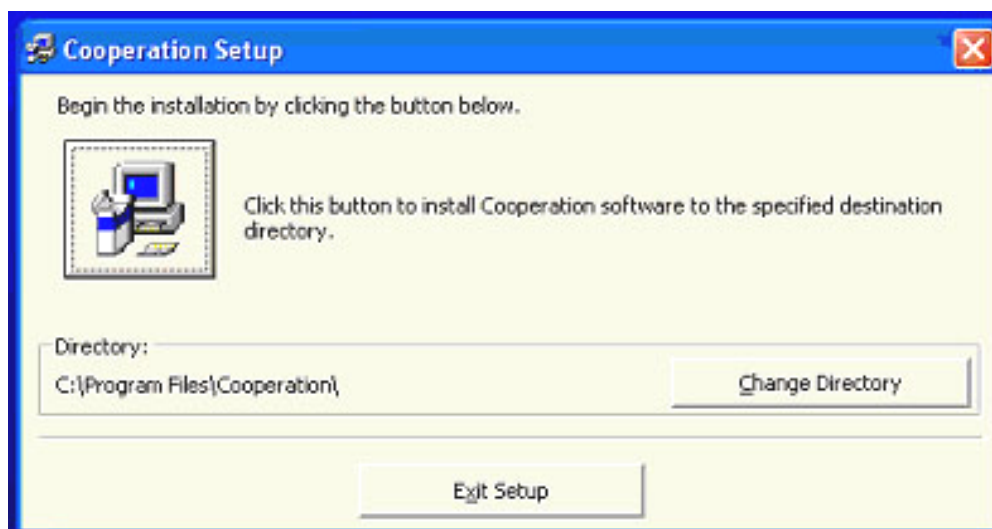
Primitive Pioneer or Privileged.



The larger purpose is to compare economic systems to identify and evaluate their strengths and weaknesses. In the game, they are Barter, Majority Rule, and Making Money. The fourth option, Autonomy, developed from what we learned from the other three.

To Install Cooperation, Version 6

Download Cooperation: The Wealth of Nations Game from <http://hourmoney.org>. Open or Save the file. If you choose Save, notice where the file is saved because you will need to go to that location to unzip and install Cooperation. Double-click the Cooperation folder to unzip it, and then click the SETUP file.



To Play Cooperation

Go to Start, Programs, Cooperation, and click Cooperation. In a few moments, you will see the original game board. Along the bottom left of your screen, you will see game prompts that tell you your next step.



There will also be tutorials that appear as you move from step to step. There are often several ways to perform the same action. One way is to click on words along the left top of the screen such as "Game," "View," and "Action." These will reveal various options. Another way is to click on icons such as the white rectangle for a new game. When you place the mouse cursor over one of these icons, in a few moments a tool tip will appear to tell you what that icon does.

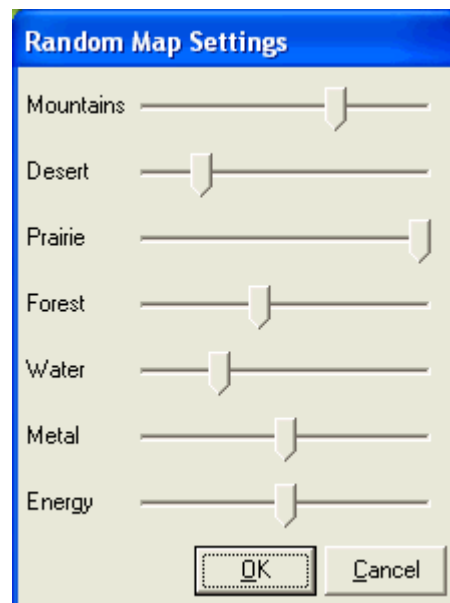


You can play on the map that shows the middle of North America or on a random map. If you choose the random map, you can change the terrain to experiment with different combinations.

Navigable waterways on the North America map are shown as blue rivers, lakes, and ocean. Red letters signify where metal can be mined, black letters signify where fossil fuels can be mined, and the small solid black hexagons signify where waterpower is possible.

To produce a resource, you locate your city in a hexagon where those resources are available, and employ people in your city who have the necessary skills to produce them. You can produce resources only from the hexagon where your city is located.

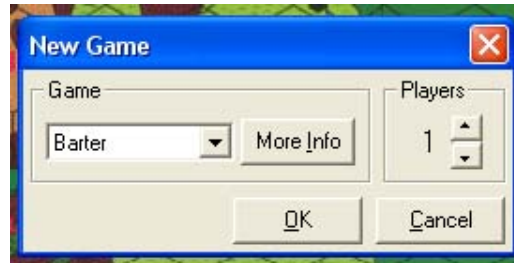
To trade surplus resources between cities, you build links of transportation across hex borders between them. Links may be direct or by way of other cities. If the link was built by people from another player's city, you may need to give them a resource or money to pay them for its use.



Good luck, and remember, you are playing these games to learn the advantages and disadvantages of Barter, Majority Rule, and Making Money to prepare you for Autonomy.

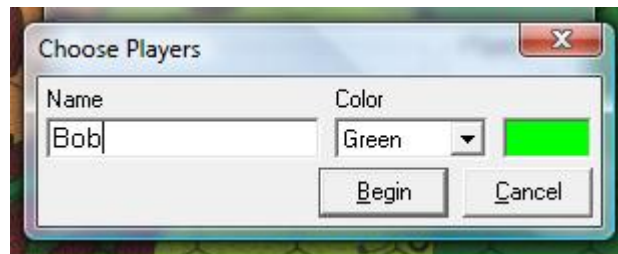
BARTER: The Beginner's Game

To begin a game, click on NEW in the upper left hand corner of the game screen. The New Game dialogue box appears.



Click on More Info to learn about Barter.

Accept the default Barter as one player for your first game, click OK, enter your name, choose a color, and click Begin.



Select the map type for your first game, then click on SKILL CARD to determine the resources the people in your city have the skills to produce and how many people will be required to produce one or two harvests. Skill levels are determined by chance at the start of a game, just as the social class into which each of us is born is a matter of chance. Thereafter, you can raise the skill level of people in your city by employing some of them in education.

PRIMITIVE
Your people can produce:
FOOD & WOOD
Educate Cities and
build Transportation
only on navigable rivers.

10,000
People = one harvest

15,000
People = two harvests

PIONEER
Your people can produce:
FOOD, FIBER, & WOOD
Educate Cities and
build Transportation
except through forest and
across mountains.

6,000
People = one harvest

10,000
People = two harvests

PRIVILEGED
Your people can produce:
FOOD, FIBER, WOOD
METAL & FUEL
Educate Cities and
build Transportation
except across mountains.

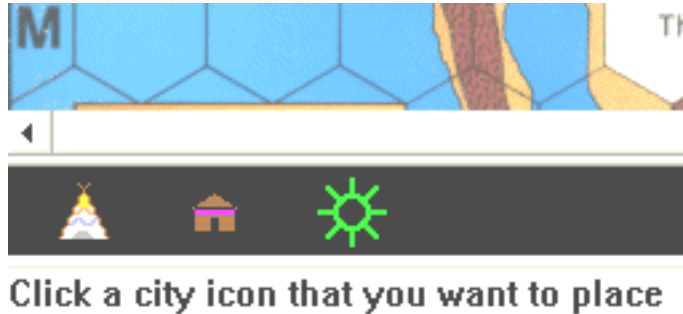
3,000
People = one harvest

5,000
People = two harvests

People in a Primitive City can only produce Food and Wood. Pioneers can produce Food, Fiber and Wood. People in a Privileged City have the skills to produce all five resources, provided they are available within the hexagon where you located your city.

At any time during a game, you can access information about a city including its skill level by clicking VIEW and Show City Info in the menu bar.

After skill cards are drawn, a tutorial card appears to explain how to place your city on the game board. Tutorials remain available in the Help menu. An icon for your city will appear on the bottom left side of the game board. Primitive cities are represented by a teepee, pioneer cities by a log cabin, and privileged cities by a modern high-rise floor plan. Their color identifies the player responsible for that city.

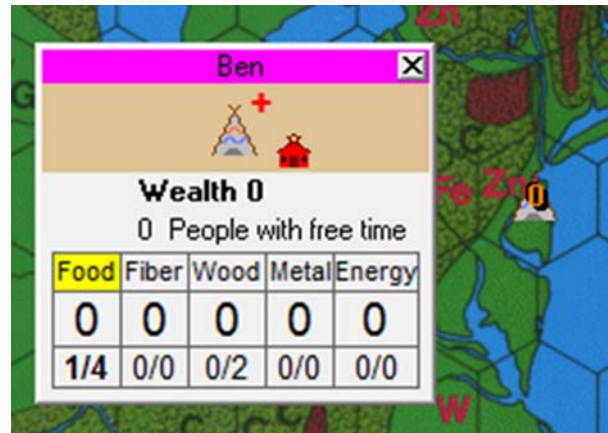


When you click on a city, the city icon becomes your cursor. Move it to where you want to locate your city. Click again and your city is home. You can change the location by clicking the city again and moving it to another location. However, you can only change a city location until you click Finish City Placement in the menu bar.



Turns do not matter in Barter. On a computer, you may be the only actual person playing the game. However, if several people are playing, each can do things whenever they are ready.

There are two different kinds of control panels. On the middle of North America map, when you place the cursor over a city, that city's control panel appears. You can keep that panel in view by clicking inside the banner across the top. You can click and hold to move the panel and you can close the panel by clicking inside the banner again.



The control panel tells you everything you need to know about a city. It tells you by color and name whose city it is. The city icon tells you the city's skill level. In this example, the teepee means it is a primitive city, which means it takes 10,000 people, half the city's population, to do one action. I clicked under Food for one harvest in the hope that I get enough to feed my city. I clicked the education icon and clicked my city twice to educate it. The red plus sign means that my city will be Pioneer in the next generation, if my farmers produce enough food to feed my city. My Wealth score at this point is zero because all my people had to work, leaving none to earn me Free Time points. However, Food will earn me 10 Resource points and keep my City from starving, unless I have a crop failure. If that happens, my wealth score will be -20 because 20,000 people died.



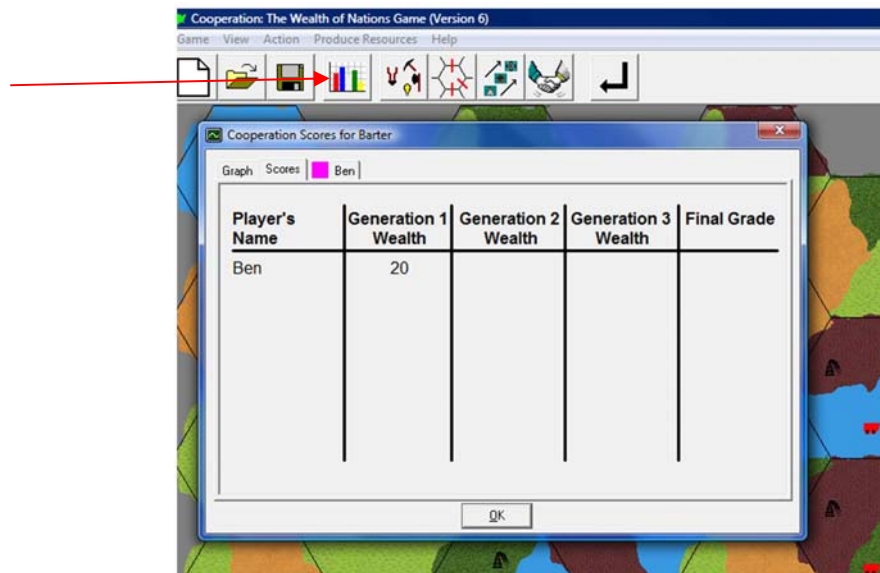
The control panel for the random map fits within the city's hexagon. In this example, Ben has not yet done anything with his Privileged city. The zeros next to the road and schoolhouse icons mean that he has not built any links of transportation or done education. The red negative sign on his Privileged city icon means his city will drop back to Pioneer in the next generation if he does not employ people to educate its children.



The 20k next to the person icon means that he has 20,000 people that he could employ.

The five cells with zero in them mean at this point that Ben has no resources for his city. The three cells in the top row are for Food, Fiber, and Wood. The bottom two cells are for Metal and Fuel. The red 0 in the Food cell warns him that without food, his city will die and his city wealth score will be negative -20. Ben will click on these cells to put his people to work producing resources. Because his city is Privileged, the zeros are not grayed out. If his city were Pioneer, the zeros in the bottom two cells would be grayed out signifying that they are unavailable, even if Metal and Fuel were available on that site. In that case, by educating his city "one harvest," it would rise to Privileged and Metal and Fuel would become available in the next generation if present on that site.

The 20 at the bottom means that his City Wealth score is 20. Each 1,000 people that Ben employs will cost him one Free Time point. Each resource he gets for his city will earn him 10 Resource points. Ben's challenge is to get one of each resource for his city using the fewest people to do it. If Ben got all five resources, he would earn 50 Resource points; if he could do it without employing anyone (which, at this point at least, is impossible), he would earn 20 Free Time points for a maximum of 70 City Wealth points. The 20 at the bottom changes as Ben makes his employment decisions and resources get produced. The computer will grade his performance (and yours) at the end of the game. Grades reflect not only a player's performance; they also reflect the game, in this example, Barter. You can check scores by clicking on the graph icon. You can then click to view the graph, scores, or a detailed score sheet.



You make Resource Production decisions by clicking in the cells of city control panels.

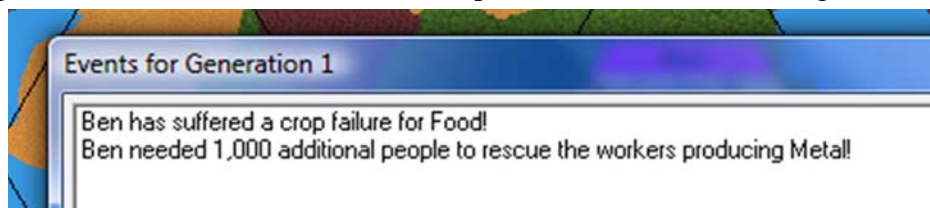


Here Ben has decided to have his people do two harvests of Food, two harvests of Wood, and two harvests of Metal. The cell for Fiber is grayed out and unavailable because Ben has chosen to use the prairie for Food. The cell for Fuel is grayed out because no fuel is available in that hexagon. There is fuel next door, but Ben cannot have his people produce a resource that is not present in his own hexagon. The red minus sign on his city icon means that Ben is about to make a big mistake because he has forgotten to educate his city so that it remains

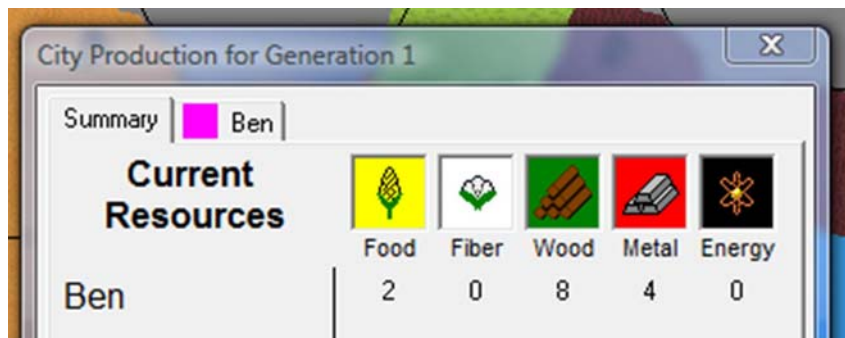
Privileged in the next generation.

Just as in real life, Ben will not know how much his workers produce until after he clicks the Finish icon. Yields vary because of uncontrollable factors such as weather. It takes one yield to provision one city. He could get none or as many as eight. With mining, there are the additional possibilities of resource depletion and accidents that require people to rescue miners.

Ben clicks the Finish icon and the Events box reports two problems. Ben has suffered a crop failure because one failed) and he icon and the Events box reports two problems. Ben for Food (It is a good thing he chose two harvests, needed 1,000 additional people to rescue workers producing Metal, which cost him a Free Time point. He closes that dialogue box.



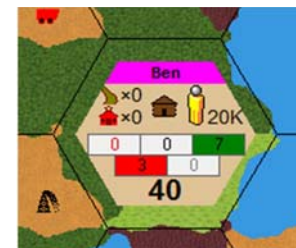
The City Production box now shows that his people produced enough Food for two cities, enough Wood for eight, and enough Metal for four.



If links of transportation connected Ben's city to other cities, he would have resources to barter with them, but his city is the only one on the board.



His City panel shows his City Wealth score to be 34, 10 points for one of each of three resources, Food, Wood, and Metal, plus 4 points for the 4,000 people who had free time. When he starts the second generation, Ben finds that he has seven Woods and three Metals left, but his city's skill level has dropped to Pioneer.



Transportation and Education

To build transportation, click the transportation link icon in the menu bar.

You build links of transportation one at a time. They require three clicks to build one link to connect two hexagons. First, you click on the city whose people will do the work. Second, you click on the location where the link will start. The first link must be from the city whose workers will do the building. They may construct a link further away if they have links of transportation that will allow them to travel there to do the work. Third, you click on the neighboring hexagon where the link will end. There is no reason to build transportation with only one player. Transportation becomes relevant only with two or more players each with one city.



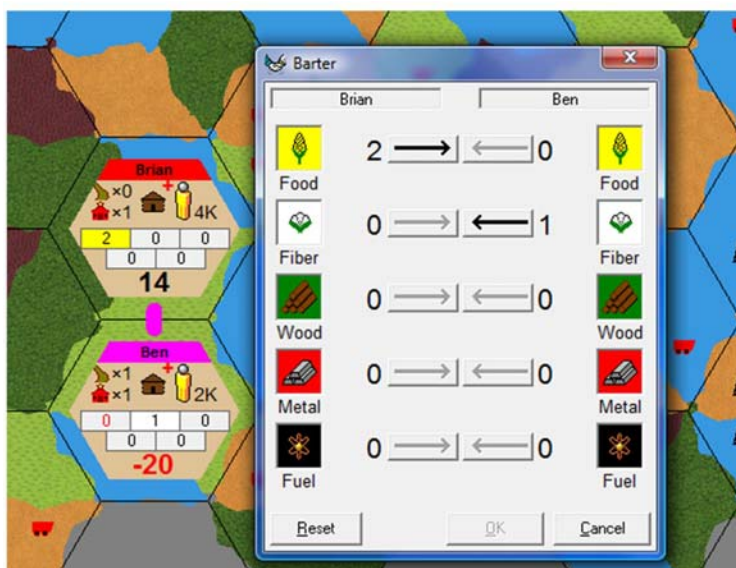
To educate his city, Ben needed to click on his city twice, first, to assign people to be teachers, then to have them do the educating. When there are two or more cities on the board, workers from one player's city can educate people in another player's city if there are links of transportation connecting them. Then click the city whose people will be the teachers, then click the city that will be educated.

You can back out of a transportation or education decision by pressing the ESC key, but only before the action is completed.

You can do and undo decisions to produce resources until you click the Produce Resources command in the menu bar.



In your first game with one city, there can be no bartering. Playing it with only one city will give you an idea of how skill levels affect city wealth when a city is alone. Try playing at each skill level with only one city and compare city wealth scores. Then play as two players so you can see how barter affects city wealth.



Here is an example. Brian and Ben with Pioneer cities each decided to educate their city so it would be Privileged in the next generation. Ben built a link of transportation to be able to barter with Brian. Ben's people produced only one unit of Fiber, which Ben will have to barter with Brian for Food so that Ben's city will survive to the next generation.

Continue Barter by repeating the same series of

decisions for a second and third generation. Then learn more about Barter by increasing the number of players.

Scores at the end of the third generation are graded so you can gauge your performance in a familiar way. The grade also gauges barter as an economic system. How well you do depends not only on your decisions; it also depends on the rules of the game!

MAJORITY RULE: The Socialist Game

In Majority Rule, the basic rules are the same as Barter except that everything is owned collectively and individual players can do nothing without obtaining permission from the group in the form of a yes majority vote. You vote on all decisions: where to locate each city, which resources each city will produce, which cities will build transportation and where, which cities will do the educating and which cities will be educated, and finally, which cities will receive which resources. As one person playing on the computer for what could be as many as six players, you will need to cast votes for each of them. However, the permission box gives you the option of clicking OK instead of voting.



All players get the same score, the Wealth of the Nation, the average wealth of all cities.

MAKING MONEY: The Capitalist Game

Making Money is similar to Monopoly. The goal is to be the player at the end of the game with the most money. Nothing else counts. Everything is owned by individuals: cities, resources, roads, and schools. You charge other players whatever you can get them to pay when they buy resources, use roads, or want education.

One difference from Monopoly in Making Money is that the banker is a player. The computer selects one player at random to be the banker. Unlike Barter where any player can do things whenever they want or in Majority Rule where voting decides everything, in Making Money, players must take turns. The computer decides the order of play at the beginning of each generation. The image here shows that it is Brian's turn.

If the View Money box is not visible, go to the View menu and click the Money option. You will want to watch the money as the game progresses. You can move the money window by dragging its title bar.



When you are the only person playing Making Money on the computer, you will have to change allegiance as you play for one player, then another. Play to win for the player that you are playing for at the moment.

You will notice a new button on the menu bar with a dollar sign on it. When it is the bankers turn, he or she can click that button to create money and players can click it to borrow money from the banker. To borrow, you must be connected to the banker by links of transportation. Loans cost 10 percent interest, due at the end of each generation. You can repay loans at any time. Interest and money repaid count as the banker's money for winning the game. Players unable to pay interest at the end of each generation and unable to repay their loans at the end of the third generation lose their resources, which are then auctioned to the highest bidder. Players unable to pay taxes also have their resources auctioned to the highest bidder.



Taxes

The government collects a \$1,000 tax as a penalty for each resource you fail to get for a city. It also collects a \$100 tax as a penalty for each 1,000 people you fail to employ.

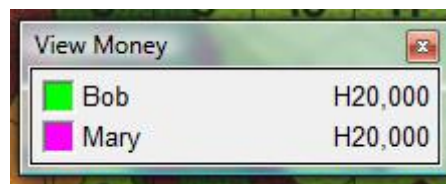
The Plutocracy Option

You elect a president who decides who gets the government money. This includes taxes plus money spent on the election. You vote people plus money. If a player has all 20,000 people in their city vote for a particular candidate and spends \$10,000 in money, the total vote is $20,000 + \$10,000 = 30,000$ votes. The player who gets the most votes wins.

AUTONOMY: The Expert Tournament Game

The goal of Autonomy, like Barter and Majority Rule, is city wealth, getting the five resources (50 points) with the most free time (20 max. one for each 1,000 people not needing to work). In addition, you get Cash Balance Points explained below. The score that counts is city wealth at the end of the third generation.

The H20,000 stands for the work time of 20,000 people for a generation. You may call the money “hour dollars,” or whatever your national currency happens to be. The H20,000 to each player at the start of a game is the only money that enters the game. It is not a loan, is not paid back, and costs no interest.



View Money	
Bob	H20,000
Mary	H20,000

All prices are set at cost automatically by the computer. No supply and demand. If 3,000 people produced enough food to feed 5 cities, then the computer calculates the cost of each food as $3,000/5 = H600$. Food for one city cost the productive work of 600 people. Therefore, the price of each food is H600 hour dollars.

Although there is no bargaining over prices, there is a free market. Players can buy from and sell to whomever they want.

Order of play does not matter because Autonomy is cooperative, not competitive.

Everyone votes on building transportation and educating cities and everyone pays an equal share of their cost.

Cash Balance Points. At the end of the first and second generations, the computer will *add* one cash balance point to your score for each H1,000 that you have above the H20,000 you started with. These points compensate you for the free time points you lost by putting people to work.

The computer will *subtract* one cash balance point for each H1,000 below H20,000. These points compensate for the free time points you gained by using money to buy resources instead of putting people to work.

However, at the end of the third generation, you will lose cash balance points whether you have more or less than H20,000. This rule encourages players to share the work as well as the wealth.

Grading the Games

Every game generates scores and a chart that can be printed at the end of a game. Those printouts are valid scientific evidence for the relative performance of Barter, Majority Rule, Making Money, and Autonomy. Send them to:

Cooperation
 P.O. Box 644
 Edwardsville, IL 62025
 or email: <mailto:rblain@siue.edu?subject=Cooperation Game Scores>

I will assemble those scores and publish them so we can all know the results.

From Game to Policy

You may want to play all four games before you read this next section. It explains the significance of the differences among the four economic systems and how game features of Autonomy would translate into policy.

Barter raises city wealth when one city can trade one resource for another resource with another city. But Barter is limited by four conditions, the most obvious one in the game is the "coincidence of surpluses and wants." One city must have a resource to trade that another city needs and that other city must have a resource to trade that the first city needs. The three other limits to barter are not so obvious. The two resources to be traded must be brought to the same place. In the game, that means having transportation linking the two cities. Third, the resources must be ready at the same time. You cannot give up a resource in one generation and get the resource in exchange for it in the next generation. Fourth, the items traded should be equivalent. In the game they are equivalent in value; all resources are worth 10 points. They may or may not be equivalent in cost. For example, a food produced by a primitive city is usually more expensive in workers required to produce it than a food produced by a privileged city, yet barter does not take that into account.

Majority Rule overcomes the limits of barter because production and distribution of resources are done by voting. Also, discussion can improve decisions - a benefit not usually available when just one person is playing the game on the computer. This benefit is more evident with the board game where as many as six people can discuss an action.

The downside of Majority Rule is that voting on everything is tedious. Usually players quickly abandon voting and, with the computer game, simply click OK or, with the board game, simply adopt consensus as the mode of deciding. Less obvious is the absence of individual accountability. Because everyone gets the same score at the end of the game, the highest score is achieved by having privileged cities do everything. Unless players make a special effort to balance contribution of workers with resources received, privileged cities can do everything and pioneers and primitives can get everything without doing anything to produce them.

Making Money overcomes the tedium and congestion of trying to vote on everything because money allows individual players to buy and sell resources on their own. Making Money is a free market. However, it is not a fair market. The banker creates and owns all the money - so the banker can always win the game - if they want to. Interest on the money also means that there is never enough money for players to repay their loans plus that interest. Players must try to bankrupt each other in order to get the extra money to repay their debts plus interest. Prices are also undefined. Players try to charge as much as they can and to pay as little as they can. Taxes are needed to penalize free time and elections determine who gets the penalty money but elections do not make the game fair. The aim of the game is money, not wealth in its original sense of well-being. Players compete, as they must, because in the end there is only one winner.

Autonomy measures success, like Barter and Majority Rule, in city wealth: food, fiber, wood, metal, and fuel, plus free time, getting value with less work. Translated to policy, that would mean annually reducing the normal work week by the rate of unemployment. If the average workweek is 40 hours and unemployment is ten percent, the average workweek would be reduced ten percent to 36 hours. Initially, the reduction might not reduce unemployment because of unnecessary work being done to preserve income. However, after unnecessary work is reduced, we would soon see jobs opening up for the unemployed. This policy could be applied without reducing the pay of most of the employed because most people are underpaid. Leaving their pay unchanged while reducing their hours of work would simply help adjust their wages upward and closer to fair wages.

Pricing

In Autonomy, price is set at cost measured by the number of people whose labor produced a resource, built a line of transportation, or educated a city. The calculation is people employed divided by units produced. Instead of having to bargain over price, the computer simply calculates it.

Translated to policy, prices would be set by the simple calculation of hours of work divided by units produced. The United States Department of Commerce of the Bureau of the Census at one time published precisely this kind of information. It reported that in 1950, for example, 28 hours of labor produced 100 bushels of wheat (Historical Statistics of the United States Colonial Times to 1957, page 281). Actual prices for all goods and services could be determined and money prices expressed accordingly.

In Autonomy, privileged workers are more efficient than pioneers who are more efficient than primitives. Consequently, selling prices of privileged workers are lower than selling prices of pioneers and primitives. This difference encourages educating pioneers and primitives to privileged. The same incentive would operate in a real economy; educate everyone to their full capacity to everyone's benefit in lower prices for superior work.

Autonomy has proven to be superior to Majority Rule because it uses money to decentralize decisions, thereby avoiding the problem of information overload.

Money creation

Autonomy is superior to Making Money because money comes into the game debt free and interest free. It comes in simply as the amount of money needed to carry on game transactions.

Similarly, money can be issued into the economy when a person joins it and that money can be withdrawn from the economy when a person leaves it. Money would be based on citizenship, not debt.

Money could be paid into circulation by paying people to produce public goods like transportation and education. It would be excellent public policy to pay people to go to school. This would get the money into circulation and add to the real National Treasury, which is a competent population.

Sharing the cost of transportation and education

Autonomy avoids the information overload of Majority Rule because Autonomy limits the use of voting to public goods. Autonomy includes everyone in deciding where roads should go and everyone shares the cost.

It is clear with highway transportation that collective ownership paid with taxes is more efficient than private ownership of fragments of roads with tolls to cross out of one owner's

stretch of road into another owner's stretch. It is also clear that roads must consist of coordinated segments. Translated into policy, lines as well as forms of transportation would be planned with maximum citizen input and be paid for by taxes. Even people who do not use roads benefit from their existence. How else would food be delivered to stores, and health, fire, and police help be available?

It may be less obvious that education benefits everyone. We may think that education is primarily in the interest of the person who receives the education. However, a little thought makes the point that the person served by the person with the education is at least equally the beneficiary. We want our doctors and nurses to be well educated. The same should apply to all professions and all occupations. Therefore, education is like roads; we all benefit directly or indirectly and we should all pay taxes to optimize it for everyone.

Income Limits

The Making Money game fails because the accumulation of money is unlimited. Today we see the accumulation of money far beyond any reasonable level of human need and convenience. Three CEOs recently were paid \$460 million. At \$50 an hour, to earn that much would take 4,600 years. Put another way, these three CEOs were paid \$15,333 an hour. Athletes, movie stars, and TV personalities become billionaires (one billion = 10,000 years at \$50 an hour). Lottery winnings have exceeded \$600 million, the equivalent of 6000 years at \$50 an hour! Meanwhile, we hear protests when anyone proposes raising the minimum wage, now less than \$10 an hour.

In Autonomy, incomes are unequal at various times in the game, but players are expected to end the game with the same amount of money as at the start. This encourages players to share the work and the wealth. The same principle can be applied to real life incomes. We could set a lifetime income limit of \$10 million. That would be equivalent to \$100 an hour, \$200,000 a year, for 50 years. No other single and simple change that I know of would do as much to share the work and improve national well-being.

I enjoy thinking and writing about the kind of "household management" that Autonomy simulates. We deserve a better system than barter, socialism, or capitalism. Each has its strengths and its weaknesses. Autonomy builds on their strengths and avoids their weaknesses. The downside is only that we need to learn and adopt its rules.

How do we get there from here?

If you have played and mastered Autonomy as a computer game, you have already taken the first step. You have experienced Autonomy and have seen that it works.

You can take the next step by encouraging other people to play Cooperation: The Wealth of Nations Game. As you did, they can download the game and these instructions free. The more people who know that Autonomy works, the closer we are to seeing its rules translated into policy.

You can take another step, which is to implement its rules whenever and wherever you can. As an individual and as the member of a family, you probably already judge your performance by the degree to which you and your family are able to meet your daily needs for food, clothing, housing, and other necessities and conveniences.

You can encourage similar thinking in your local community. For example, encourage your elected officials to make a similar assessment of needs in your community. Have them report the state of the town, city, or county in the real terms of the percentage of people who

have their needs met. We all know that many communities have hungry people, yet how many make it an official duty to track those people and adopt policies that will move the community toward meeting their needs. We know when our roads have potholes and it does not take long to see them filled. There are solutions to the food and housing needs of citizens, real solutions that empower people. You have heard the saying, “You can give a man a fish and feed him for a day, or you can teach him how to fish and feed him for a lifetime.” If people in a community use their minds together to cooperate, they can solve problems creatively, compassionately, and to mutual benefit.

You can also encourage candidates for higher political office to play Autonomy and to implement its policies. Summarizing, the process from the grassroots upward can be:

Step 1: Play Cooperation: The Wealth of Nations Game to experience the differences the rules make and to know that the rules of Autonomy promote wealth and free time.

Step 2: Encourage others to play Cooperation and learn what you have learned.

Step 3. Implement the rules in your own life.

Step 4. Encourage local officials to implement the rules in your community.

Step 5. Encourage officials at higher levels to implement the rules statewide, nationwide and worldwide.

Email: rblain@siue.edu or rblain@charter.net or write to Cooperation, P.O. Box 644, Edwardsville, IL 62025. I look forward to receiving copies of your score sheets to compile report cards on Barter, Majority Rule, Making Money and Autonomy.