

# THE WINHAM PAPERS

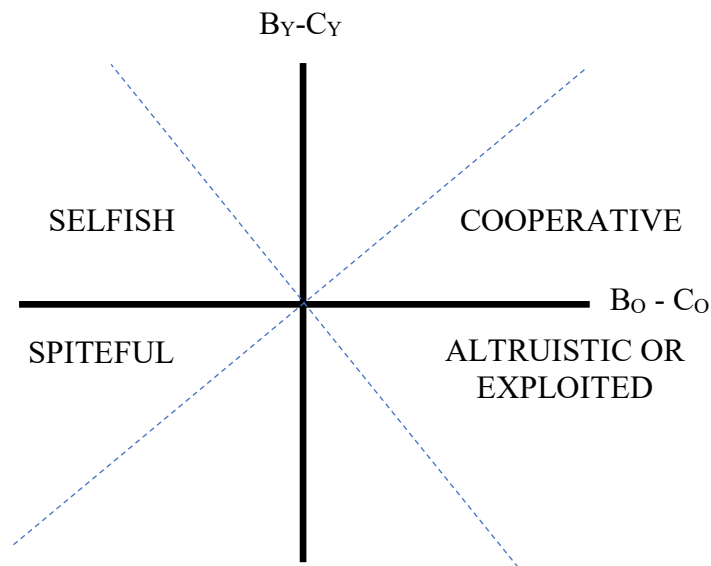
## 7. The Problem of Fairness (2021)

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In earlier essays, we pointed out that *fairness* is a key ingredient in maintaining cooperative societies. We argued that it was the function of opposing parties in a cooperative society to engage in push-pull discussions to find the right level of fairness. But what is fairness? Is it only a property of cooperative societies? While it may be necessary to maintain a cooperative society, is it sufficient? In this essay, we examine various contexts in which fairness may be an issue.

**A Graph:** Let us start with a very simplified way to classify contexts. Suppose you are considering performing an action that on average will benefit you an amount  $B_Y$ , but will also cost you an amount in the same units of  $C_Y$ . The net effect on you of performing this action is then  $B_Y - C_Y$ . Suppose also that your action may benefit the average person in your sphere of influence by an amount  $B_O$ , but also may inflict a cost on the average person of  $C_O$ . The net effect of you performing the action on the average person in your sphere of influence is  $B_O - C_O$ . We could of course make this description much more complicated with different effects on different people in the sphere of influence, but let us go with this simple approach for now.

All possible combinations of effects can be represented as a point on the graph below:



We assume that both axes have the value of zero where they cross. This point is known as the origin of a graph. The values of the x-axis to the right of the origin are positive and those to the left of the origin are negative. Similarly values of the Y axis above the origin are positive, and those below the origin are negative.

Your action can have four different consequences corresponding to the four quadrants in this

graph. In the upper left quadrant, your action provides you with a positive net effect and an overall cost to others. Actions in this quadrant will be termed *selfish*. In the upper right-hand quadrant, your action leads to a positive net effect for both you and others. We call this a *cooperative* action. In the lower left quadrant, your action leads to a net cost to you but also a net cost to others. This is typically called *spite*. Finally in the right lower quadrant, your action creates a net cost to you, but it provides a net benefit to others. This could be due to you being *altruistic*, or possibly you're being manipulated and *exploited* by the others. The dashed line running from the lower left quadrant to the upper right defines combinations of effects that are equal for you and the average other person. The dash line running from upper left to lower right is the line defining zero sum games in which the benefit of one party is equal to the number of units lost by the other party.

**So, what is a fair action?** Keeping this graph in mind, which actions should be considered fair? Taking each quadrant in turn:

*Upper Right Quadrant:* Let us start with the upper right quadrant in which people are presumed to be cooperative. The dash line indicates transactions in which both you and the average other person around you benefit equally. This must certainly be the ultimate in fairness. But is it the only form of fairness that we should aspire to? In most societies, sellers and buyers barter over the amount that is to be paid for some asset. Sometimes, a clever buyer can gain a valuable asset without paying as much as they should. Similarly, a clever seller can talk a vulnerable buyer into paying more than the asset is worth. In many capitalistic societies, whoever is fiscally most clever is admired and given credit for their achievement. However, as the net effects of transactions get further and further from the dash line, there is more and more pressure to limit such unequal exchanges. There is thus a narrow zone above and below the dash line within which some inequality is allowed; it is the width of this zone that is often the subject of differences between conservatives and progressives in politics. Where should one draw the line? One can think of many relevant examples. At what point do drug companies make the cost of their products so high that it is considered gouging? How low a wage should employers be allowed to pay their employees or cut their time to avoid paying benefits? When does clever bookkeeping to minimize taxes become cheating? All of these are contentious issues for which the width of the zone around the dashed line must be negotiated. And note that the width of the allowed zone may need to be adjusted the further the transaction is from the origin on the graph.

*Upper Left Quadrant:* The upper left quadrant which characterizes fully selfish behavior might seem automatically to violate any sense of fairness. However, there are societies in which small amounts of theft are tolerated, and even more where certain levels of sexual harassment are ignored. There is thus a circle around the origin within which some degree of unfairness is tolerated. However, most societies enforce laws and penalties for actions in this quadrant outside that circle. This enforcement imposes an additional cost on both you and others in the form of the taxes you must pay to support the police and courts. And if you get caught violating the laws, your cost of the action can go up way above the benefit. Again, there is often disagreement between conservatives and progressives about where to draw the boundary of that circle. Should mining and lumbering companies be allowed to exploit public lands that others use for recreation? Should commercial enterprises be allowed to pollute the environment around us? These questions of fairness routinely pit the personal interests of some individuals against the common good. Many conservatives hate regulations because they constrain the opportunities to

make more money at the cost of the public.

*Lower Left Quadrant:* The lower left quadrant may seem like an unlikely circumstance. However, as with most possible behaviors, some humans definitely perform it. An example is suicide. While some people commit suicide to avoid an imminent worse demise, the majority of people who commit it do so to hurt the feelings of surviving people who care about them. This is clearly spite. Hate is an emotion that is often inflamed by acute tribalism and polarization. Individuals with a sufficient level of hate may perform acts that both kill themselves and as many of those of the hated faction as possible. While many terrorists believe that their actions will benefit the faction from which they came, there are other terrorists who simply destroy an opposing group of people out of hate. While the perpetrators of terrorism may believe that what they are doing is "fair" because it is a punishment for what the opposing faction has done or is doing, it is only if the action has some later-term benefits that one could say the action was justified.

*Lower Right Quadrant:* Finally, the lower right quadrant represents situations in which you pay a net cost and the recipient of your action receives a net benefit. If you do this willingly, it is considered altruistic. An obvious example is charitable giving. This is one case where it is important to consider the unit in which the benefits and costs are measured. A gift of \$100 to a starving person may save a person's life, but are unlikely to have any impact on the life of a very wealthy donor. We may then need to scale the benefits and costs according to some baseline for each individual. In the case of charitable giving, the actions may indeed plot in this lower right quadrant, but the coordinate for the giver maybe just under the X axis in the graph, even though the coordinate for the receiver may be far to the right of the origin. It is also possible that a charitable giver will receive social benefits or even just feel good and that this may compensate even further for the cost of their gift.

At the other extreme of altruism are firemen, policemen, and soldiers who are prepared to give their lives to preserve the society from which they came. Their actions can have both big benefits for others and costs to themselves. Are such actions fair? Again, we may need to adjust the units of costs and benefits to reflect compensating factors. The critical factor here is the probability that the fireman, policeman or soldier will be the one killed or injured while acting. If the probability is low enough, it can be used to discount the computation of costs, whereas the fact that these individuals are all paid by the society for this task is a continuous benefit as long as they live. In many cases, these individuals also have some sort of insurance that will provide for their families in case they do die. If the probability of dying is low enough, the actions of these individuals could actually plot in the upper right-hand quadrant.

Although there are individuals who risk their lives to save someone else's, they are few and far between, and it is not a common option for most people. In general, true altruism is rather rare in both animal and human societies. There is quite an extensive literature on why this is true, and how many apparent examples of altruism can actually be explained by other economics such as reciprocity, kin selection, or rather more complicated pay off schedules. We just do not expect to find very many points in this quadrant when the actor performs an altruistic act willingly.

On the other hand, history has filled up this quadrant with points based on exploitation. Slavery was once common on all the continents in a variety of cultures. Slaves are obliged to perform

many expensive actions at no net benefit to them, except to avoid being killed by their owners. Although the slave owners in the southeastern United States had all kinds of arguments to the contrary, most modern people do not consider slavery a fair practice. Many Native American tribes, African tribes, the Romans, and Asian cultures took captives during warfare and treated them as slaves for the rest of their lives. While they would often argue that these slaves were the spoils of war lucky to be kept alive, most of us would not countenance this behavior as fair in this day and age. Finally, many autocratic societies force their citizens to behave in ways that impose a net cost on them to the benefit of select others in the society. Again, most people in democracies would not consider this fair.

**Examples:** It may be useful at this point to examine a number of specific cases where the issue of fairness is frequently raised even within presumably cooperative societies:

*Taxes:* One of the advantages of cooperative societies is the ability to undertake tasks in which group action is more efficient and effective than the sum of individual actions. Most of these tasks, however, can be expensive. The society asks every citizen to contribute to those costs. These contributions are usually required in the form of taxes. While it might initially seem fair to ask the same amount from all citizens, the considerations we made above for charity also apply here: the actual cost to a citizen depends upon the fraction of the citizen's current wealth that the tax represents. The same tax may have little effect on a wealthy citizen whereas it may be a severe deprivation for a poor one. This is the logic behind progressive taxes in which wealthy individuals pay more than poor ones.

If taxes were only used to build bridges, many conservatives might grudgingly at least feel they are fair. But in many societies, taxes are used to pay for social welfare programs such as unemployment support, guaranteed retirement funds, and universal medical care. Conservatives often balk at progressive taxes used for such programs, as the wealthy who are paying the most rarely need such support. They see these programs as "enforced" charity and not *fair* to the wealthy. A frequent justification for this attitude is the belief that the poor failed to become wealthy because of their own stupid mistakes, whereas the wealthy were more clever and therefore earned their wealth. This reveals a fundamental difference between conservatives and most progressives. Most progressives believe that success in life is due to a mixture of individual decisions and chance. Cleverness has little to do with whether one is born into a poor family from which it is hard to escape or into a rich one where the children inherit lots of money they didn't personally earn. Progressives thus feel it is *fairer* to share some of the benefits enjoyed by the lucky with the unlucky. There are other moral arguments which can be invoked to support progressive taxes, but this underlying economic reason is a key component.

There is of course plenty of room for a push-pull negotiation by conservatives and progressives over how heavily the wealthy should be taxed to support the common good including the poor. The last half century has seen major shifts in the tax burden imposed on the wealthy from low to high and back again. This is a healthy process as long as the two parties have fairly equal representation in the government that makes these decisions.

*Employer versus employee compensation:* Consider an entrepreneur who has a creative idea about how to write some new software program or build some new device. They cannot realize this idea as a new business without hiring four employees. Suppose the company gets going and

makes a profit. How should the profit be divided? Should it be divided equally with 1/5 going to the employer and also each employee? The employees would not even have a job if the employer had not come up with the idea and recruited them. Therefore, most people would think it more fair if the employer takes a bigger fraction of the profit than the average employee. The question is how much more the employer should take. A selfish employer might be tempted to take more than most people would think reasonable. What can the employees then do? There are of course two options. If there are other companies doing similar kinds of business, the employees can simply leave this company and go to one that treats them better. Certainly, this option is being adopted by the many migrants in poor countries around the world who are moving to wealthier countries hoping they have a better chance to earn a living. However, if there are no easy alternatives, the employees are stuck staying with this company. The second option is for all the employees to form a group, known as a union, and refused to do any work for the company unless the employer pays them a *fair* wage. Conservatives traditionally oppose unions and have done everything they can to prevent their being formed or succeeding. Progressives, naturally, support the opportunity to form a union. Again, the options for unions have shifted back and forth depending upon which political groups are in power.

*Tribalism:* the history of our species is replete with tribalistic conflict. Whether or not this is some atavistic trait that evolved in early times, it reoccurs again and again in almost every society once the numbers get large enough to accommodate multiple factions. The criteria for forming factions vary all over the place: religion, geographical origin, color of skin, fiscal status, political bias, you name it. Members of a faction essentially act as a cooperative group towards each other but see other factions as threats and opponents. In terms of our current discussion, members of a faction will act in ways they see as fair to each other, but in ways that are selfish and unfair to members of other factions.

Tribal conflicts can range from the mild, such as teenage girls in one clique excluding girls in another from joining them for lunch, to the bloody religious wars of Europe and the Crusades. In more recent times, southern whites in America succeeded during the late 1800s and early 1900s in largely disenfranchising the newly freed black people in their populations. And as we write this, the Republican party in the United States is engaged in a massive program to disenfranchise the opposition Democratic party. Some tribalism arises simply from economic differences. For example, most school districts in the United States are at least partly funded by local property taxes. Since most parents want their children to attend the best schools, there is competition to acquire housing near such schools. This raises the price of housing in that area and eventually residents around the better schools are largely wealthy, and those around the less attractive schools are poor. This process generates a feedback since the more expensive homes in the wealthy district provide more money making their school even better, and those near the poor schools contribute less funds and this makes their schools even less effective. This process thus leads to serious inequities in housing and schools and is one reason many Progressives argue that education should be supported only by state and federal taxes. Other incidental tribalisms are known and can similarly be criticized because they are based on some rule that could be changed.

As noted in a prior essay, tribalism and greed pose the two greatest threats to the stability of a cooperative society. That stability hinges on the perception in at least the majority of the population that the cooperative strategy is fair. The whole point of tribalism is that it benefits one

faction over, and often at the expense, of others. Ideally, there would be no factions in the society, and this is often approximately the case in small hunter gatherer groups. But the larger a society, and the more diverse it is in identifiable differences, the more likely tribalism will arise. The antidote is for the society to establish laws, regulations, and expected customs that curtail the rise and influence of tribalism. A related necessary condition is that a large enough fraction of the society adheres to these rules. If this fraction becomes too small, the society goes past the tipping point that then favors increasing selfishness and unfair behavior.

*Gender rights:* In an ideal fair world, men and women would have identical rights, privileges, and net payoffs for any transaction. But as history shows us, this has proved to be nearly an impossible dream. Some of the issues are strictly biological. Men do not get pregnant or lactate; these tasks fall entirely to women. Women are limited in the number of children they can have given these duties, whereas men can have many more offspring by mating with many women. A woman might prefer that a man donate all of his effort and resources to helping raise her children, whereas the man may prefer to divide his resources among multiple women. This creates an immediate conflict.

There are other complications. Where both survival and reproduction benefit by control of a local territory (animals) or property (humans), it makes sense to pass this on to one's descendants. This creates a new problem because if both sexes of offspring stay in this location, they are likely to engage in inbreeding which can have very negative genetic consequences. In both animals and humans, this problem is solved by having one sex of offspring stay to control the resource, while the other leaves the family to breed elsewhere. Whether men or women control the family resource has varied over history and continues to vary with culture today. Whichever sex gets to stay, the situation produces an asymmetry in the expectations, privileges, rights and duties of the two sexes. This invariably has many cultural repercussions, some of which certainly do not seem fair to one or the other sex. For example, where males inherit the resource, they want to ensure that their sons are in fact theirs. They may thus impose all kinds of constraints on their wives such as reducing their ability to move around in the society, wear particular clothing, or even suffer some sort of genital mutilation to make copulation difficult. These women may not feel that these constraints are fair to them.

Many of the roots of gender asymmetry have changed in the last 150 years. Family wealth is less often rooted in a specific property and more in movable assets. There is no reason for one sex to stay where they grew up, and in fact both sexes often settle away from where they grew up with no risk of inbreeding. Now, either sex can inherit the family wealth, or even have it divided between them. Fathers still worry about whether their children are their own or not, and in some cultures, women are still highly cloistered. Childcare is now available, allowing many women to undertake the same kinds of professions as men. Some societies even allow time off from work to have the children and expect the fathers to take some role here as well. Women in the United States got the vote in the early 1900s and have continued a steady trajectory of emancipation from male dominance since then. Still, gender asymmetries have a stubborn inertia and continue to this day. Many males are reluctant to give up their dominance over females, and certain religions continue to drag their heels about change. As with the other topics above, some societies have established laws and regulations to create greater gender equality. The situation is definitely more fair now, but there is still a ways to go.

## Some Common Threads

The list of examples of unfairness in cooperative societies above is clearly not exhaustive, and it may seem that defining fairness is too complicated. However, there are really only two main ways in which transactions and cooperative societies can be unfair. Let us take a simple example in which a seller offers a product or service to a buyer. Most societies do not require that the payoffs to the two parties be identical. Instead, there is a zone of tolerance on either side of the dashed line in the upper right-hand quadrant of our graph within which most people would consider the transaction fair. It is when the transaction is plotted outside that zone that people begin to consider it unfair. Let us call this "Fair Trade Unfairness". The dispute between how much profit should go to an employer and how much to employees has to do with this type of fairness.

The second type of unfairness occurs when the payoff to either the buyer or the seller depends on some irrelevant criterion such as tribal faction membership or gender. We can call this "Identity Unfairness". Suppose a local community is mostly composed of people of Irish and Italian descent. If Irish salesmen always seem to reap higher profits than Italian salesmen for selling the same item, this may be deemed unfair. If Irish buyers always get a better deal than Italian ones as well, people will suspect some sort of ethnic bias. There are lots of other combinations depending upon the identity of both buyers and sellers, but the point is still the same. Whether a particular combination is considered fair or not may depend in part on whether the society believes the criterion irrelevant. If most Irish salesmen obtained government sponsored business training before they immigrated to the current society, whereas Italians did not, this may be considered a mitigating factor. As with the zone of tolerance for Fair Trade Fairness, there may be a similar zone of tolerance for Identity Fairness depending on whether the society considers the criteria relevant or irrelevant. This is again an area where push-pull negotiations are required.

Note that differences in payoffs depending upon the Identity criterion may be large enough to plot a particular transaction outside of the zone of tolerance for Fair Trade Fairness. Thus, some situations may violate both types of fairness at the same time. Our examples above involving taxation, tribal favoritism, and gender bias all begin as issues of Identity Fairness. But historically, it has often only resulted in major legislation or civil action when they also became Fair Trade violations. However, it is important to remember that Fair Trade Unfairness does not have to begin with Identity Unfairness: individual sellers are perfectly capable of gouging individual buyers without it requiring any identity criteria at all. For this reason, it is important to keep in mind both types of unfairness when analyzing particular situation.

**Summary:** Returning to our graph, we argued that most transactions that plot in the left hand and lower right quadrants will typically be considered unfair by most societies. In the two left-hand quadrants, there may be a small zone around the origin of the graph within which some unfairness is tolerated. In the lower right-hand quadrant, there is a small zone just beneath the horizontal axis which is also often tolerated. In the upper right cooperative society quadrant, there is usually a zone of tolerance surrounding the dashed line of equal payoffs for actors and recipients. We have called this the Fair Trade zone. A certain degree of Identity Unfairness is often tolerated in many societies as long as transactions do not plot outside the Fair Trade zone. This is probably not because of some basic principle, but more likely due to the difficulty of enforcing strict Identity Fairness, and ambiguities about whether criteria are relevant or not.