

**Coll, Juan Carlos Martínez**, Mr, Acad, Political Economy, Spain : *No sustainable cooperation without an arbitro* [B1]

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### **To play without an arbitrer**

Let us try to imagine a soccer match between Real Madrid and Barcelona F.C. without referees. It is not unimaginable? Ronaldo, Ronaldinho and the other 20 players would commit lack continuously. Why not? Nobody would show red cards to them nor interrupt the party. The violent and dirty game would begin to appear. Some players would try to punish others. The victim of a hard play would also act with violence at the next occasion. It is highly probable that fights with the intervention of several players took place. And if the players of an team did not make traps, not only would be the losing team but also would they be mocked by the spectators who would accuse them of ducks or idiots. They would be thus doubly losing.

It is certain that in the streets and the schools courts we can see children playing soccer without a referee. When we were children all we tried it and we already know how those situations use to finish. Anyway, we know that soccer never could be something more than a children game if there were not referees.

The competitive, soccer and all sport games, table or computer games, serve as models of the social conflicts in which the players, the participant individuals, obtain their objectives depending on how they and the others act. We are participating continuously in many social games, in situations in which we want to win, to obtain something of which we lack, and where getting our objectives depend on the performance of us and the other players. Frequently there is in risk something that we have and that we can lose. Sometimes the game consists simply of preventing that other could take from us what we have.

In the human societies there is usually an arbiter or referee. The authority of the State usually is the arbiter who solves the social conflicts. Not only the judicial apparatus, also the executive and the legislative one act like arbiters when they establish laws or regulations whose objective is to solve or to prevent and avoid conflicts of interests. For the international conflicts, the UN and many others organizations have been settled for arbitration. Also there are special referees for small conflicts; for example, certain type of lawsuits between proprietors of neighbouring houses can be solved by the leaders of the Association of Neighbours or Community of Proprietors.

The questions that we considered in this text are, among others, the following ones:

- Are referees necessary?
- Is better to have a referee or not?
- When is necessary to have a referee and when it is not necessary?
- It is convenient that the State acts as a referee?
- It is convenient that the international organisms act as a referee?
- What conditions must fulfill the referees to be effective?

The discussion is pertinent in the present world because there is a penetrating liberal ideology that defends that many conflicts would be solved better if the State or international organisms did not take part. That ideology proposes that the cooperation arises spontaneously between the humans when the State does not play and that the interventions of the State generate lawsuits more than solving them.

The historical theoretical base is the liberalism of Adam Smith, his proposal that “there is an invisible hand” that push the human beings, looking for their own egoistic interest, to act in mutual benefit. That theory has been reinforced by means of computer simulations in which stable cooperative equilibrium is obtained without coercive interventions of arbiters or authorities. In the real world we can observe situations in which all or most of the participants cooperate freely, but also are many, very many circumstances in which the egoistic individualism leads to a badly result for everyone.

### **Situations in which all lose or all win**

In some types of game and certain social situations, may occur that all lose and nobody wins. A soccer match Madrid-Barcelona without referee would very possibly finish with several players of both teams injured so that, independently of the number of goals, we could consider that both teams have lost. After finishing a warlike conflict maybe both parts state to be the winners, but an independent evaluation would possibly deduce that both

have lost. Somebody can think that the winner army is the one that has killed more enemies, or destroyed more wealth of the enemy, but frequently in the armed conflicts losses at both sides are very serious. To win a war usually has a very high price. Being the winner in a war is something so expensive, so detrimental, so terrible, that there is only another worse thing: to be the loser.

It is also possible situations where all win and nobody loses. Time ago people thought that to increase the wealth of a country it was necessary to seize the wealth of another neighbour. Today we know that this is not necessary. Two countries can collaborate between them, trade and obtain joint benefits without losses for no other.

In the Theory of Games it is called 'zero-sum game' those situations in which one of the participants only can win at the cost of others. To distribute a cake between a group of companions at table is a zero sum game: if one eats more, some other will have to eat less. But the games of sum zero are very little frequent in the real world. Most frequently are the situations in which all the players can be beneficiaries and, simultaneously, all can be harmed. Let us consider the destiny of the human society or the destiny of the life in our planet as a full global game. Evidently this is a game where the results can be positive or negative for all the players. And that the result depends on the decisions of all and each one of us.

### **Cooperators, Defectors, Doves and Hawks**

There are two specially problematic types of conflict very frequent in the real world. They are the conflicts that we will name 'cooperators vs. defectors' and of 'doves vs. hawks'.

#### A) Cooperators vs. defectors. <sup>1</sup>

Sometimes we observed that some players of Real Madrid or Barcelona F.C do not effort sufficiently while they are playing in the field. Or, in an oar competition, we expect all the rowers to cooperate but we can find one that, without the others realizing it, is not applying all his force. Those 'defectors' to their equipment will enjoy the victory like the others, but they will have avoided to pay the cost that corresponds to them. All the members of an equipment may be 'defectors'. What reasoning impels them to act as 'cooperators' or 'defectors'?

In these kind of conflicts the following benefits and losses can be obtained: <sup>2</sup>

1° If all cooperate, everyone gets benefits.

2° If most of the players cooperate but one of them defects, the traitor obtains an extra benefit.

3° If most of the players defects, nobody obtains benefits.

4° If most of the players defects and one cooperate, the cooperator suffers losses.

Let us see an example of the daily life: the cleaning of beaches.

I love to find the beach clean. Everyone prefers clean beaches. But my activity in the beach generates refuse (wrappers of food, butts, the poop of my dog). When I return back home I could take those remainders with me, but it is an annoyance for me to carry the trash bag.

These are the results that I can obtain according to my and others behaviour:

1° If everyone cooperates and gather our remainders, the beach will remain clean and with a small effort, everyone will benefit.

2° But the most comfortable for me and what I prefer is that all BUT ME cooperate to maintain the beach clean. I will not be worried about cleaning. That would be the best thing for me.

3° If everyone decide to make most comfortable, everyone (and me) will be harmed.

4° The worse situation for me would be that all left rubbish being me the unique one in cleaning. This would mean making an effort in cleaning and bearing the other people's rubbish; I would feel idiot.

Many of the environmental problems, so frequent in our society, respond to this scheme. All we row in the same boat, the boat 'Earth' with the same destiny and we have an oar each one, but some of us do not effort. These are is who English name 'free riders': the one who will enjoy the common benefit but does not contribute with his effort to obtain it.

Behold the treacherous trap behind this kind of conflict: If the others cooperate, it is my best interest to defect them, but if the others are defectors it is also my best interest to defect. No matter what others do, I should defect. But when everyone defects, everyone is worst that when everyone cooperates.

Later on we will analyze in this paper the solutions to this trap based on retaliators, the ethical values and the performance of an arbitration authority, but we must previously analyze another subtly different problem.

### B) Hawks vs. doves<sup>3</sup>

Some conflicts are very dangerous. Let us think in conflicts with physical violence where the damages can be very serious, where a player can destroy the wealth or life of another one. This is the case in conflicts between countries, but there are many other cases.

The conflicts between 'hawks' and 'doves' have the following characteristics:<sup>4</sup>

- 1° If everyone implied in the conflict act like 'doves', a beneficial agreement for all will be reached.
- 2° If one player acts like 'dove' and another one like 'hawk', the hawk benefits and the dove suffers a loss.
- 3° If both players acts like hawk, both suffer very serious losses.

The conflicts between countries usually respond to this scheme.

- 1° If the countries in conflict negotiate with flexibility and reach a peace agreement, both will benefit greatly.
- 2° If a country declares the war and the other surrenders, the first one obtains good profits and the surrendered one suffers losses.
- 3° If both countries get involved in a war, both will be heavily harmed. The damage that is received in a war is always far beyond the cost of the surrender and to the benefits of the victory.

Many political problems respond to this scheme. For example, the conflicts between an employer's association and a workers' union in a firm. If they negotiate and reach an agreement, both obtain benefits. Both parts can threaten with serious conflicts (the union with strikes, the employer's association with lock-outs and dismissals). If one of the parts acts submissive as a dove in the negotiation it will be harmed and most of the benefits of the firm will be for those who acted like hawk. But when both employers and workers are hard hawks, the firm will sink and everyone will be seriously harmed.

The trap of this type of conflict is different from the previous one. In this situation my best game is to play the opposite to the other: if my enemy is hawk the best thing for me he is to be a dove, but if I face a dove, the best thing for me is to be a hawk.

### **Other difficulties and asymmetries**

Previous to going ahead it is necessary to emphasize the differences between both types of conflict that we have just seen. In the conflicts of 'defectors-cooperators' the worse thing is to cooperate when the others defect. In the conflicts 'hawk-dove' the worse thing is to be a hawk when facing a hawk.<sup>5</sup>

That apparently small difference in the initial setting produces great differences in the theoretical results and great surprises in the results of the conflicts in the real world. The 'defectors-cooperators' conflicts take place between people who belong to the same team and they have common interests. The 'hawk-dove' conflicts take place between enemies. But how could we distinguish a friend of an enemy in the real world? How could we distinguish whether we are in a 'defectors-cooperator' conflict or a 'hawk-dove' one?

Have both Bush and Sadam Husein the common objective to maintain a peaceful and prosperous world and can collaborate among them? Or is one of both enemy irreconcilable and the only form to avoid the destruction of one is to destroy the other?

On the other hand, both 'defectors-cooperators' and 'hawk-dove' conflicts usually have an additional complication by the fact that the players are different to each other. One of them can generate much more rubbish than others. One of them is stronger and able to make more damage than others.

In the conflicts 'hawk-dove', the asymmetry in the forces causes the forecast of the results to be even more deceptive. For example, in the conflicts between countries, one of them is always more powerful militarily.

Those able to make more damage, will always have the temptation to act like 'hawk'. It could be considered stupid the political leader in a strong country acting as a dove and attending the demands of a weaker one. Nevertheless that perception is deceptive and usually leads to deadly wrong decisions.

Let us analyse as an example the wars in which it has participated to the USA in the last 50 years. In all of them the USA was much more strong than the opposite part. Its destructive capacity has been -and continues being- extraordinary. In all those wars it has caused very serious damages to his enemies. And, nevertheless, it is very doubtful that it has obtained benefits. The USA hawk has been always harmed as a result of its warmongering strategies. Not so harmed as its enemies, which certainly were destroyed, but of no form we can conclude that the USA have obtained net benefits as a result of the Korean, Vietnam or Iraq Wars. All of them implied for the American people deaths, sufferings, pain, indebtedness and economic crises. And for the USA nation and government it has implied international loss of prestige and political weakening.

On the contrary, the asymmetry benefits greatly almost always in the 'defectors-cooperators' conflicts to the stronger part. In analyzing the environmental problems we could verify that some great companies can cause persistent environmental damage obtaining great benefits year after year.

Perhaps the problem of the deceptive forecasts is that those that make the decisions are not able to distinguish between both types of conflict. In both types of conflict, when the others are cooperators or doves most advisable are to be defectors or hawk because in this way we will obtain more benefits. The difference appears when the others (or 'the other') act like defectors or hawks. In those situations it will our interest be defectors between defectors, but never it will interest to us to be hawks between hawks.

### **The solutions**

We are going to now study three types of possible solutions to those two types of conflict. We are going to call them 'the retaliation', 'the ethics' and 'the arbiter'.

### **The retaliation**

The liberal thinkers, in their search of solutions that do not require the intervention of the State, have proposed that the individual behaviour of retaliators against 'hawks' or 'defectors' can allow 'the emergency of the cooperation between selfish persons. The retaliators would be individuals that would act habitually like cooperators or doves but that when they were as opposed to defectors or hawks would act just as they.

We can find many examples of spontaneous retaliation in the real world, even a whole culture and ethics of the retaliation. 'An eye for an eye and a tooth for a tooth', the old Law of the Talion, is proposing the retaliation as strategy for the best members of the society to eliminate or marginalize the undesirable ones. We frequently observe in the everyday life vindictive attitudes. We even experienced ourselves vindictive feelings, instinctive impulses, desires to act like avengers against other people's behaviours that we consider deserve to be punished. If we have those instincts it is possibly because in primitive paleolithic times, the retaliation increased possibilities of survival of the individuals or the groups.

But the culture and our vital experience have taught to us to be prudent and to repress those instincts. We know that we can be misguided in our judgments. What we called civilization is based in the substitution of the individual retaliation by justice. And we learn from history and our own experience that a retaliator attitude can be very expensive.

To be retaliator before defectors does not have a very high cost. In a conflict in which all are defectors and anybody cooperates there will be benefits for nobody, but there are no serious losses either. That is not the case in the conflicts hawk-dove: when all are hawks, blood runs.<sup>6</sup>

### **The ethics**

Another solution can be based in the ethical introduction of values or principles.

- When the individual acts in a conflict in agreement with its ethical principles obtains a benefit, some kind of spiritual or psychological satisfaction, independently of the result of the conflict.

- When most of the members of a society assume principles or common ethical values, the individuals that act in agreement with those principles receive an additional prize: the social recognition, the prestige or respect from their fellow citizens.

PEKEA has proposed for this debate the RELATIONISM concepts (Fraternity), RESPONSIBILITY, CITIZENSHIP. Those concepts are ethical values or principles: when an individual assumes them like own, it will modify his valuation of the results of the conflicts.

Let us see as an example the case of the 'defectors-cooperators' conflicts, like the one of the cleaning of the beach. Now let us suppose that some of the cooperators have environmental ethical values, let us call them 'ecologists'. The ecologists feel bad when they cause environmental damages and they feel good when they make an effort to clean environment. The ecologists prefer that all collaborate to maintain cleaning the beach, but they will gather their rubbish anyway although the others do not.

Now the list of results is modified. We said before:

4° If all other defect and only one cooperates, the cooperator suffers losses.

But after the introduction of ethical values we can say:

4° If all other defect and only one cooperates, the cooperator is satisfied: their losses are compensated by their satisfaction to have fulfilled their principles.

We said before:

“Whatever others do, cooperate or defect, the most beneficial behaviour for me is to defect”.

Now, taking into account the ethical prize we can say the opposite:

“Whatever others do, cooperate or defect, the most beneficial behaviour for me is to cooperate. The satisfaction that I obtain by my ethical performance compensates to me of any other loss”.

The ethical value applicable to the conflicts of the Hawk-Dove type is the pacifism. The pacifist commits itself not to use the violence, to always act as a dove, never as a hawk, whatever the behaviour of his competitor.

We said before:

2° If one plays 'hawk' and the other 'dove', the hawk benefits and the dove suffers a loss.

Now, considering the ethical valuation we can say

2° The 'dove' always benefits, whatever the behaviour of its competitor by the satisfaction that it obtains from its ethical integrity.

In this case the one that always acts as dove also has the guarantee that never will suffer the damage that receives the hawks when they face to each other.

If all the members of a social group respect the ethical values of RELACIONISM (Fraternity), RESPONSIBILITY and CITIZENSHIP when they suffer the temptation to be 'defectors' or 'hawk', both the private and social benefits would increase and the losses associated to these types of conflict would not take place.

But... the problem with the solutions based on the ethics is that the ethical values are not stable in the individuals. Each individual always has the temptation to leave its principles aside. And that takes us back to the dilemma of being cooperators or defectors.

The most profitable situation for me is when others maintain ethical values while I do not share those values. If all the members of a society respect ethical principles and one of them does not respect them, this one will obtain all the social benefits and it will have less costs or will get extraordinary profits. Whatever more members of the society act under ethical values, greater benefits I will obtain if I do not share those values.

Therefore the solution of the ethical values is very fragile. We return to what we have named the treacherous trap: if everybody maintains the ethic values, my interest is not to; if everybody do not maintains the ethic values, my interest is not to either; whatever others do my interest is not to maintain ethical values.

**The state arbiter**

It is in this point where we can understand the role of the State as an arbiter.

- The State acts, on the one hand, penalizing the `defectors' and `hawk' behaviours and thus diminishing its potential benefits.
- The State can reinforce and also spread the ethical values on the society, fomenting the social recognition and increasing the material and moral benefits for the cooperative and dove behaviours.

We used here the word `State' in a very broad sense. As we said at the beginning, we use the word `State' not only to refer to the centralized power of the government of a country and its legislative, executive and judicial branches, but also to all legally constituted authority that can act solving complaints at any social level. This definition includes from the president of a community of proprietors or association of neighbours up to the General Secretary of the United Nations. In these extreme and marginal cases the coercive power of the referees are lower than in the case of the central government of a country; their coercive power is based, in fact, on the endorsement which they can obtain from those central governments. It is for this reason that both, the president of a community of proprietors and the General Secretary of the United Nations usually act based only on their moral authority: the promotion of the ethical values is the main instrument for this type of authorities.

The behaviour of the State as an arbiter creates many problems. No doubt. It is not the objective of this paper to analyze these problems but we must point at least to the consequences of the corruption and moral degradation of the power, to the loss of privacy derived from the centralized informative control, to the bureaucratic inefficiency that appears in the public administration and, mainly, to its possible submission to the defectors and hawks interests.

Neither the ethics nor the State can be considered therefore solutions only. Only the combination of both can work with effectiveness and sustainability in promoting the general cooperative behaviour.

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<sup>1</sup> We call here “Cooperators vs. Defectors” to the model that in the Theory of Games is known as “Prisoners’s Dilemma”.

<sup>2</sup> If we clasified the results as Good, Optimal, Bad and Worse we can represent my results in this game in this form:

		The other	
		cooperates	defects
Me	cooperate	Good	Worst
	defect	Optimal	Bad

In the example of the cleaning of the beach, I can obtain:

- Good: the good result, if I find the beach clean and I collaborate in maintaining it clean.
- Optimal: the best result, I find the beach clean and I do not collaborate in maintaining it clean.
- Bad: the bad result, if I find the beach dirty and I do not collaborate in maintaining it clean.
- Worst: the worst result, if I find the beach dirty and I do collaborate in maintaining it clean.

<sup>3</sup> Hawks vs. Doves is the usual form to name this model in Game Theory. It is sometimes named `Chicken’.

<sup>4</sup> We can represent my results in the Hawks vs. Doves game in this form:

		The other	
		Dove	Hawk
Me	Dove	Good	Bad
	Hawk	Optimal	Worst

In the example of the war between countries, my country may get:

- Good: the good thing is to enjoy the peace benefits.

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- Optimal: the best thing is the victory over an enemy who surrenders.
  - Bad the bad thing is to surrender to the enemy.
  - Worst: the worst thing is going to the war.

<sup>5</sup>Note the similarities and differences between the two matrices. If the other acts under the ethical form, my possibilities are the same ones: good if I cooperate or I am dove, optimal if I defect or I am hawk. The difference in the results appears when the other acts in nonethical form.

<sup>6</sup> Note that the retaliator who defects when facing a defector obtains just a bad result, not the worst one. But the retaliator who acts as a Hawk in facing a Hawk obtains the worst result.