

# Focal Points and the Evolution of Social Coordination\*

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Abstract: An alternative to the evolution of social coordination in the original state of nature is proposed. Instead of viewing the state of nature as an iterated prisoner's dilemma game, here it is framed as a coordination game. This allows us to develop an analysis based on strategic, self-interested behavior where cooperation, interaction and exchange are the focal strategies. This is in stark contrast to the standard accounts which rely on a central legal system to ensure coordination. The account put forth here provides not only insight into a way out of the jungle but also explains why we observe self-enforcing norms and conventions.

## I. Introduction

Each and every individual must face a multitude of coordination scenarios every day.

Etiquette, marriage, fashion, eating and drinking habits are but a few examples of the situations where there are several potential courses of action (Schelling, 1963). In a majority of these coordination situations we observe individuals cooperating and interacting with others. How is it that individuals are able to coordinate their activities? The answer lies in the evolution of shared rules, norms, perceptions and conventions which serve as focal points to coordinate actions. Although the importance of focal points is widely accepted when considering coordination scenarios within the context of an existing institutional and social structure, there is one area where they have been largely overlooked – man in his original state of nature and the resulting social order.

This is not to say that the coordination aspects of the state of nature have been completely neglected. David Hume for example, clearly realized the importance of conventions as illustrated by his famous example of two rowers “who pull the oars of a

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boat, do it by an agreement or convention tho' they have never given promises to each other" (1739: 315). This notion of convention as Hume noted, applied to justice and property as well which is the "most necessary establishment of human society" (315). These conventions, according to Hume, arise gradually and acquire force through repeated experience. Others, writing after Hume, have too recognized the coordination characteristics of the Hobbesian state of nature (see for example, Hampton 1986, Hardin 1991 and Kavak 1986). These writers however have focused on coordination as it applies to those in the state of nature selecting a sovereign instead of on the new insights into self-enforcing, alegal arrangements that viewing the state of nature through the lens of a coordination scenario offers. They realize that even if we are able to contract our way out of the state of nature, there is still the problem of collective action when the sovereign attempts to bring order.

Most writers, in contrast to these authors, have argued that the Hobbesian jungle is characterized as a situation of pure conflict completely overlooking or discarding any notion of coordination in the process of getting out of the state of nature (see for example, Buchanan 1975, Bush 1972, McGuire and Olson 1996, Olson 1993, and Tullock 1972). If one were to consider the social order in its entirety, these authors would contend that its makeup consists primarily of situations of pure conflict (i.e. prisoner's dilemma scenarios). Here we propose that the social order is the result of primarily coordination scenarios. This is not to say that situations of pure conflict will be completely absent, as we will see later, but rather that they do not characterize the majority of the social order. As will be discussed, in most cases the interests of parties are aligned and they stand to gain from coordinating their activities.

One can envision a spectrum with pure coordination games on one end and games of pure conflict on the other with many possible combinations in between the two (Schelling 1963). It is our contention that the initial state of nature, as well as the social order that arises from it, can be viewed as a series of games that lie closer to the pure coordination end of the spectrum, where cooperation, interaction and exchange are focal.<sup>1</sup> A coordination game is characterized by the fact that any common effort is a Nash Equilibrium. Further, all players are better off as common effort increases. In contrast, a situation of pure conflict is characterized by differing interests where defection is the equilibrium strategy. We are able to say that the state of nature and the resulting social order is closer to the coordination end of the spectrum because the goal to better one's position is shared by all. By coordinating their efforts, individuals are better able to achieve this goal.

Given this new perspective, we develop an alegal alternative explanation of the evolution of the institutional framework which allows for the coordination of interaction and exchange. Our analysis differs from the aforementioned authors in several aspects. The most obvious divergence is with those whose underlying assumption is that the state of nature is best analyzed as a situation of pure conflict. We also differ from those who recognize the coordination aspects of the state of nature in the context of selecting a sovereign by providing an alegal account that does not require such a selection process. It is our contention that if an equilibrium, via coordination, can be achieved in choosing a sovereign, then it is reasonable to assume that equilibrium can be achieved in

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<sup>1</sup> Note that there are similarities between situations of pure coordination and pure conflict. Cooperation of the parties within a prisoner's dilemma situation can be seen as a form of coordination. Both parties prefer the cooperative outcome to the defect outcome. The point is that many situation include both elements of coordination and conflict.

coordinating directly on the rules of order. As the Folk Theorem dictates, if cooperation is sustainable at all, there will normally be an infinite number of equilibria. In such a case, with endless possibilities, focal points matter a great deal.

The account developed here is most in line with Hume's and more specifically with his realization of the role of convention in recognizing the benefit of coordination and cooperation in establishing a productive society. Our analysis diverges from Hume's in that he believed the need for government arose when promises and contract had enabled people to accumulate so much property that they could not protect it. Government, and more specifically civil magistrates, would provide security, settle matters of justice and protect against acts of injustice (1739).<sup>2</sup> However, if it is assumed that individuals are rational enough to initially coordinate on rules and conventions of justice and property, it is not clear that central enforcement would be necessary.

The foundation of our analysis is strategic behavior and, more specifically, focal points as developed by Schelling (1963) and Lewis (1974). Potential difficulties arise when individuals must coordinate their actions with those of others given multiple equilibria. For example, should we drive on the left or the right side of the road?<sup>3</sup> The solutions to coordination problems include norms, conventions and rules which emerge over time (i.e., emergent coordination). In order to overcome the problem of multiple equilibria, actors attempt to synchronize their actions by coordinating to some common focal point. As Schelling, who is credited with developing the notion of focal points, writes: "The coordination game probably lies behind the stability of institutions and

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<sup>2</sup> This of course is a very cursory, and far from complete, overview of Hume's notion of the role of government. For a more complete discussion see Hume 1739, 1742 and 1752.

<sup>3</sup> To further clarify, a *coordination equilibrium* is achieved when the outcome is both a Nash equilibrium and when the choice of Actor A is the best choice for Actor B and vice-versa (Lewis, 1974 and Klein, 1997).

traditions...Among the possible sets of rules that might govern a conflict [and any other coordination scenario], tradition points to the particular set that everyone can expect everyone else to be conscious of as a conspicuous candidate for adoption..."(1963: 91). A focal point is some behavioral regularity that is one of the coordination equilibria in a situation which is characterized as a coordination problem (i.e., more than one coordination equilibria). This concept has been largely overlooked, most likely because it is based on intuition and is difficult to capture in formal mathematical and/or game theoretic models. This oversight is unfortunate because focal points offer key insights into how individuals would (and do) interact with one another. Friedman (1994) is one exception with his recognition of the coordination characteristics and emphasis on focal points in his account of the evolution of property rights. His analysis can be extended though to consider the evolution of the social order as a whole.<sup>4</sup>

In order to demonstrate that cooperation, interaction and exchange are focal strategies, we weaken the overly pessimistic assumption of widespread violence while maintaining the assumption that man is rational and self-interested. The standard assumption of social chaos couches the situation of man in the state of nature as a prisoner's dilemma game where defection is the equilibrium strategy. Building on this foundation, the standard assumption is that some form of centrally enforced legal system is necessary. Weakening this assumption allows one to consider the initial scenario as a coordination scenario and hence to consider the role of focal points.

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<sup>4</sup> There has also been much progress made in the analysis of various kinds of coordination scenarios. See Sugden (1995) for a contrast of "labeling" – i.e., the way players describe the game to themselves – with existential games in which there is a formal structure. On the evolution of equilibria in coordination scenarios played repeatedly, given a population, see Crawford (1991); Kandori, et al. (1993); Young (1993) and Ellison (1993). On the role of pre-play communication in singling out one of the equilibria, see Farrell (1987).

## II. Why Coordination?

Initially, we must address one potential criticism with our foundational assumption. That being, why should one accept our initial assumption of the state of nature as a coordination game as compared to an iterated prisoner's dilemma scenario? Consider the following matrices which depict the standard prisoner's dilemma and coordination games where the first payoff goes to Player 1 and second payoff to Player2:

		Player 2	
		Cooperate	Defect
Player 1	Cooperate	4,4	-2,6
	Defect	6,-2	<b>0,0</b>

*Figure 1: The Prisoner's Dilemma*

		Player 2	
		I	II
Player 1	I	<b>7,7</b>	0,0
	II	0,0	1,1

*Figure 2: Simple Coordination Game*

In Figure 1, the theoretical prediction is the bottom right cell (Defect, Defect). The strategy of "Defect" strictly dominates "Cooperate" for each player leading to the aforementioned outcome. In illustrating the simple coordination game, I have purposefully left the strategies vague (choosing to use Roman Numerals) in order to avoid confusion later when we consider strategies that reflect actual social situations. The best outcome, given these payoffs, is for both parties to coordinate on strategy I with the second best outcome being coordination on strategy II. If the parties are unable to coordinate their activities, both lose, as compared to other outcomes available, with a

payoff of 0. As Schelling (1963) has indicated, communication between the parties involved is critical in such scenarios - an important point which we will return to shortly.

There are two explanations as to why the state of nature has been incorrectly viewed as a prisoner's dilemma instead of as a coordination scenario. First, it may be the result of the idea that since what we are concerned about are rules and institutions to facilitate future exchanges, it is assumed that anything (institutions, rules, etc.) that assisted in bringing these future exchanges about must also come about through bargaining or exchange (Hardin, 1999). This of course is incorrect as we see many examples of institutions, rules and norms that facilitate exchange but did not themselves come about via a bargaining or exchange process – for example language.

Second, viewing the way out of nature as a prisoner's dilemma scenario overlooks man's ability to realize the enormous gains from trade. That is, it views each individual as only considering the current stock of resources. Each person chooses the "Defect" strategy because they want to maintain what they have and take what you have. What this neglects is that man has the ability to realize the incredible potential for gain from acting in harmony with others (Hardin, 1999). If we are able to coordinate on a specific set of rules, norms and conventions (what these are we will discuss later) we are able to obtain a far superior outcome as compared to a state where production is largely lacking. That is, viewing the state of nature as a prisoner's dilemma game incorrectly focuses on what individuals already have as compared to what they could have. The superior outcome is only obtainable via a productive society. But is man's reason and rationality such that they can realize these gains and set up the communication structure necessary for coordination?

A brief glimpse into history, which shows the continual development of communication technologies, goes to demonstrate that the answer is a resounding yes. We see the constant introduction and development of new information technologies (examples include symbols, sign-language, writing, the printing press, money, stock markets, limited partnerships, computers, the internet, etc.) which overcome the barriers of communication and trust, both critical to obtaining the first-best outcome in coordination scenarios.

We also see a general movement forward in man's progress. While we surely see instances of violence, we more often observe widespread cooperation which is directly at odds with the characterization of man as inherently tending toward violence.<sup>5</sup> Over history the results of cooperation and coordination have outweighed the results of defection and violence as evidenced by man's overall progress. This progress has occurred due to man's rational realization that the gains from interaction and exchange are many multiples greater than simply maintaining the given stock of goods and resources. Further, as man progresses and takes advantage of non-zero situations, he is continually introduced to larger quantities of non-zero situations which promote further interdependence and social complexity (Wright, 2000). As Mises writes:

Human effort exerted under the principle of the division of labor in social cooperation achieves, other things remaining equal, a greater output per unit of input than the isolated efforts of solitary individuals. Man's reason is capable of recognizing this fact and of adapting his conduct accordingly. Thus social cooperation becomes for almost every man the great means for the attainment of all ends (1957: 56).

Simply put, coordination on shared rules, norms and conventions allows individuals to unlock positive sum gains that otherwise would not be realized. Individuals, acting

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<sup>5</sup> The critic would argue that this is due to the backdrop of the state. However, we would respond that the state's eye cannot be everywhere. Moreover, if all individuals chose to act violently, there is little government could do to stop it. There must be something else at work which explains why we generally see order in everyday interactions. Here we offer one potential solution.

rationality, and in their self-interest to better their position, are more than willing and able to take advantage of these gains.

### **III. The Evolution of Interpersonal Coordination**

#### *Interaction and property*

Man is born into the world with his consciousness, natural talents and the state of nature that surrounds him. Acting in his self-interest to better his position, the individual becomes aware of his needs and gains knowledge of his talents and surroundings. He allocates his time, which he realizes is a scarce commodity in itself, accordingly. Over time, he comes to realize two key facts: (1.) he performs some tasks more efficiently than others, and (2.) given limited resources and unlimited wants, he is unable to satisfy all his desires.

Eventually the isolated individual comes into contact with others. As time progresses, individuals will come to understand a key economic insight – the theory of comparative advantage and exchange. When a comparative advantage is present, trade allows the parties to consume outside of their production possibilities frontier. Given that comparative advantage and exchange is mutually advantageous, we are now faced with our first coordination scenario – namely, how the parties coordinate to cooperate, interact and exchange.

Assuming there is some means of common communication and common categories of awareness and knowledge, how would formerly isolated individuals choose to interact with one another?<sup>6</sup> Although communication is possible it is restricted in

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<sup>6</sup> One may raise the objection that many parties do not share similar categories of knowledge. Robert Wright (2000) offers a potential answer with what he calls the “psychic unity of humankind” which is the

terms of credibility. Each individual must form expectations as to how others will actually act given what they choose to communicate.

In the initial situation of interaction, individuals have two options regarding some notion of property rights:

- (1.) respect the property of others
- (2.) refuse to respect the property of others

Given these options, how will the individuals choose to act? If there is a lack of recognition of the property of others, we will be in a situation where individuals will either dedicate a large portion of their resources to protection or will altogether lose the incentive to produce. Individuals, acting in their self-interest, will eventually realize that attacking others and defending against attack comes at a great cost. The costs involved include devoting resources to defense instead of production, resulting in a reduced total output. Further, if interaction is characterized by violence, each individual loses out on the benefits of comparative advantage and trade. Consider the following matrix which illustrates this scenario:

		Player 2	
		Property	No Property
Player 1	Property	<b>7,7</b>	0,0
	No Property	0,0	1,1

*Figure 3: Coordination on Property*

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notion that all individuals are genetically endowed with the same mental equipment and a universal human nature. Another solution is offered by Leeson (2002) who argues that parties adopt margins of homogeneity in order for interaction to take place. Examples include dressing in a certain manner or learning the customs and practices of others. This signals to others that the parties share commonalities easing the way for coordination. With the advent of the Internet and other information technologies, the cost of data transport is lowered. This allows individuals to find a plethora of information about other parties and groups allowing parties with similar interests to coordinate their activities.

Given these payoffs, we can conclude that respecting property is the focal strategy. Over time, individuals will learn that respecting the property (i.e., endowment) of others benefits them greatly in terms of the ability to specialize and trade with others with a reduced fear of attack (Friedman, 1994). The drastic difference in payoffs is grounded in the underlying realization of the great potential gains from respecting property as compared to obtaining as much of the current stock of goods and resources as possible or producing at the autarkic output level (represented by the payoff (1,1)).

Of course some individuals, perhaps those who have a high time preference or those lack talent in an area of production, may fail to respect the property of others. What are we to say to this? As stated in the introduction, the account put forth here does not completely exclude situations of pure conflict but rather argues that the social order is mainly the result of coordination. The case described here would fall into a situation closer to the pure conflict end of the spectrum. If everyone has a high time preference, society would quickly collapse, as everyone would grab from others as quickly as possible. It is dubious that a productive society would persist with a large number of individuals with high time preferences. Further, in order to protect against such individuals, it would be logical for individuals to dedicate some of their resources to defending their endowment, especially when the development of the social fabric is in its early stages. We would expect that fewer resources would be dedicated to defense in a situation where property rights are respected as compared to a situation where they are not. A general recognition of property rights and trade are interrelated. If there is no respect for the endowments of others, trade cannot occur. We are reduced to a situation

where each produces for himself and must either defend his endowment, attack others or engage in some combination of the two. The potential gains from the plethora of non-zero sum scenarios otherwise available are lost. Finally, the issue of high-time preference is a potential problem difficult in all potential explanations of a way out of the state of nature.

### Interaction and exchange

Once individuals coordinate on the focal strategy of acknowledging and respecting property, they must coordinate their activities given the following strategy options regarding interaction and exchange:

- (1.) choose to interact and come to some agreement on the terms of trade,
- (2.) choose not to interact at all (i.e., each produces at the autarkic level of output),
- (3.) one or both can choose to attack the other

These options are not mutually exclusive. It is possible that while they agree face-to-face not to interact, one may later choose to attack the other (i.e., fail to respect his endowment as his property). It is also possible that the individuals will agree to trade and after trading one may choose to attack the other. As we have seen, the law of comparative advantage dictates that both parties will be better off if they partake in social cooperation – the division of labor coupled with exchange. Given this, despite the fact that there are multiple equilibria (bolded below) the strategy of “Interact and Exchange” is the focal equilibrium for those involved given the higher payoff to both parties.

Consider Figure 4, which illustrates this scenario:

		Player 2		
		Interact & Exchange	No Interaction (Autarky)	Attack
Player 1	Interact & Exchange	<b>7,7</b>	1,1	-1,1
	No Interaction (Autarky)	1,1	<b>1,1</b>	-1,1
	Attack	1,-1	1,-1	<b>0,0</b>

*Figure 4: Coordination on Interaction & Exchange*

To support this conclusion, let us consider the alternatives. If the individuals choose the strategy “No Interaction,” they lose access to the goods which others produce. That is, they will be limited to producing at the autarky level of output. Assigning a payoff to the “Attack” strategy is somewhat arbitrary for both parties since the outcome depends on the psychological strength and amount of weaponry for attack and/or defense held by each relative to the other party. Here we assume that if one party attacks while the other is not expecting it – that is, they are playing either the “Interact & Exchange” or “No Interaction” strategy – the former gains and the latter loses. If both parties attack, we assume it is a wash as neither party gains. These payoffs would vary of course depending on the parties actually involved.

The strategy of “Attack” is a risky strategy to select for two reasons. First, if Player 1 chooses to attack Player 2, there is no guarantee that he will win and obtain the full endowment of 2. Rather, Player 1 must weigh the benefit of obtaining the endowment of Player 2 against several factors. He must consider the probability of

winning as well as the probability of Player 2 injuring him or destroying part or all of his pre-attack endowment during the altercation. Second, and perhaps more important, if Player 1 attacks Player 2 he may very well lose the potential for future interaction. This loss occurs at two levels. If Player 1 harms Player 2, then 2 will either lose incentive to produce or will invest more in his personal defense to protect against future attacks both of which reduces total output. Second, as other individuals gain knowledge of Player 1's behavior, they will take measures to prevent the same from happening to them. They can accomplish this either by bolstering their own defense or by abstaining from trade altogether. If both individuals choose to attack each other, assuming comparable strength, neither gains in terms of endowment and additionally future exchange is greatly jeopardized. Given these options and the subsequent outcomes, "Interaction and Exchange" is the focal strategy – each party realizes that it is mutually beneficial to select that strategy.

Does this mean that each individual will fully trust the other with no consideration that the other will renege on the strategy communicated? As mentioned previously, it is most likely that some combination of the strategic options will in fact occur. Each participant involved in the coordination game will know these three strategies and each will act accordingly. The likely outcome is that each individual will have a bundle of expectations which places a weight on each of the potential actions of the other individual. For example, Player 1 may invest some of his resources in personal defense to protect his endowment of resources. Likewise, he will have some expectation that a peaceful interaction will occur or that the other participant will communicate that he doesn't want to interact only to attack. We would expect that during initial interactions,

individuals would be hesitant about the actions and credibility of others. Given this, it would be expected that the individuals would expect some kind of signal of credibility on the part of others to ensure that the other delivered on his stated strategy of action. As trade progressed, we would expect the required signal to become less and less costly as trust is built.<sup>7</sup>

As interaction and exchange continues to take place, and as norms and conventions continue to evolve and develop, individuals will learn what works to enable trade and what does not. As they do so, trade and interaction will be facilitated in an increasingly more efficient and productive manner. Further, these organic norms and conventions will reinforce peaceful interaction as a focal point. As Friedman writes:

So the evolution of norms provides a...possible account of how we get from Hobbes to here. Where the recognition of rights between two people...provides mutual benefits, it is in the parties of the concerned to recognize such rights. By doing so they change the pattern of Schelling points that determines the equilibrium of their interaction, in a way which provides (some) protection for the rights in question. Over a long period of time, the result is to create a set of consistent mutual expectations, and one that tends to be locally...efficient (1994: 9-10).

This offers insight into how contracts can be agreed to and carried out without a coercive state to serve as the enforcer – the contracts enforce themselves as both parties stand to mutually benefit from carrying out the agreed upon terms.

### *Dispute settlement*

It would be a grave oversight to assume that there will never be disputes or conflicts between individuals. Even the most affable individuals may face minor disagreements over transactions. We must consider how disputes would be settled and how they could affect the focal strategy of “Interact and Exchange”.

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<sup>7</sup> For more on the development and perpetuation of trust, see Gambetta (1988), especially Chapter 4: “Trust as a Commodity” by Partha Dasgupta.

Assume that there is a dispute between two parties that have engaged in an exchange. There are four potential courses of action:

- (1.) work to resolve the dispute and maintain the exchange relationship in the future,
- (2.) work to resolve the dispute but sever future relations,
- (3.) sever the relationship - the parties go their separate ways and the dispute remains unsettled and future interactions and exchanges do not occur,
- (4.) one or both of the parties attacks the other

Figure 5 illustrates these scenarios:

		Player 2			
		Resolve Dispute w/ future interaction	Resolve Dispute w/o future interaction	Sever Relationship	Attack
Player 1	Resolve Dispute w/ future interaction	<b>7,7</b>	5,5	2,1	-1,1
	Resolve Dispute w/o future interaction	5,5	<b>5,5</b>	2,1	-1,1
	Sever Relationship	1,2	1,2	1,1	-1,1
	Attack	1,-1	1,-1	1,-1	<b>0,0</b>

*Figure 5: Coordinating on Dispute Settlement*

As above, these courses of action are not mutually exclusive. It is possible that one party will signal that they are willing to settle the dispute only to attack the other party at some later time. And, as above, each party will have a mixed bundle of expectations of what will happen and how they will deal with each potential scenario. Given our assumptions, the first strategy, “Resolve Dispute w/ future interaction”, is the focal point as it is mutually advantageous to all parties involved.

To support this conclusion the reasoning is similar to that above. If both parties work to resolve the dispute and then decide to sever relations, both parties lose out on the potential gains from future interactions. We would expect this course of strategy to be followed if one or both of the parties expected the costs of future disputes to outweigh the benefits of future trades. Hence we see a payoff of (5,5) when the parties undertake this strategy. It is the second best outcome in that they lose out on future trade with each other, unless that is they decide to again trade in the future. They also benefit in that they signal to other parties that they are reliable in settling disputes. Notice that if one party attempts to settle the dispute but the other simply decides to sever the relationship or attack the parties both are worse off as compared to the first and second best outcome. Both parties lose out on the benefits of future exchange. If either decides to simply sever the relationship while the other attempts to resolve it, they lose out both on future trades with the other player as well as in terms of trade with others assuming that they can observe that the player is unreliable in settling disputes. Finally, as above, any choice of the attack strategy depends upon the relative strength of the parties as well as their weaponry. As discussed in the analysis of exchange and interaction, this is a very costly option. Here, as above, we assume that if both parties attack, it would be an even battle and neither would gain or lose. While there are three potential equilibria in this game (bolded) the parties are not indifferent to them. Both are better off if they settle the dispute with future interaction – this is the focal strategy.<sup>8</sup>

#### **IV. The Prisoner's Dilemma–Coordination Game Spectrum**

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<sup>8</sup> Again, as discussed above, this assumes that one or both parties do not have a high time preference.

Following Schelling (1963), one can envision a spectrum with pure coordination games on one end and games of pure conflict on the other with many possible combinations in between the two. Not every situation will be one of pure coordination or pure conflict. In fact, in many cases, situations will possess characteristics of both. As we move from the pure coordination end of the spectrum, where payoffs are symmetric to both players (refer to Figure 2), to the pure prisoner's dilemma game (refer to Figure 1) the situations become unequal coordination scenarios where there are potentially conflicting interests as illustrated in Figure 6.

		Player 2	
		I	II
Player 1	I	<b>6,5</b>	3,3
	II	3,3	<b>5,6</b>

*Figure 6: Unequal Coordination Scenario*

In this matrix, there are two outcomes [(6,5) & (5,6)] which are preferred to the other two outcomes [(3,3) & (3,3)]. There is potential conflict in that Player 1 prefers (6,5) while Player 2 prefers (5,6). Isn't this then a situation of conflict instead of coordination?

The determining factor is the relative weightings the players put on the differences between their first and second highest payoffs (here 6 and 5) and their second and third highest payoffs (here 5 and 3). If the former are insignificantly different in the mind of the player while the latter are drastically different then we characterize this as a coordination scenario. If on the other hand the reverse is true, then we would

characterize this as a situation of conflict. We see then that in coordination scenarios there is some room for conflict of interests. Further, as we move from the pure coordination end of the spectrum to the pure conflict (prisoner's dilemma) end of the spectrum the relative rankings continually move toward a conflict scenario. In coordinating on rules then, interests do not have to be in complete harmony in order for our analysis to hold.

While we concluded that certain strategies are focal: respecting property, interaction and exchange and dispute settlement, there is an issue of degree that must be addressed. For instance, parties may agree to respect property but after coordinating to that strategy to what degree do they actually do so? In other words, must everyone follow the rules to the letter all the time? Is it the case, for example, that an individual will never lay foot on his neighbor's property without first obtaining his explicit permission? At first, it would seem that one could view this as a coordination game followed by a prisoner's dilemma game. The individuals coordinate on the strategy of respecting property but then one defects by setting foot on his neighbor's property without his permission.

There is an alternative way to envision such occurrences. One could view a certain level of defection as focal in itself. This then places the prisoner's dilemma game under the larger umbrella of a coordination game. After coordinating on general rules, the parties must then coordinate on those actions which are context specific. For instance, it is widely agreed that holding the door for others is a polite gesture (a general norm) while not doing so is considered rude. However, in a situation where one has the opportunity to hold the door for a feminist, he may choose not to do so realizing that

doing so may upset her. Here, both parties coordinate on breaking the focal strategy – opening the door. This scenario is illustrated in Figure 7:

		Player 2	
		Manners	No Manners
Player 1	Manners	<b>6,6</b>	0,2
	No Manners	2,0	1,1

*Figure 7a: Overall Social Coordination on Manners*

		Player 2	
		Hold Door	Don't Hold Door
Player 1	Hold Door	-1,-1	-1,-1
	Don't Hold Door	0,0	<b>3,3</b>

*Figure 7b: Context Specific Coordination on Manners*

In the general societal context, it makes sense to coordinate on manners given their power as lubrication for the gears of social interaction. However, in the context specific situation of the feminist (Figure 7b), it makes sense to coordinate on the strategy of “Don’t Hold Door” which is at odds with the general norm of having manners. If Player 1 does hold the door (assuming the feminist is Player 2) both lose – the feminist suffers a lose of utility in having a man hold the door for her and the man suffers in either having caused a lose of utility of another or in having to suffer the consequences of his actions.

The same reasoning applies to our above example of the case of the neighbor's property. The neighbor may very well set foot on his neighbor's property without his permission if he sees something suspicious knowing full well that the owner will not take action against such an act. The key is that the underlying strategy is focal (holding the door, respecting your neighbor's property, etc.) while the specific circumstances of each situation are a matter of degree. In some cases it may be focal to defect, to some degree, on the underlying focal rule.

Considering the pure defection end of the spectrum, we would expect individuals to undertake such strategies (crime, no recognition of property, etc.) when the benefits gained are greater than the costs (potential harm from attack, lack of future exchange and interaction, ostracism, etc.). This raises questions regarding the establishment and maintenance of focal point equilibria. Is unanimous consent necessary? What if some individuals defect? Will the focal equilibria then unravel?

Unanimous consent is not required to establish and maintain focal points. Coordination plays a role on both sides of the social order – both in establishing it and maintaining it. If individuals cannot coordinate their activities, then a social order will be lacking - it won't be established in the first place and the standard (prisoner's dilemma) account may then come into its own. Moreover, once established, if focal points fail to continue to coordinate activities, the social order will likewise fail. The social order, viewed as an intricate focal point, is maintained by enough people to make defection too costly. What is critical in preventing unraveling is a *margin of acquiescence* whereby defecting from the focal strategy is too costly (Hardin, 1999: 144). This is not to say that some degree of defection can never occur, but rather that once an order is established,

large scale defection is a costly strategy. Defecting can and will be beneficial to some but not on a large scale once an order is established. For instance, once we coordinate on driving on the right hand side of the road, if one person than chooses to drive on left hand side, those in the general proximity would suffer but the entire convention would not unravel. Likewise, if someone slams the door in the face of others, the norm of manners, in its entirety does not unravel. Of course this is costly for the person acting in a rude manner for eventually no one will want to interact with him.

It must be made clear that there is some tipping point, above which the social order will unravel. If in fact it is the case that a large number of people defect, then the previously focal strategy will no longer be focal and either individuals will coordinate on a new strategy or will cease to coordinate activities. In those situations where coordination fails to occur, there will be a lack of interaction, exchange, social order and progress. In cases characterized by collective action, there must be some underlying notion of what is to be achieved and parties must be to coordinate their actions toward that end. This is not to say that there will never be defection or the free rider problem, but in cases where we observe order, enough people believe in the underlying norm to coordinate their actions toward the end. Further, despite cases of defection, exploitation or parasitic behavior, over time coordination scenarios produce more positive benefits than negative harms and societies forge forward toward greater productivity and wealth. Man, acting rationally, realizes this. As a result, individuals become more intertwined in larger networks of interdependence and the fabric of mutual benefit that underlies society is continually expanded and strengthened.

## **VI. Conclusion**

The central claim of this paper is that the initial state of nature can be viewed as a series of scenarios closer to the coordination end of the spectrum as compared to the standard assumption of a situation characterized as a series of prisoner's dilemma game. The result is an account of property rights, exchange and dispute settlement in a world lacking a centralized legal enforcement mechanism. The perspective set forth here has widespread implications. Building upon our framework, one could conclude that the overall social and economic order as we know it is an intricate focal point that is self-enforcing. Underlying this complex focal point is a series of more basic focal points similar to those discussed above. The evolution of relations and interactions in society can then be seen as the development and/or shifting of these underlying focal points. Changes in such things as fashion, culture, norms, laws, religion, communication, naming and business practices, etc. can be viewed as shifts in focal points. These underlying focal points directly shape the overall social order. As the underlying focal points are self-enforcing so too can the overall social order be viewed in a similar manner. To return to Hume, man rows the boat of society forward, not by some type of promise or contract, but by convention.

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