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Fallacies in the Theories of the Emergence of the State

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The theory of the emergence of the State both in public choice literature and in neoclassical economics assumes that social interaction is prone to "failure" on the model of neoclassical "market failure" theory. It assumes a state of nature, an anarchist utopia, as James M. Buchanan (1975, pp. 2 and 3) has termed it. In the language of game theory, three sorts of social dilemma must be solved to achieve a stable society: the coordination game, the prisoners' dilemma, and the chicken game.[1]

The coordination game covers coordinated social interactions from driving on the road (left or right), to the use of a common money, language, law, etc. Supposedly, a State is needed to achieve coordination.

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[1]Game theory is the fashionable pseudo-scientific way of studying social interaction. It can be highly mathematical, thereby giving it the appearance of a scientific argument. However, game theory is entirely metaphorical. There are a lot of textbooks on game theory; we recommend for our purpose three of them: Hargreaves-Heap and Varoufakis, *Game Theory: A Critical Introduction* (1995); Rasmussen, *Games and Information: An Introduction to Game Theory* (1989); and Sugden, *The Economics of Rights, Cooperation and Welfare* (1986). For a more general and lively introduction to game theory see Binnore, *Fun and Games* (1992).

Games of the prisoners' dilemma type cover reciprocal interactions that are subject to possible free riding. Everyone would be better off if cooperation were obtained. But without an outside enforcer (the State) to make contracts and arbitration binding, dominant strategies lead to a natural state of noncooperation.

Lastly, the chicken game covers conflicts wherein one party gains at the expense of another. Rules for establishing property rights in unowned resources (e.g., homesteading) in particular are supposed to imply an unequal distribution of wealth. Conflicts between individuals arise about these inequalities, requiring a peacemaking State.

From this perspective, the need for a State to achieve efficient, cooperative solutions to problems raised by social interaction seems evident. This need increases in urgency as the number of players increases. For economists like James Buchanan (1975), Douglass North (1981), and Dennis Mueller (1989a), the State is the institution best suited to avoid the failures of social cooperation at minimum "cost." Indeed, even if all social interactions or games could be solved spontaneously by individual actions or voluntary collective ones, the use of the monopoly of coercion by the State supposedly economizes on the costs of transition from a state of noncoordination to an ordered state of social interaction.

The minimal State with its monopoly of coercion in a territory jointly with democracy is the instrument through which it is said that efficient and peaceful cooperation will emerge among individuals in the society. This Hobbesian, pseudo-contractual legend of the emergence of the State remains part of economic orthodoxy in spite of the fact that it has long been challenged by at least two other traditions in political philosophy: the Lockean view and the "criminal view" of the State (Hobbes 1985; Locke 1960; Oppenheimer 1999).

The Lockean tradition is not so different from the Hobbesian one. The necessity for social cooperation (and, thus, the problems featured in coordination games, free rider dilemmas, and chicken games) is a natural consequence of individual actions. Norms, language, money, law, private contracts, arbitration, town charters, and covenants are examples of cooperation between individuals. The State is presented as a tool to reduce the transaction costs of purely voluntary cooperation. Civil society is transformed into a political one by a "social contract" or a "constitutional contract" which may be broken—by civil disobedience, revolts, revolutions, and secessions—if the State does not keep its promise of protection.

The criminal view sees the State as the outcome of a struggle between men who led armed bands of predators or criminals with which they conquered a territory and then appointed themselves

Overlords, as Clovis did in France.[2] These predators, to avoid permanent conflict and exhaustion of the plundered territories, divide territories among themselves, and exert a monopoly of coercion. Each institutionalized thief has an interest in preserving the productive capacity of his victims. By rendering his theft more predictable and by keeping away competing predators, each warlord gets more from his plunder than a nonmonopolist, noninstitutionalized bandit.

This is the new Hobbesian view of the emergence of the state developed by Mancur Olson (2000). However, it was not a novel idea in political theory. Bertrand de Jouvenel (1973) had developed the same idea in 1948, and the argument that a monopoly of theft is a superior solution to a war of all against all has been mentioned often in the literature.[3]

In this paper, I will explore the logical structure of these views. I will argue that they rely on a series of rhetorical sleights-of-hand that are incompatible with scientific reasoning.

METAPHORS AS THEORIES

In both the public choice and the neoclassical literature, the theories of the emergence of the State are metaphors. Both Hobbes and Locke, in discussing the emergence of the state, assume that a "social contract" exists.

However, a contract between people who do not know each other and who do not give their consent is no contract at all. Further, there can, in fact, be no social contract because nobody knows with whom he would be contracting, who would benefit from the contract, and who would bear the cost. Lysander Spooner (1867) has settled this issue in a definitive manner.

Yet, Spooner's arguments notwithstanding, kings and statesmen are not considered criminals by the populace. Even when a prime minister or a president is responsible for millions of deaths (Hitler, Stalin, Mao, and Pol Pot come to mind), and even when the amount of wealth they steal from their subjects is far higher than anything that private thieves could steal, they are still, astonishingly, held to be something higher than are criminals.

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[2]The word "France" comes from the tribe named *les francs*, which means freemen or brave men. Clovis conquered a territory that is similar to the contemporaneous borders of France (Jamet 1996, p. 54).

[3]Cf. Buchanan (1973).

METAPHORS ARE DUAL-USE INSTRUMENTS

One possible use of metaphors is to alter judgment on the State in order to make the rulers look legitimate or illegitimate in the eyes of the citizens. Ever since Etienne de la Boétie (1975), we know that all political power rest on its legitimacy in the eyes of a majority of the population. In the battle of ideas, and particularly in the battle for political power, metaphors are weapons.

The second aspect of metaphors is the one we are concerned with. Metaphors can be useful for a better understanding of a phenomenon even if they belong to the art of rhetoric and not to science. As McCloskey (1986) noticed, economic speech and models are full of rhetorical figures. Markets can be represented by supply and demand "curves." Social interaction can be thought of as "games" like chess or a "Hawk and Dove game" (Smith and Price 1973, pp. 15–18). "Children are viewed as a durable good," wrote Gary Becker (1976, p. 193) in another memorable metaphor.

A metaphor has the power to bring two separate domains into cognitive relation, thereby illuminating the problem under scrutiny. It shapes the tools we use, the questions we ask, and the answers we give. Children, like refrigerators, involve cost and deliver benefits over a long period of time. A higher opportunity cost of raising children or of maintaining a refrigerator lowers the demand for their services. The similarities reveal also the differences. Unlike refrigerators, children have opinions, pick money from your pockets, and sometimes give affection to their parents. "Metaphorical thought is a distinctive mode of achieving insight," wrote McCloskey and "the gain from the trade in the case of children is coming from the theory of durable goods, not the other way round" (McCloskey 1985, p. 78).

Yet, if some metaphors illuminate the problem, others do the opposite, as is the case with metaphors which depart from methodological individualism. In our current topic, the metaphor of the "contractual state" does not illuminate the issue of the emergence of the State. The social contract metaphor treats political arrangements between people as if they were private contractual arrangements between traders, a metaphor drawn from economics. We understand quite well how mutual consent can obtain between two people or between a small number of traders who know each other well, but not between a great number of people who have never met and who do not know one another. Who voluntarily enters into a contract with a madman or a serial killer? The metaphor begs the question of "government by consent" (Simmons 1993).

This issue is crucial for a contractual view of the emergence of political power. The question then becomes: How do you devise political institutions to form unanimous consent in the polity?[4] This is the reason why the "contract" metaphor can never account for the emergence of the State, since there has never been any state where such institutions existed. By contrast, the other metaphor, "the criminal" State, is more illuminating in that sense as, in this view, the issue of "government by consent" makes little sense.

But metaphors can be erroneous. We have to study them carefully to accept their virtue as a device for a better understanding of the State. This is what we will try to do with the following fallacies.

THE NIRVANA SYNDROME AND THE FALLACY OF CONVERSE ACCIDENT[5]

The fallacy of converse accident consists of generalizing on the basis of noncharacteristic circumstances. The nirvana syndrome shapes the real world to fit the abstract model of the social scientist.

Consider again the coordination game, realizing that the prisoners' dilemma shares the same vices. The coordination game is well illustrated by a crossroads situation. Suppose that two drivers are approaching an intersection. Each has a choice of two strategies: slow down or maintain speed. If one slows down and the other maintains his speed, both get safely through the crossroads and there is only a slight delay for the driver who did slow down. He loses several seconds. If both slow down, they reach the intersection with the problem of priority still to be settled, so each of them will lose even more time. But if both maintain their speed, the outcome could be an accident, with a substantially greater loss of wealth and time. Table 1 represents this coordination problem.

[4]Democracy could be considered a proxy for such consent. However, it is not such a proxy in the sense that observed democracy is a political institution which has organized the competition between political factions or pressure groups to capture for a certain period of time the authority to exercise the monopoly of coercion. Democracy could be such an institution if the right to ignore the State is implemented, or if an explicit consent is organized in the polity.

[5]The nirvana syndrome has been popular among economists since the criticisms of Harold Demsetz (1969, vol. 12, pp. 1–22) addressed the Nobel Prize winner Kenneth Arrow's views on market failures in producing information. The fallacy of converse accident is the usual sophism of hasty generalization (Miller 1992, chap. 2).

Each row and each column indicate one driver's expectation of the other driver's actions. Thus, Driver 1 (D1) has an expectation (ε) that D2 will slow down, and another expectation (1-ε) that D2 will maintain speed. Likewise, D2 has an expectation (μ) that D1 will slow down, and another expectation (1-μ) that D1 will maintain speed. μ and ε vary between 0 and 1, so the two choices (maintaining speed or slowing down) are both mutually exclusive and exhaustive. By combining a particular column with a particular row, we observe the results of each person's actions, and see the payoffs that each driver bears from that combination. Payoffs are measured here in lost time. If one slows down and the other maintains speed, both get safely through the crossroads and there is a slight delay to the driver who has slowed down. He loses one minute. If both slow down they reach the crossroads with the problem of priority still to be settled. Both will lose 10 minutes. But if both maintain speed, the outcome could be worse. Both lose 21 minutes, the time to examine and discuss the damages and to exchange information for insurance purposes.[6] But the general form of the game allows these losses to be expressed in terms of hundreds of dollars by including not only the monetary cost of time but also the monetary cost of repairing the wrecked car.

Table 1

Coordination: The Crossroads Game

Payoffs	D1's Expectation that D2 will maintain speed (Strategy M): 1 - μ	D1's expectation that D2 will slow down (Strategy S): μ
D2's Expectation that D1 will Maintain Speed (Strategy M): 1 - ε	21′ 21′	0′ 1′
D2's Expectation that D1 will Slow Down (Strategy S): ε	1′ 1′	10′ 10′

[6]We can think of the payoff as (r-t), where r= the benefit from "r"eaching the destination and t="t"ime lost. By normalizing r=0 we are just saving space.

In such a social interaction we assume that there is a large community of drivers who play against one another repeatedly (Sugden 1986). The game is played anonymously and the coordination problem is symmetric. Every driver will agree that it is a game played repeatedly and that it is symmetric in the sense that the intersection can be approached on the right or on the left and that this position is interchangeable.

Anonymity is a reasonable hypothesis, but it should be kept in mind that it plays a major role in the story. In the absence of this assumption, for example, if D1 knows that D2 is an old man who always slows down, so D1 expects that $\mu = 1$, then D1's best strategy is to maintain speed and cross the road, since his cost then is 0, while his cost if he also slows down is 10. By contrast, if D1 knows that D2 is a young daredevil who always maintains his speed so that $\mu = 1$, then D1's best strategy is to slow down and let D2 cross first, since D1 only loses 1 by slowing, but loses 21 by maintaining speed. By assuming anonymity, though, we posit that D1 and D2 know nothing about the other so such knowledge could not come into play. The only thing that both know is the loss from each outcome, since this would be considered common knowledge. Everyone has a correct anticipation of the time he will lose if he commits an error, and the loss is the same for every one.[7]

How does each driver choose the best strategy? Each chooses to maintain speed or to slow down depending on the strategy that each expects (value of μ) others to adopt, so *expected* loss is minimized.

The expected loss by adopting strategy M (maintain speed):

(1) $E_M = (1-\mu)\,(21) + (\mu)\,(0)$

The expected loss by adopting strategy S (slow down):

(2) $E_S = (1-\mu)\,(1) + (\mu)\,(10)$

Notice that the choice between the two strategies depends on one's expectations (μ) of the behavior of others. If $\mu = 1$ (what we call a pure strategy), such that D1 completely expects D2 to slow down, then D1's best response is to maintain speed, since loss is 0, compared to the loss of 10 incurred by slowing down, $E_M > E_S$. Likewise, if $\mu=0$, such that D1 completely expects D2 to maintain speed, then D1's best response is to slow down and let D2 cross, since D1's loss is only 1, compared to the loss of 21 incurred by maintaining speed, $E_M < E_S$. We have what we call in game theory two Nash equilibria.

[7] We will come back later to the implicit hypotheses of the payoff matrix.

Now, assume that D1 expects that D2 will choose to maintain speed or to slow down with an equal probability of ½ (what we call a mixed strategy). Then E_M= (21/2) =10.5; E_S= (10/2) + (1/2)=11/2=5.5. E_M> E_S consequently D1's best response is always to maintain speed. Can we find between μ=0 and μ=1 an expectation, μ*, at which D1 is indifferent between the two strategies? Yes, when $E_M = E_S$, that is, when (1-μ) (21) + (μ) (0) = (1-μ) (0) + (μ) (10), then μ* = 2/3. If μ<μ* = 2/3, D1's best response to D2's strategy is to maintain speed. If μ> μ* = 2/3, D1's best response is to slow down. The expected loss at this threshold is 21/3=7. We have what we call Nash equilibrium in mixed strategies.

Since the row driver D1 is making his choice without knowing D2's choice, he has to choose an actual probability, Pm, to maintain speed or, Ps, to slow down given his beliefs, 1-m, m, on D2's strategies. D1 want to minimize:

D1's expected losses = Pm [(1-μ) (21) + (μ) (0)] + Ps [(1-μ) (1) + (μ) (10)]

D2's, on the other hand, want to minimize:

D2's expected losses = Qm [(1-ε) (21) + (ε) (0)] + Qs [(1-ε) (1) + (ε) (10)]

A Nash equilibrium will consist of probability beliefs (1-μ, μ, 1-ε, ε) , probability of choosing strategies (Pm, Ps, Qm, Qs) such that:

(a) the beliefs are correct: Pm=ε, Qm=μ

(b) each driver is choosing Pm, Ps and Qm, Qs so as to minimize his expected losses given his beliefs.

"In equilibrium each driver correctly foresees how likely the other driver is to make various choices, and the beliefs of the two drivers are mutually consistent" (Varian 1992, p. 265).

We can solve this game by writing the minimization problem that each driver has to solve. The row driver has to minimize:

Min (Pm, Ps): Pm [(1-μ) (21) + (μ) (0)] + Ps [(1-μ) (1) + (μ) (10)] such that Pm+Ps=1 and Pm>0, Ps>0.

The Lagrangian takes the form:

L= {Pm [(1-μ) (21) + Ps [(1-μ) (1) + (μ) (10)} - £1(Pm+Ps-1)-£2Pm-£3Ps.

Differentiating with respect to Pm and Ps, the first-order conditions are:

(i) (1-μ) (21) =£1+£2
(ii) (1-μ) (1) + (μ) (10) =£1+£3
(iii) Pm+Ps=1

Since we already know the pure strategy solutions, we consider the only case of mixed strategies where Pm>0, Ps>0. The complementary slackness conditions imply that £2=£3=0. Then we get

(iv) 2. (1-μ) =μ

The row driver D1 will find optimal to play a mixed strategy when (1-μ) =1/3 and μ=2/3. The row driver D1 maintains speed two times out of three and slow down one time out of three: Pm=2/3 and Ps=1/3. By substituting in the expected loss function:

(v) Pm [(1-μ) (21) + (μ) (0)] + Ps [(1-μ) (1) + (μ) (10)]
= (2/3) (1/3).21+1/3[(1/3) + (2/3) (10)] =7

As the game is symmetric we can follow the same procedure for the column driver D2.

The Nash equilibrium in mixed strategy is not Pareto superior as each driver prefers respectively the one (among the pure strategies) which maintains his speed while the other slows down. Note that the game says nothing about how the mixed Nash equilibrium is achieved and if it could be achieved.

Under these hypotheses, the frequency of social interaction with no coordination (both slow down and both maintain speed) is exactly 55.6 percent of all cases, which is a huge number.[8] The important point is that the frequency of accidents is 11.2 percent, which is very high, compared to what is actually observed.

These particular percentages reflect the particular and arbitrary losses of the payoff matrix, but the structure of the payoff matrix stays the same. Thus, the temptation is strong to conclude that spontaneous social interaction has failed and that "we" need to do something. How can this discoordination problem be solved? This is where our two traditional approaches enter the picture. One approach is to follow the Lockean view, such that from the spontaneous order emerges a convention that solves the problem (priority rules). The State then uses its power to coerce individuals in order to reinforce this natural order. The other approach is the Hobbesian one in which the State directly imposes a planned order.

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[8]The probability that both slow down is (2/3)*(2/3) = 4/9 and that both maintain speed is (1/3)*(1/3)=1/9. Consequently, the discoordination frequency is 5/9=0.556. In 44.4 percent of the cases, there is coordination between the drivers.

Sugden has demonstrated that if there is an asymmetry in the crossroads game upon which expectations of the behavior of others can be based, such that each driver is confident how the other driver will behave, the problem is solved. A pattern of coordination will prevail. Looking back to Table 1, assume that the other driver is coming from the left and you are coming from the right. This information about the other driver is easy to know and nonambiguous. For whatever reason, some drivers coming from the left slow down (or maintain speed), and, as you gain experience, you notice this asymmetrical behavior. Your experience leads your expectations about the other driver's strategy to be $\mu = 1$. Likewise, the other driver, noticing that you are coming from the right, and recognizing that, for whatever reason, drivers coming from the right maintain speed (or slow down), the other driver's expectation of your behavior tends to be, with experience, $\varepsilon = 0$. Consequently, you maintain speed and the other driver slows down. The coordination problem is solved and is a self-reinforcing process. Each person wants to follow it, because everyone else does. Once a convention begins to evolve from such a slight difference, everyone is attracted to it.

Giving priority to those coming from the right at a crossroads is one convention (giving priority to those coming from the left could have evolved) among many others. The best-known convention that challenges the priority on the right is the asymmetry between major roads and minor roads. People coming from a minor road slow down more often than they maintain speed. It is interesting to notice that both conventions can be used simultaneously. Such conventions have not been invented by anyone, they are not negotiated, and no one consents to them. They simply evolve.

Knowing the convention, it is possible to use coercion under a Lockean "government-by-consent" view to improve the "natural order" without violating its principles, in this case, by giving priority to those coming from the right. Government can manipulate the expectations of drivers by declaring that any driver who does not respect the priority rule will be fined. Likewise, government can eliminate ambiguity in the choice of rules or on the interpretation of which road is minor or major. For example, at a particular intersection, the government's road crew puts a stop sign on one road to indicate that it is the minor road. Alternatively, the road crew could eliminate the intersection through the use of controlled access lanes, bridges, tunnels, or other methods. In each such instance, though, the state is merely confirming the existing evolutionary order.

The other solution is the planned order. Each intersection might have red lights or policemen (or both) to control the traffic and signal who has the right to move. Those who do not respect the order will be fined.

Our purpose here is not to criticize the interference of the State with the spontaneous and "natural" order. We do not want to discuss how the "State" fails to solve the problem of coordination when it substitutes its planned "order" for spontaneous interaction. Instead, we want to show that these interventions rely on one fundamental error and one fallacy:

(1) the fundamental error of the nirvana syndrome; and

(2) the fallacy of the converse accident.

The fundamental error stems from the initial step, where we explicitly "objectified" the payoff structure. In doing this, we mask both the error and the fallacy, although the error remains easy to detect. We describe, in an abstract model, the behavior of drivers, and then derive implications about the coordination of their interaction. However, we cannot translate this abstract model into guidelines for policy suggestions. Government interventions based on this abstract model must assume that the actual driver in the real world behaves like the driver of the model, and that the social interaction between drivers "fails" because of coordination game situations. In essence, the purpose of the policy suggestion is to force the real world into compliance with the abstract model.[9]

The fallacy is more difficult to detect. Consider again Table 1. Suppose that when both drivers maintain speed, the total losses sum to 101 utils, making the critical threshold $\mu^* = 10/11$. In 82.7 percent of the cases both slow down, while in 1.7 percent both maintain speed. That is, coordination failures appear in 84.4 percent of the cases! Now change the payoff again so that there are 11 utils lost when both maintain speed, 9 utils when one slows down and the other maintains speed, and 10 utils when both slow down. Now in 2.8 percent of the cases both slow down and in 69.5 percent both maintain speed. That is, again 72.3 percent of the cases are coordination failures. Irrespective of the objectified numbers, the payoff structure always implies a discoordination in more than 50 percent of the cases. This is the fallacy of converse accident. The social scientist has

[9]The point has been raised by James Buchanan in his article "Is Economics the Science of Choice?" (1969).

This is a typical neoclassical error that shows up in other forms. For example, the policy suggestions of conventional antitrust economics are derived from the same indictment of reality in the name of arbitrary assumptions.

modelled the interaction between drivers in such a way that coordination failures are the more probable outcome of the game.

This procedure is not absurd, as the economist wants to explain the spontaneous emergence of conventions. But in modelling social interaction, he plunges the driver into a game where a lot of things remain unspecified.

Imagine that there is a slight difference in the time of arrival—the most likely occurrence in the real world—and that at least one driver can predict who will arrive first. He, then, has an interest in increasing that difference, either by braking or by accelerating, and the "problem" vanishes. If the two vehicles are too far away to predict, there is still a rational solution: to decelerate and wait until either of them can appreciate the difference and react accordingly.

In the same way, by assuming away the possibility of a private road owner, the model introduces the need for the state, the existence of which it implicitly assumed in the first place. This is a superb instance of having "the rabbit . . . already hidden in the hat," as Anthony de Jasay (1985) said. A private owner, being responsible for what happens on his property, has an interest in solving the "problem" and can do so without the word "Government" ever being uttered: either by imposing rules of his own or by building road bridges. It is an inevitable—and disqualifying—characteristic of mathematical "normative" models that they assume away the issue of property rights, an assumption which they cannot justify. In the process, they ignore the fact that normative political reasoning, ultimately, is always a matter of giving a rational justification for certain property rights.

We can repeat the same criticism, plus others, with respect to the prisoners' dilemma game. This game contains an even greater fallacy, in fact, the fallacy of fallacies: it features a blatant violation of the law of noncontradiction.

DISPENSING WITH THE LAW OF NONCONTRADICTION

Nothing can be x and not-x at the same time, according to the usual definition of the law of noncontradiction. Yet, the prisoners' dilemma game provides an instance of violating this principle. This model of social interaction has fascinated social scientists as well as economists, because it seems to be an elementary model of social life. In his book *Public Choice II*, Mueller (1989b) rationalizes the emergence of the State by using a prisoners' dilemma structure in his social interaction models, starting with simple economic exchange. Suppose, for instance, that you buy a good through the mail. The supplier is naturally tempted to cash your check but not send the good (or send a defective copy, a.k.a. a "lemon"). Before you engage in the transaction, you have to trust that the supplier will not do such a thing.

Table 2 illustrates such a dilemma in an elementary economic exchange between John and Peter. John has some maximum value he places on the good, P_{max}. If he pays some price P for the product, his benefit is the difference between how much he was willing to pay and how much he actually paid, P_{max} - P. Likewise, Peter has some minimum value he places on the good, P_{min}. If he receives some price P for the product, his benefit is the difference between how much he was actually paid and how much his minimum value was, P - P_{min}.

Table 2

	Peter Delivers the Good	Peter Does Not Deliver the Good
John Pays for the Good	John's Benefit: P_{max} -P Peter's Benefit: P-P_{min}	John's Benefit: -P Peter's Benefit: P
John Does Not Pay for the Good	John's Benefit: P_{max} Peter's Benefit: -P_{min}	John's Benefit: 0 Peter's Benefit: 0

Suppose, though, that Peter cheats John by cashing the check but not actually delivering the good; Peter gets the price P which is higher than what he would get if he delivered the good, which is P - P_{min}. Likewise, if Peter cashes John's check but the check bounces, Peter does better by not delivering the good. Thus, regardless of what John does, Peter supposedly has a dominant strategy: do not deliver!

A similar analysis works for John. If Peter delivers the product, John's best option is not to pay, since John ends up with both the product and the money. If Peter does not deliver the product, John's best option, again, is not to pay, lest he be left with neither product nor money. Regardless of what John does, Peter's dominant strategy is simple: do not pay!

However, this analysis leads us to the bottom right corner, the cell where no one exchanges and everyone lives in autarky. Starting from this "natural and Hobbesian state," both individuals are made better off by agreeing not to cheat on the contract, provided that the cost of enforcement is less than the gains from exchange for each. State intervention, through the laws of contract, the police, and the courts, supposedly reduces the costs of enforcing such agreements.

Economists usually stop thinking at this point, believing that they have proven the necessity of the State. However, the fallacy is obvious: we cannot say that the payoff structure is common knowledge and at the same time say that individuals are rational in pursuing their own interest by cheating. If people are rational in choosing the best strategy for them conditional on the other's behavior, they are also rational in seeing an opportunity to make a profit by exploiting the mutual gain of exchange. This is where the fallacy lies. They cannot be both (a) rational in choosing the best strategy, and (b) irrational in not taking advantage of a profit opportunity which supposedly is certain in this abstract model.[10]

Some individual, an entrepreneur, will try to earn money by offering a device to enforce the agreement at a low cost by developing a private arbitration system without using any coercion. The principle is well known and has been used to describe the *Lex Mercatoria* of the Middle Ages (Milgrom, North, and Weingast 1990, pp. 1–23). Assume that Joan is a private arbitrator with a lot of experience in the trade involved. She keeps a record of all transactions she supervises. John pays her for a crucial piece of information: can I trust Peter (or a substitute for Peter)? If she says yes, the exchange will take place. Now assume Peter cheats on the contract and fails to deliver the product. In this case, since John paid Joan, he asks her to repair the damage he has suffered from Peter. Joan then contacts Peter and asks him to deliver the good with penalties for the delay or pay compensation to John. If Peter refuses to obey Joan, Joan will register his name in the book, and he will be excluded from future economic exchange. And, because it is in Joan's interest to exchange information with other arbitrators, Peter will quickly be excluded

[10]We are neglecting cases where the game is repeated because, in that situation, people are no longer anonymous. As such, if one player does not respect his promises or bind himself to signals that indicate intent to respect the contract, others can punish him. Trust can be produced when people know each other. The social scientist is always advancing the hard case, even if this case is an exception rather than a usual interaction.

from the community.[11] The payoff structure has been changed by this mechanism, as Table 3 shows.

Table 3

	Peter Delivers the Good	Peter Does Not Deliver the Good
John Pays for the Good	John's Benefit: P_{max} - P - C Peter's Benefit: P - P_{min} - C	John's Benefit: - P - C + J Peter's Benefit: P - C - f(J)
John Does Not Pay for the Good	John's Benefit: P_{max} - C - f(J) Peter's Benefit: - P_{min} - C + J	John's Benefit: - C Peter's Benefit: - C

C = Cost to access the arbitration system

J = Compensatory damage paid to the victim

f(J) = Penalty levied on the aggressor

The arbitrator has to calculate J and f(J) such that to abide by the agreement is a dominant strategy for both traders. This private alternative is costly to implement, the costs being measured by C.[12] The implicit hypothesis of those social scientists who justify State intervention is that coercion through a monopoly in justice is less costly and more efficient than the private alternative mechanism described above. But how can we decide which of the two mechanisms is the less costly if, by definition, one is excluded by force by the other?

Those who favor State interventions cannot prove their case, because they have no means to convince others that the State is the least costly mechanism to enforce agreement. By definition of free

[11]I am not discussing the case of repeated games because the payoff structure in that case is changed (it is not a prisoners' dilemma) and because anonymity does not exist. Traders know each other and can apply a spontaneous tit-for-tat strategy to enforce their agreement. See Axelrod (1984). They can also use other devices to pre-commit themselves to respect the contractual agreement like pre-payments, deposits, guarantees, surety bonds, etc., to enforce their trust. Generally, these devices shift the prisoners' dilemma to trusting the new contract.

[12]Such an arbitration mechanism can be applied in any market, including the labor market and even the marriage market. In the Jewish religion, the arbitrators are the Rabbis themselves.

choice, individual actions reveal that individuals prefer one alternative to another, because otherwise the acting persons could have chosen the other alternative. On the other hand, by definition of state coercion, the suppression of the alternative (the private enforcement system) prevents individuals from showing whether they really prefer the monopoly of public justice because the alternative was "too costly."[13] Here again we are confronted with a faulty analysis.[14]

DEFECTIVE SYLLOGISMS

Let us now return to our last model of social interaction: the chicken game or the Hawk-Dove game (Smith and Price 1973, pp. 15–18). It captures the main features of a Hobbesian quarrel between two men who desire the same thing, which they cannot both enjoy. It is easy to derive from it both Locke's view and the "criminal view" of the State. This is the reason why it is important to spend some thought on it.

Let us suppose two people (or two tribes, countries), Peter and John, who are engaged in a dispute over a piece of land which is worth V for John and v for Peter. Each can be aggressive (Hawk) or passive (Dove). When both are passive, they share the resource and the piece of land is worth V/2 for John and v/2 for Peter. When one is "Hawkish" and the other Dove-like, the "Hawk" gets the entire resource. If both are "Hawks," they fight a winner-takes-all battle, incurring a cost of C for John and c for Peter. The payoff from such an interaction is given in Table 4.

In the case of both playing the Hawk strategy, assuming that both sides have the same type of weapons and the same ability to use them, the game is symmetric. Since we do not know which will succeed in the winner-takes-all battle, we can only provide the expected

[13]The notion of opportunity cost is well developed by Bastiat (1995) in his classic essay "What is Seen and Not Seen." Hoppe (1989) has also developed this argument. Hülsmann (2003) has revived this idea in his development of counterfactual analysis as the only correct way to interpret economic laws.

[14]In the same spirit, the State (or the public judge or the stationary bandit) needs to put f(J) is such a way that $P_{min} < P < f(J) < P_{max}$. But how does he know P, the price, before the exchange? We have here the same criticism as in the former case: everything has been objectified when the payoff structure is supposed to be common knowledge. It is always, in this type of analysis, the "pretence of knowledge" of the social scientist. In the real world, people have to solve this problem without knowing the payoff structure!

Table 4
Hawk-Dove Game

	John's estimate that Peter adopts Dove Strategy: 1-μ	John's estimate that Peter adopts Hawk Strategy: μ
Peter's estimate that John adopts Dove Strategy: 1 - ε	John's Net: V/2 Peter's Net: v/2	John's Net: 0 Peter's Net: v
Peter's estimate that John adopts Hawk Strategy: ε	John's Net: V Peter's Net: 0	John's Net: (½) (V - C) Peter's Net: (½) (v - c)

V = full benefit of disputed resource to John
v = full benefit of disputed resource to Peter
C = full cost of war to John
c = full cost of war to Peter
p= probability of winning the battle

values in the payoff matrix for this potentiality.[15] Each contestant has a 50 percent chance of injuring its opponent and obtaining the resource, V and a 50 percent chance of being injured. Thus we have (½)(V-C); (½) (v - c). When both play Hawk, we expect that the losses will outweigh the gains. Both John and Peter incur the full costs of war regardless of which wins.

One player will adopt the Hawk strategy if he is certain that his adversary will play the Dove. Thus, e.g., if John plays the Hawk and Peter plays the Dove, John receives the total benefit of the land, V, and incurs no war costs. In the opposite case, John gains nothing and incurs no war costs.

We can immediately see that the Hawk strategy is not necessarily the most attractive behavior since (½) (V-C) is negative. Thus, if John expects Peter to play Hawk, then John maximizes his own benefit by playing Dove, since 0 > (½) (V-C). When both play Hawk, we

[15]In the original model developed by Smith (1982) the payoff structure in case of battle is made the simplest possible. We follow this original model.

expect that the losses will outweigh the gains. Both John and Peter incur the full costs of war regardless of which wins, (½)(V-C). However, the Dove strategy is not necessarily the most attractive either. If John expects Peter to play Dove, then John maximizes his benefit by playing Hawk, since $V > V/2$. Each player, then, wants to play the strategy opposite to the other's strategy.

However, absent information about what the other player will do, each has to make estimations of the other's behavior. In the absence of such information, John has to make estimations of Peter's behavior. μ is the probability that Peter adopts a Hawk strategy, and $1-\mu$ the probability that he resorts to a Dove strategy, the way John estimates it. The same is true for Peter. He will play the Hawk strategy only if John plays Dove. $1-\varepsilon$ is the probability that John plays Dove as estimated by Peter.

In the Hobbesian view, the game is perfectly symmetric, $\varepsilon = \mu$, V=v, C=c, and $(½)(V-C)<0$. Consequently, the critical threshold μ^* for which John is indifferent between the two strategies is exactly equal to (V/C).[16] The ratio of the expected gain to cost is the rate of return to play Hawk. This critical rate of return or critical threshold, μ^* in adopting an aggressive behavior is the lowest when the cost of war C is comparatively high compared to the expected gain that John anticipates from the disputed piece of land. The lower C is compared to the expected gain, the more likely will we observe a Hobbesian state of nature.

In the Lockean view, the game is asymmetric, without altering the structure of the game or the payoff. It differs from the Hobbesian view only insofar as each fighter's expectations about the strategy of his adversary are concerned. As in the case of the crossroads game, extraneous information about the opponent will make the difference. The game is played asymmetrically by recognizing that the opponent possesses a characteristic from which we can infer that he will adopt one strategy with a high probability. From such an asymmetry emerges a convention which minimizes conflicts.

One asymmetry well known to lawyers is the first-occupant asymmetry: if you are the first occupant you will adopt the Hawk strategy. Thus if Peter is the first occupant, John expects that Peter will adopt the Hawk strategy, $\mu=1$ and John's best strategy is to play Dove. If John is the first occupant, Peter knows that John will play

[16]As usual, we seek the μ which equates the expected returns from each strategy. E(Hawk) = $(1-\mu)(V/2)$; E(Dove) = $(1-\mu)V + \mu\ [(½)(V-C)]$, then by equating we get $\mu^*=V/C$.

Hawk, $\varepsilon = 1$, and his best strategy is to play Dove. As John knows that Peter knows which strategy he will adopt, he is by a reverberation effect induced to play Hawk. From this asymmetry, a rule emerges: the first occupant takes possession of the disputed piece of land without a fight. "Possession makes property rights." A homesteading rule has emerged spontaneously.[17] Based on this convention of establishing property rights and from the free exchange of private property, a civil (market) society can emerge.

In Olson's view of the State as "the stationary bandit," the structure of the game is altered by introducing an asymmetry between John and Peter and a small change in the payoff structures. Their talents at war or at exploiting the piece of land differ. John is comparatively better at exploiting the land, while Peter is an expert at war. V is higher than v, C is higher than V and c, and c is lower than v. Let's explore how that changes our payoff matrix in Table 5.

Look at column 2 where Peter plays Hawk. Peter will play Hawk, whatever John's strategy is, if teV - b > v/2. teV-b is the gain accruing to Peter and coming from taxing the product of John net of the direct cost b of taxation. This revenue is dependent on e, John's effort. And v-c is the expected profit of war for Peter, which is positive by assumption of a comparative advantage at war for Peter.

Knowing that Peter's best strategy is to play Hawk, John will play Hawk only if (V-C), which is negative by assumption, is less in absolute value than eV(1-t)-d which has to be negative in that case. That is, d the disagreeableness of being a slave to Peter has to exceed eV (1-t) which is positive.

Assuming now that Peter is a stationary bandit, his interest is that John play Dove. To do that he has to manipulate the level of taxation, t, he imposes on John such that eV (1-t)-d is always positive. At the same time, John is able to manipulate e, his effort. Then he can negotiate with Peter, the "stationary bandit", a level of transfer, x, which will induce Peter to play Dove. As (V+v)/2 > eV-d-b if e is reduced by a half,[18] it is in Peter's interest to accept the deal. From

[17]While the extraneous information which induces John and Peter to play the game asymmetrically could have been another one like height, age, sex, or possession of more destructive weapons, the first occupant one is the only one which is unambiguous and universal. This is the reason why this asymmetry dominates the others.

[18]This change in the structure of the payoff is in the spirit of Wolfelsperger's interpretation of the domination theory of the State. See Wolfelsperger (1995, p. 31).

hard slavery we shift to soft slavery, the society in which we are living, from the criminal metaphor theory of the state.

Table 5
Olson-type Hawk-Dove Game with Stationary Bandit

	Peter (Stationary Bandit) adopts Dove Strategy	Peter (Stationary Bandit) adopts Hawk Strategy
John adopts Dove Strategy	John's Net: (V/2) Peter's net: (v/2)	John's Net: eV(1 - t) - d Peter's Net: teV - b
John adopts Hawk Strategy	John's Net: V Peter's Net: 0	John's Net: (V - C); C > V Peter's Net: (v - c); c < v

V = full benefit of disputed resource to John
v = full benefit of disputed resource to Peter
C = full cost of war to John
c = full cost of war to Peter
V > v
C > c
C>V
c < v
t = tax rate that Peter imposes on John
e = John's work effort, which has an impact on how much product Peter can tax
d = John's disutility from being a slave
b = cost of administering tax system

All of the three abstract models seem to approximate what we observe in the real world for a variety of minor as well as major conflicts.

The usual conclusion derived from the analysis of the Hobbesian "state of nature" depicted in Table 3 is to force both John and Peter to play Dove. Such an outcome is obtained by creating a monopoly of legitimate force on the territory. This is what people usually ask for at the international level when we observe the Hobbesian relationships between States all over the world. The United Nations Organization (UNO) will be a candidate for such a concentration of power in the future World State.

But this solution cannot be validly derived from the game described. Rather, the implication of the game is that, if it is symmetric and if the weapons used in a war are destructive and a deterrent compared to the gain, peace will be the outcome. Rather than creating a monopoly, then, the alternative solution that can be derived directly from the abstract model (once more) is to spread destructive weapons in order to equalize conditions of threat among all tribes, nations, or individuals. If we want a monopoly, it means in the abstract model that this monopoly will end up in the hands of one of the players. To establish such a monopoly means that we (as social scientists or experts) enter the game as any other players. But how can we establish a monopoly if we cannot neutralize John and Peter at will?[19]

In fact, the monopoly solution drastically alters the structure of the game, such that we are in the constellation of Table 4 where Peter (the monopolistic player) can exploit John's productivity by using force. False syllogisms enter the picture at that point. Even if we grant the argument that the natural outcome of a Hobbesian state of nature is war, we cannot infer from this argument that its negation is true as well. The absence of a Hobbesian state of nature (that is, a polity where a monopoly of force exists) does not imply that peace will emerge.[20] We can rephrase the argument in the following way:

> If X, then Y (if the state of nature is Hobbesian, then the natural outcome is war)
>
> We observe Y (we observe wars)
>
> ———
>
> Consequently, X (consequently, we are in a Hobbesian's state of nature)

This is a faulty syllogism.

In the same vein we cannot say

> If, X, then Y (if the state of nature is Hobbesian, then the natural outcome is war)
>
> No X (we do not observe a Hobbesian's state of nature)
>
> —————
>
> Consequently, no Y (consequently we will not have wars)

[19]It is exactly what happens in the relationship between States.

[20]We expect that wars (civil wars as well as wars between States) are more frequent when there is such a concentration of "legitimate" power. The reason is that a lot of people will enter into disputes to have control over such a monopoly of force that can reward those who control it.

Unfortunately, a large number of economists make the mistake of affirming the consequent or denying the antecedent in defiance of elementary logic. This is particularly true as the first asymmetrical version of the game leads to the conclusion that peace can emerge from the Hobbesian state of nature. Rules of establishing property rights (homesteading rules) are the "natural" solution to a problem of social interaction where two or more people enter a dispute for a piece of land or for any conflict about appropriation. Peace is a consequence of following such rules. The debate is not about the fact that social interaction according to such rules is mutually beneficial. It is about the fact that such rules favor the first occupant or the finders keepers.

THE STOLEN CONCEPT

Let us conclude by dealing with another rhetorical ploy.

According to the argument we are now dealing with, monopoly is bad for supplying a "good," but it is good for the production of a "bad." This argument also relates to the criminal metaphor of the State. Competition as a process increases the product, monopoly restrains it. If the product is a "good" (bottles of Coca-Cola) competition increases the production; thus competition is "good" while monopoly is "bad." This is the usual view of competition. By analogy, if crime is "bad," competition would increase the number of crimes by increasing output. In that case a monopoly on crimes supposedly reduces output and is "good."

We can rephrase the same argument in another metaphor—the common pasture metaphor. Competition between fishermen to capture fish in the sea exhausts, very quickly, the stock of fish in the sea. The same is true with bandits. Competition between bandits to exploit the productive capacity of the pool of peasants or merchants will exhaust the stock of productive people. The solution is to establish property rights on the pool of peasants and merchants—that is, in fact, slavery. Both analogies fall prey to three confusions:

(1) A crime is a relation between at least two persons, not a relation between a predator and an animal. Victims of human predators are human beings. A crime by definition is a violation of property rights including property rights in oneself (self-ownership). Crime is a concept that logically depends on the antecedent concept of property rights or self-ownership. If no property is rightfully owned, which is to say that there is no property, then there can be no such concept as crime (Branden 1963).

(2) To identify "crime" with the word "bad" presupposes a definition of the "good" or the "bad." If we identify "good" with respect for rules—do not violate property rights—the reduction of the "bad" needs to respect these same rules. But if we identify "good" and "bad" with the consequences of an action, then to favor the "good" means to pursue actions with "good" consequences and to reduce actions with "bad" consequences. Now if committing crimes has "good" consequences, then competition in crime is "good" and monopoly is "bad"!

(3) The use of the word "monopoly" presupposes an *ex post* enforceable property right in a product, person, or market share, which can be given only if there is already a monopoly of coercion on a territory. Competition on a market presupposes no *ex ante* property right in persons or shares of the market (O'Driscoll and Rizzo 1985, chap. 7). To argue that competition increases output while monopoly decreases it relies on Cournot's definition of monopoly and competition. His view departs from the classical view of freedom of entry in a market where no such predictions can be drawn. Moreover, exchange nevertheless relies on the principle of voluntariness. You can refuse to consume the product that benefits from a legal monopoly. Nothing of that exists with bandits.

The application of the two concepts of competition and monopoly to a realm where violence is the rule does therefore not seem to be correct. A closed monopoly on a market is quite different from an "open monopoly" which characterizes the interaction between stationary bandits. Violence or threats of violence are at the core of the exchange between bandits and their victims.

The idea that a stationary bandit will commit less crime than several bandits in competition on the same "fields" is to neglect, first, that more or fewer crimes are still crimes and, second, that a monopoly is a concentration of power in the hand of a few predators unchecked by the power of others. Even if the bandit in power has a stake in the productivity of his victims, he has no means to know when it is optimal to stop.

The mistake lies in the fact that the victims are not animals but human beings, while the stolen concept lies in the use of the words "bad" and "monopoly." What is good for human beings is fewer "crimes." People demand protection against crimes. So competition in the means to reduce crime is "good" while monopoly in the means to reduce crime is "bad"! The conclusion is just the reverse.

This interpretation of the criminal metaphor by Mancur Olson and others (McGuire and Olson, 1996, pp. 72–96) contrasts sharply with the approach of a libertarian thinker like the late Murray

Rothbard. Rothbard shared Olson's premise (government people are organized criminals), but not his conclusion: that we have to accept the monopoly of theft because it is better than competition in theft. In short, this theory makes the stationary bandit "a feudal overlord who at least theoretically 'owns' all the land in his domain" (Rothbard 1988, p. 171). All libertarians would reject the claim "that might makes right" because they have a clear idea of how a property right is acquired justly through homesteading theory. In fact, everybody understands clearly that we have to fight and civilize all predators to be free from them.

We should not be surprised to see so many fallacies in economic reasoning. Economic fallacies die hard because even in "science" rhetoric plays an ambiguous role. Economists could use a little less mathematical formalism and a little more training in elementary logic.

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