

# Convention, Social Order, and the Two Coordinations<sup>1</sup>

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**Abstract.** The word “coordination” has two meanings, and these meanings are often conflated. One meaning, associated with Thomas Schelling, is seen in situations like choosing whether to drive on the left or the right; the drivers must coordinate to each other’s behavior. The other meaning, associated with Friedrich Hayek, means that a concatenation of activities is arranged so as to produce good results. Along with the Schelling sense of coordination comes the notion of convention, such as driving on the right. Some conventions are consciously designed; others emerge without design (or are “emergent”). Along with the Hayek sense of coordination comes the notion of social order. Some social orders, such as the skeleton of activities within the firm or within the hypothetical socialist economy, are consciously planned. Other social orders, such as the catallaxy of the free society, function without central planning (or are “spontaneous”). Distinguishing between the two coordinations (and, in parallel fashion, between convention and social order) clarifies thinking and resolves some confusions that have arisen in discussions of “coordination” and “spontaneous order.” The key distinctions are discussed in the context of the thought of, on the one hand, Menger, Schelling, David Lewis, and the recent path-dependence theorists, and, on the other hand, Smith, Hayek, Polanyi, Coase, and the modern Austrian economists. The paper concludes with a typology that encompasses the several distinctions.

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## 1. Introduction

The central themes of Thomas Schelling’s *Micromotives and Macrobehavior* (1978) are that a manifest, macro-level pattern may emerge, even though the process is without macro-level design, and that such an undesigned pattern is sometimes regarded as unsatisfactory by the very people who collectively generated it (19). “People can be trapped into self-enforcing rules that misdirect behavior” (120). One example is language: “in collective laziness we let inappropriate terminology into our language by default” (39).

Schelling is careful to distinguish the undesigned orders studied in *Micromotives* from the undesigned order of the free economy. He notes that the free-market order is not manifest: he writes of “the enormous complexity of the entire collective system of behavior, a system that the individuals who comprise the system needn’t know anything about or even be aware of” (22). Schelling says that the free market “does remarkably well in coordinating or harmonizing or integrating the efforts of myriads of self-serving individuals and organizations” (23). His discussion of the free economy is brief, and laden with reservations, but it projects a vision along the lines of Smith or Hayek. He explains that the market order consists chiefly of activities that do not have major or systematic effects on nonparticipants (28). In contrast, the activities studied in *Micromotives* do have such effects, and the mechanisms underlying those activities often do poorly in harmonizing or integrating individual efforts.

The main ideas of *Micromotives* have recently flowered in the economics literature.

Schelling writes of self-fulfilling prophecy, chain reaction, uniformity, complementarity, tipping points, critical mass, and sufficiency. The new literature writes of path dependence, network externalities, agglomeration effects, nonergodicity, positive feedback, and lock-in. The basic lessons remain the same, but the ideas are refined and many of the applications new. The new literature focuses especially on technological systems, such as the VHS system versus the Beta system in video cassette recording, and the hazard that an inferior standard may become “locked-in” (David 1985; Arthur 1994; Liebowitz and Margolis 1990, 1995).

While Schelling has been careful to distinguish between the market order and the manifest patterns that he studies, the new literature has sometimes conflated the two. In a magazine article on complexity and social order, Brian Arthur, a leading path-dependence theorist, is quoted as follows:

Right after we published our first findings, we started getting letters from all over the country saying, ‘You know, all you guys have done is rediscovered Austrian economics . . . I admit I wasn’t familiar with Hayek and von Mises at the time. But now that I’ve read them, I can see that this is essentially true (as quoted in Tucker 1996:38).

Hayek is cited in a similar way by Arthur DeVany (1996). In his computer simulation, agents choose between one of two technological standards, again like VHS versus Beta. The choice process is decentralized and agents have myopic knowledge, but random experimentation is injected into the process. Under certain parameter values the agents finally adopt the better technological standard, achieving higher network efficiency. DeVany writes: “Even though this is computer science, it is precisely the message of Smith, Hayek, and Alchian” (1996:433). In describing the system’s adoption of the better technological standard, DeVany uses the term “emergent order,” a term that he seems to equate with Hayek’s term “spontaneous order” (427).

Robert Sugden, again in a similar manner, writes in his article “Spontaneous Order” (1989) exclusively of the emergence of customs and conventions. Sugden describes a convention for the appropriation of driftwood as “an example of what Friedrich Hayek calls ‘spontaneous order’” (85). The article makes no mention of the complex market system of myriad individual efforts.

All of the authors that I have mentioned study social affairs that are undesigned from a macro viewpoint. But undesigned social affairs come in different kinds. In this paper I use the distinction between the following two ideas: (a) social order, and (b) the rules and conventions within which that order functions (see Barry 1982:11, 35). Also, I introduce a parallel distinction between two meanings of the word *coordination*. I distinguish between *emergent conventions*, which I associate with Menger, Schelling, and the recent path-dependence theorists, and *spontaneous order*, which I associate with Smith, Hayek, and Polanyi.

In an excellent article entitled, “The Tradition of Spontaneous Order,” Norman Barry (1982) reviews the development of ideas of undesigned social order. He discusses the work of many thinkers. I begin with some exploration of the most prominent three: Smith, Menger, and Hayek.<sup>2</sup>

## 2. Of Woolen Coats and Tin Trading: Smith and Hayek

In the opening pages of *The Wealth of Nations*, Smith (1937 [1776]:11) expounds on the division of labor by describing the efforts combined in the making of the common woolen coat: “The shepherd, the sorter of the wool, the wool-comber or carder, the dyer, the scribbler, the spinner, the weaver, the fuller, the dresser, with many others, must all join their arts.” Thus his description begins. He goes on to describe all the trades involved in producing the necessary equipment, in shipping the goods, in producing the ships, and providing all the necessary materials in turn—his description of concatenated activities running an entire page of text. The first sentence of the ensuing chapter states that this division of labor “is not originally the effect of any human wisdom, which foresees and intends that general opulence to which it gives occasion” (13). The undesigned social order that concerns Smith is “invisible”: It remains unknown not only in its details, but—except perhaps to the most assiduous students of national input-output tables—even in its more general patterns.

Hayek uses as an example a sudden elimination of a source of supply of tin. He describes how by decentralized action tin would be economized by users, and connected channels of industry would in turn make adjustments. “The whole acts as one market, not because any of its members survey the whole field, but because their *limited fields of vision* sufficiently overlap so that through many intermediaries the relevant information is communicated to all” (1945:86, italics added). The spontaneous market order, which Hayek often calls a “catallaxy,” cannot “be perceived by our senses but can only be traced by our intellect” (Hayek 1964:3). Whereas the emergence of a writing convention or the adoption of the VHS standard is manifest to participants, the spontaneous, complex market order described by Smith and Hayek is “invisible.”<sup>3</sup> The aspect of “invisibility” is noted in the title of David Friedman’s recent book, *Hidden Order: The Economics of Everyday Life* (1996).

## 3. Of Money, Language, Law, and Localities: Hayek and Menger

Hayek explained that the market system, like other spontaneous orders, depends upon the participants acting in accordance with social rules. Unlike the spontaneous order itself, the rules—of language, of law, of manners, of money, of technological standards—very often *are recognizable* to the participants. These rules, nonetheless, might “manifest themselves only in their being obeyed” (1964:7). Thus, the undesigned catallaxy depends on rules or conventions which in turn may be undesigned. Are these rules (or conventions or institutions or customs), when undesigned, also to be called examples of “spontaneous order”?

Carl Menger’s 1883 work, translated most recently as *Investigations Into the Method of the Social Sciences*, argues that, in Norman Barry’s words (1982:31), “while it is meaningful to talk of social ‘aggregates,’ the behavior of such aggregates is explicable only in individualist terms.” Thus the theme of Menger’s *Investigations* is essentially that of Schelling’s *Micro-motives*. Menger discusses at considerable length the evolution of money, the common law, the state, localities, language, market customs, and other social institutions that are often highly beneficial yet “organic,” or undesigned. Menger (1883:146) poses the following question as “perhaps the most noteworthy” problem of the social sciences: “*How can it*

*be that institutions which serve the common welfare and are extremely significant for its development come into being without a **common will** directed toward establishing them?"* (Italics and bold in original.)

The notion of macro-patterns emerging out of microbehavior puts Menger in the company of Schelling and the recent path-dependence theorists. That connection is strengthened by two additional common features. First, as Barry (1982:32) notes, Menger “does not emphasize the *value* of undesigned institutions in quite the same way as other thinkers in the same tradition and does not assume that they are necessarily superior to pragmatic [or designed] ones.” In Menger’s discussion of what is today called agglomeration economies, he explains how a place will emerge organically as a locality, but he adds that “the common will . . . is more likely to produce . . . [its] perfection” (1883:156). In discussing the evolution of the common law, Menger (233) declares that it is “erroneous in every conceivable respect” to suppose that the common law always performs better than any positive legislation could. Thus Menger (233) notes the possibility of lock-in and the need for deliberate remedy: “[The] common law has also proved harmful to the common good often enough, and . . . legislation has just as often changed common law in a way benefiting the common good.” Louis Schneider (1963:12) sums up the point as follows: “If there are institutions that may in a sense be regarded as ‘storing’ human wisdom . . . there is . . . nothing in Menger to suggest that there may not be institutions which ‘store’ foolishness or ineptitudes.”

A second feature that Menger shares with Schelling and the path-dependence theorists is a focus on the undesigned emergence of conventions. He says very little along the lines of Smith or Hayek about the catallaxy at large. Menger studies the organic basis of the conventions within which the catallaxy works, but does not make a fuss over the catallaxy itself (see Menger 1883:146–47).

#### 4. Hayek Encompasses Menger and Smith

In the matter of undesigned human affairs, there is a nearly perfect disjointness between Menger and Smith. Menger focuses on emergent conventions and neglects spontaneous order. Smith focuses on spontaneous order and neglects emergent conventions. This fact might help us understand a rather remarkable passage in the *Investigations* where Menger denounces Smith:

What Adam Smith and even those of his followers who have most successfully developed political economy can actually be charged with is . . . [a] defective understanding of the unintentionally created social institutions and their significance for economy. It is the opinion appearing chiefly in their writings that the institutions of economy are always the intended product of the common will of society as such, results of expressed agreement of members of society or of positive legislation. In this one-sidedly pragmatic view of the nature of social institutions, the sphere of ideas of A. Smith and his closest followers comes into contact with that of the writers of the French Age of Enlightenment in general and of the French physiocrats in particular. Adam Smith, also, and his school predominantly strive for the *pragmatic* understanding of the economy, even where such understand-

ing is not adequate for the objective state of affairs. The result is that the broad realm of unintentionally created social structures remains closed to their theoretical comprehension (Menger 1883:172, see also 176).

As Lawrence White (1985:xvi) points out in his Introduction to the *Investigations*, perhaps Menger's real target here is Jeremy Bentham, and he used Smith's name carelessly. I submit, however, that once we distinguish between undesigned conventions or institutions and undesigned social concatenations in the sense of the catallaxy, Menger's passage, though unfair to Smith,<sup>4</sup> becomes less puzzling.

If Menger is disjoint with Smith, he certainly is not with Hayek. Indeed, Hayek (1994:147) reports that the "conception of the spontaneous generation of institutions is worked out more beautifully there [in Menger's *Investigations*] than in any other book I know." Hayek's writings pay much attention to both the Mengerian and the Smithian, both emergent conventions (and even lock-in!)<sup>5</sup> and the catallaxy which functions as though guided by an invisible hand.

The term "spontaneous order" is found in the work of Auguste Comte (1896:Book VI, chap. V) and the word "spontaneous" is used in corresponding fashion by Herbert Spencer (1884/1892:135, 196, 274, 301, 326) and by Emile Durkheim (1964:360 and elsewhere).<sup>6</sup> But it was Michael Polanyi (1951) who used the term "spontaneous order" in a consistent way to mean polycentric order, or an undesigned concatenation of affairs. Hayek uses it in the same way (Polanyi is quoted at Hayek 1960:160). Hayek uses it primarily to mean the catallaxy and other undesigned concatenations of social activities. He generally did not mean by it undesigned conventions or rules; for that he generally used the word "rules," although he did occasionally use the term "spontaneous order" to mean undesigned conventions or rules (e.g., Hayek 1964:5–6). On the whole, the lately quoted words of Brian Arthur, Arthur DeVany, and Robert Sugden, who speak exclusively of undesigned conventions, are at least somewhat misguided in linking, without qualification, their own work to Hayek's work on spontaneous order.

## 5. The Two Coordinations

Ambiguity in the meaning of "spontaneous order" closely parallels ambiguity in usage of the word *coordination*. A fine example of Hayek's usage is the following: In the market economy we depend "on that division of knowledge between individuals whose separate efforts are co-ordinated by the impersonal mechanism for transmitting the relevant information known by us as the price system" (Hayek 1944:49–50). Michael Polanyi writes in the same idiom in *The Logic of Liberty* (1951:115): "[In] spontaneously ordered systems . . . persons mutually adjust their full-time activities over a prolonged period, resulting in a complex and yet highly adaptable co-ordination of these actions." Ronald Coase (1937:37) uses the word in the exact same way when he explains his central aim in his famous essay on the firm:

In view of the fact that, while economists treat the price mechanism as a co-ordinating instrument, they also admit the co-ordinating function of the "entrepreneur," it is surely important to enquire why co-ordination is the work of the price mechanism in one case and of the entrepreneur in another.

	DRIVE ON THE RIGHT	DRIVE ON THE LEFT
R I G H T	2	0
L E F T	0	1

Figure 1. A coordination problem containing two coordination equilibria.

Also in his Nobel lecture, Coase (1992:6) consistently refers to “the pricing mechanism” as a “method of co-ordination.”

Coordination is a crucial term in the vocabulary of Hayek, Polanyi, Coase and their intellectual progeny. I will argue that the Hayek/Polanyi/Coase notion of coordination follows but one of the two meanings we have of that word. Consider now a meaning of “coordination” that does *not* coincide with what Hayek, Polanyi, and Coase mean.

Coordination is first and best understood as something we hope to achieve in our interaction with others. I hope to drive on the same side of the road as others, I hope to use the same semantics as do my listeners, I hope to go to the same place in Manhattan as the person I wish to meet. In these cases, we hope to coordinate our actions *with* the actions of others, by coordinating to some common principle or focal point.

The features of this type of coordination are explored by Thomas Schelling in *The Strategy of Conflict* (1960). I will sometimes refer to it here as Schelling coordination. Schelling coordination has been given more formal structure by the philosopher David K. Lewis in his book *Convention: A Philosophical Study* (1969). Lewis uses formal game models to characterize situations. Figure 1 shows a road game of whether to drive on the Right or the Left. (Suppose that cars are built in the American fashion, so Right is better than Left.) A set of strategies—such as, for you: drive on the Left, and for me: drive on the Left—constitutes a *coordination equilibrium* when two distinct kinds of requirements are satisfied. The first is the Nash requirement, namely, given that you are choosing Left, my choosing Left is best for me (and likewise for the statement that reverses you and me). The second goes beyond Nash; it requires that, given that I am choosing Left, *your* choosing Left is best for *me* (and likewise for the statement that reverses you and me). Coordination equilibrium is

Nash equilibrium plus this second requirement (suitably generalized). Both of us driving on the Left is a coordination equilibrium, as is both of us driving on the Right.

In a situation with at least two coordination equilibria, we face, in Lewis's terminology, a *coordination problem*, because we may have difficulty coordinating with each other. We need a common principle or focal point to get us to a coordination equilibrium. Individuals make a conscious effort to coordinate with each other, or at least to coordinate to a focal point. They strive for and see a meshing of action in their own activities. Schelling coordination is manifest.

Now, is this what Hayek has in mind? When Hayek speaks of our separate efforts being coordinated by the impersonal mechanism known as the price system, can we reduce this to an issue of Schelling coordination? It is true that market participants are achieving face-to-face coordination, by sharing a common language, a common measure of time, and so on. Everyone at the office arrives by nine o'clock in the morning and this coordination enhances productivity. But Hayek has more in mind. He means that when the blacksmith forges a pair of clipping shears, that activity is well coordinated to the activities of the weaver, who some time later works with the wool that was clipped from sheep with those shears. There is a flavor of Schelling coordination here, but only a flavor. First of all, the blacksmith and the weaver do not even know of each other's existence, and have no manifest sense of coordinating their actions with the actions of the other. If one were to visualize a "game" which included all of their relevant strategy alternatives, it would have to be a game that also included the relevant strategies of hundreds or thousands or even millions of other players alike. One might venture to call it the "catallaxy game." Such an exercise would depart from noncooperative game theory, which draws up games with an understanding that *that is how the game is understood by the players*. This is the common-knowledge assumption of game theory.

Hayek emphasizes that the context understood by the individual is local and very limited. The weaver sees only the manufacturer, not the blacksmith. The individual uses common cultural focal points to carry out interaction with others, but this is like the baton pass between members of a relay team. The individual confronts problems that do not lie in achieving manifest coordination, but *in activities analogous to running alone with baton in hand*. He is responding to price signals and local opportunities; he is trying to gain lucrative insights; he is working hard to keep his promises, and to see that his trading partners keep theirs. He does not perceive himself to be playing a coordination game with myriad distant people. As Adam Smith (1776:423) put it, each promotes "an end which was no part of his intention"—nor even of his knowledge.

And there is another important point which suggests that Hayek coordination is not Schelling coordination. Hayek coordination must involve myriad individuals. Now, shall the "catallaxy game" include the retailer's *competitors*? If we include the competitors—and doing so would seem essential to a Hayekian framework—it becomes plain that market outcomes are not coordination outcomes. Whether we think of coordination equilibrium in formal games or of resolutions in Schelling's parables, the outcome in which the two retailers compete is not an instance of coordination. Retailer A, given his own action, is *not* best satisfied by the rivalrous actions taken by retailer B. Retailer A is *not* best satisfied when the distributor supplies articles not only to him, but also to retailer B. Most fundamentally,

Retailer A is *not* best satisfied when the distributor raises his price, or when the customer departs without having made a purchase!

The point is not that Hayek, Polanyi, and Coase erred in choosing their words, but that coordination has two meanings. *Merriam-Webster's Collegiate Dictionary* (10th ed.) offers a definition for *coordinate* as an *intransitive* verb, "to be or become coordinate esp. so as to act *together* in a smooth concerted way" (italics added). This is Schelling coordination; I coordinate with my friend to meet this afternoon. As is the case for any intransitive verb, there can be a direct object only of a *reflexive* kind: I coordinate *my* doings, or *our* doing, or *our* plans, to meet this afternoon. In this fashion we could make the intransitive verb *to walk* superficially (and only superficially) transitive: I walk my body down the street. For the *transitive* verb, *Merriam Webster's* offers, "to put in the same order or rank . . . to bring into common action, movement, or condition . . ." The etymology for coordination shows the Latin roots *co-* (a prefix for "joint") + *ordinare*, which means *to arrange*. Thus, for example, we say that in decorating one's living room one has achieved a lovely color coordination. One has *arranged* the colors in a pleasing manner. Similarly, looking with Coase's eye, we see the manager-entrepreneur coordinate factors within the firm to achieve a pleasing outcome. Clearly these two examples are not Schelling coordination. The colors did not coordinate themselves with one another, nor did the factors within the firm.

In somewhat of a paradox, then, we may say that, when Hayek, Polanyi, and Coase spoke of coordination in economic systems, the dedicated opponents to any conscious effort to arrange society as a whole meant, in fact, *pleasing arrangement*. The arrangement is abstract, and the pleasure is allegorical, but that is what they meant. In the Hayek meaning, the concatenation of affairs in cases like the catallaxy is not actually coordinated by a Great Arranger, but, as Smith's famous metaphor demonstrates, their idea of coordination is clarified by an allegory of the affairs being "led by an invisible hand."

The allegory goes as follows: There is a superior being named Joy who is invisible and who beholds the vast economic order. We cannot spell out what she values for society and hopes to witness, but it is not hard for us to understand. In her humanitarianism she is basically like you and me, a genuine liberal, in the broad sense. Her pleasure increases when human society exhibits widespread prosperity, comfort, personal fulfillment, excellence, irony, and affection. In this regard she is like John Stuart Mill or Isaiah Berlin or Hayek or Schelling. In the road game of Figure 1 she prefers the (Right, Right) outcome, and in that sense the arrangement of activities at (Right, Right) is *better coordinated* than the arrangement of activities at (Left, Left). In the allegorical sense in which Joy exists within us and acts by mysteriously stirring our doings, Joy coordinates our doings in achieving (Right, Right), the way we coordinate colors in decorating our home. This is the allegory behind the meaning of "coordination" from the transitive verb.

Hayek's claim is that the decentralized activity of the free catallaxy generates a dynamic, complex "spontaneous order" which Joy finds more pleasing than the order generated by the centrally-planned economic system. The order of the catallaxy is like the naturally formed crystal, where microscopic local conditions lead each element to settle into its place. Joy's pleasure would be analogous to our regarding this crystal to be more pleasing than an object fabricated, molecule by molecule, in a laboratory.



coordination	metacoordination
Schelling	Hayck, Polanyi, Coase
Interaction that is agreeable to the interactors	Arrangement of elements that is pleasing to an external viewer
Manifest from the interactor's point of view	Abstract from the interactor's point of view ("invisible hand")
(From the intransitive verb)	(From the transitive verb)

Figure 2. Two concepts of coordination.

But we ought not speak of a “catallaxy game.” The order is abstract and its beauty is metaphorical. It encompasses all of the particular plans and activities of the individuals within that order. I propose (with much apprehension) that coordination in the Hayek/Polanyi/Coase sense be called *metacoordination*. Figure 2 draws the distinction between the two coordinations.

### 6. The Continuum Between the Two Coordinations

We can see two extremes in the degree of reflexivity. There is no reflexivity in “I coordinate the colors,” or in the allegory, “Joy coordinates the catallaxy.” And there is complete reflexivity in “I coordinate *my* actions to the traffic light.”

Between these extremes, however, is a continuum of degrees of reflexivity, and hence of degrees of the two coordinations. One might report, “I coordinate Charlie’s action and my action to achieve (Right, Right) in the road game.” This is Schelling coordination, and the set of objects is heavily reflexive, although a significant part, namely, Charlie’s action, is not. When the CEO of a company reports, “I coordinate the skeleton of activities of all 1000 employees, including myself,” the degree of reflexivity of the objects is, as it were, only one one-thousandth. Mostly, the CEO is coordinating the activities of others, so the verb is “mostly” transitive; the CEO is arranging a concatenation of activities. But there is a small element of reflexivity, or intransitivity, in that his own normal responsibilities are also being arranged by him. All degrees of reflexivity are possible, based on how large a part oneself is of the set of objects that one is coordinating.

## 7. Coordination Goes With Convention

The distinction between coordination and metacoordination lines up with the distinction between conventions and social concatenations or orders. I have noted in loose terms how David Lewis defines a strategy combination, such as (Left, Left) in Figure 1, as a coordination equilibrium, and the road game itself as a coordination problem. It is upon these coordination concepts that Lewis builds his definition of *convention*. The same connection is found in Schelling (1960:91): “The coordination game probably lies behind the stability of institutions and traditions [or conventions].”

Put loosely, a convention is a behavioral regularity in a reoccurring social situation, where the situation represents a coordination problem, and the regularity is one of the coordination equilibria in that problem (cf. Young 1996). In the road game, a regularity of everyone driving on the Left would be a convention, as would be a regularity of everyone driving on the Right. Conventions are a manifestation of coordination, and, by providing a precedent, they are an aid to coordination. It is easy to see how many of the social institutions studied by Menger—such as language, a money standard, and localities—are conventions that make manifest past coordination and that assist future coordination. And the common-law rules of property and contract, albeit less obviously so, also are conventions.

## 8. The Elements of Convention in the Norms of Property and Contract

Scholars often think of property rights in terms of a prisoner’s dilemma, which is not a coordination game. This perspective makes it difficult to see the elements of convention in property rights. I submit that it is simplistic to think of property rights in terms of common prisoner’s-dilemma models.

First of all, the “common knowledge” posited for a game may depend on convention. Games of pure conflict—games with no element of coordination, such as the prisoner’s dilemma—may nonetheless be worthwhile to all players. It may well be that every player finds the one-shot outcome associated with (Defect, Defect) in the prisoner’s dilemma to be superior to not being able to play the game at all. But to play the game and benefit from doing so, even if the outcome is suboptimal, the players must first come to some apprehension of the situation. In a sense, before playing the prisoner’s dilemma, the players play a preliminary game of apprehending what the situation is. Although the game they subsequently play is not a coordination game, *the preliminary game may well be*. And in playing this preliminary game, the norms of property and contract are likely to serve as focal points for coming to a workable apprehension of the situation. The prisoner’s dilemma itself is not a coordination game, but apprehending that one confronts a prisoner’s dilemma may be something like a coordination equilibrium in something like a coordination game. In this sense, norms of property and contract are conventions. They may place us in games of competition, games of bargaining, games of selective information and misinformation, but they help us avoid paralyzing confusion, fear, and isolation.

There is a second way in which the norms of property and contract correspond to Lewis’s definition of convention. Again, the one-shot game is not a coordination game, but rather a game of some conflict, along the lines of the prisoner’s dilemma. Rules of property

and contract may be seen as rules that emerge in repeated play to resolve these situations of conflict. How then may these rules be regarded as conventions? The answer lies in seeing a string of repeated interactions as an *extended* game of itself, and the rule for behavior, such as tit-for-tat, as a strategy within the extended game. The extended game is a coordination game, and the reoccurrence of such entire strings of interaction represents the reoccurrence of a social situation in which we may apply Lewis's definition of convention. If we assume that the extended game entails occasional one-shot trembles by the players, causing an accidental defection, two different rules—such as tit-for-tat and two-tits-for-tat—become directly analogous to Right and Left in the road game. Following an accidental tat, the players need to keep their “signals straight” in order to *coordinate the resumption* of cooperation.

This bridging of conflict-trust problems to coordination-convention problems, by way of extension or repetition, is found in *The Strategy of Conflict*. Schelling (1960:134f.) writes: “Trust is often achieved simply by the continuity of the relation between parties and the recognition by each that what he might gain by cheating in a given instance is outweighed by the value of the tradition of trust that makes possible a long sequence of future agreements.” Rules of property and contract may thus be seen as “conventions whose sanction *in the aggregate* is the need for . . . [cooperation] . . . , and whose sanction in each individual case is the risk that to breach a rule may collapse it and that to collapse it may lead to a jointly less favorable [rule]” (260, italics added).

Furthermore, in situations that bear an initial resemblance to the prisoner's dilemma, such as a contest over property, often one can punish defection, not by doing likewise in iterated play, but simply by throwing stones, slashing tires, or physical assault. Such reprisals may escalate to mutual loss. Thus, property contests may be more like games of chicken than prisoner's dilemma, and chicken has some features of a coordination game. As Schelling explains in *Arms and Influence* (1966), conventions like property rights can help actors avoid mutual loss.

When one begins to transgress another's property rights, perhaps rashly or inadvertently or only apparently, “conventions . . . provide a graceful way out. If one's motive for declining [to compete] is manifestly no lack of nerve, there is no enduring costs in refusing to compete” (Schelling 1966:120). And the one who defends against a transgression of rights, such as one's rightful space on the highway, may find that “it may be safer in the long run to hew to the center of the road than to yield six inches on successive nights, if one really intends to stop yielding before he is pushed onto the shoulder. It may save both parties a collision” (124). Once transgression has begun or been suspected, property-right conventions help the potential aggressor and the potential defender to coordinate on peaceful disengagement.

## 9. Metacoordination Goes With Social Order

All of Menger's institutions, including norms of property and contract, therefore, can be regarded as conventions. But, again, as both Menger and Schelling make clear, conventions may be unsatisfactory. There is nothing in Lewis's definition of convention to preclude the inferior coordination equilibrium as the social regularity. The ranking of coordination equilibria as “inferior” or “superior,” whether in a Pareto sense or some other collective

sense, is not a component of coordination and convention. It is, however, the fundamental component of metacoordination. When Hayek and Polanyi write of “coordination,” they mean a pleasing arrangement of affairs—pleasing, that is, to Joy. Hayek and Polanyi would say that in the road game of Figure 1 the arrangement (Left, Left), though a coordination equilibrium, shows unsatisfactory coordination. They mean metacoordination. They ask, What kinds of social orders tend to generate, in games like Figure 1, the superior outcome (Right, Right)? They evaluate the metacoordination achieved, not by conventions within specific reoccurring situations, but by the concatenation of affairs functioning as a complex social order.

#### **10. Subsumption: By Metacoordination of Coordination, and By Social Order of Conventions**

I am arguing that confusion arises from failing to distinguish between coordination and metacoordination, and from failing to distinguish between conventions and social orders. *But confusion again will arise if, having made our distinctions, we think of the distinguished ideas as neatly partitioned.* Metacoordination is not achieved apart from matters of coordination. Metacoordination is a larger, encompassing matter, and it will subsume numerous narrower matters of coordination (in addition to other things, such as competition). And social orders do not function apart from rules and conventions. Social orders subsume conventions. These relationships of *subsumption* are analogous to the point made by Hayek (1973:46), Polanyi (1951:134), and Coase (1937:35) that an undesigned, spontaneous order will subsume pockets of conscious design.

#### **11. Two Digressions on the Value of Distinguishing Between Coordination and Metacoordination**

The distinction between coordination and metacoordination may help us to resolve difficulties that have persisted in two topics of economic discourse. The first is intellectual debates over planning. When Hayekians declare that competition is the only method by which coordination can be adequately brought about (see Hayek 1944:48), they mean metacoordination. Only free competition can generate a pleasing arrangement. But when “coordination” is read in the Schelling sense, as a sort of teamwork to achieve a common goal, Hayek’s words become wrong. A large complex system probably needs central direction or leadership to achieve Schelling coordination. A small group of musicians might sit down and spontaneously make pleasant music, but a large orchestra will certainly need a common sheet of music. Imagine the symphony performance of decentralized, *competing* musicians. I believe that Hayekian claims about the coordinating properties of the competitive system have often been misunderstood because the word *coordination* is commonly taken to mean Schelling coordination.

A second topic in which the distinction between coordination and metacoordination may be helpful is the debate within Austrian economics over whether entrepreneurial discovery of opportunity is “coordinating.” Israel Kirzner (1973:218f.; 1992:29f.) insists that it is, while

		UNDESIGNED		DESIGNED	
Conventions (Coordination)		EMERGENT CONVENTIONS		DESIGNED CONVENTIONS	
		good for MC	bad for MC	good for MC	bad for MC
		(1) Common law gold standard	(2) British/American system of weights and measures  Chinese writing	(3) metric system	(4) American winter clock setting
Social Orders (Metacoordination)		SPONTANEOUS ORDER		PLANNED ORDER	
		good in MC	bad in MC	good in MC	bad in MC
		(5) Catalaxy roller skating  common law <i>creation</i>	(6) Tragedy of the commons	(7) Activities within the firm and other organizations	(8) Centrally planned economy

Note: MC stands for metacoordination

Figure 3. Typology of conventions and social orders.

others disagree.<sup>7</sup> Since coordination is commonly taken to mean Schelling coordination, the entrepreneur’s “creative destruction” may not seem to be particularly coordinating. When we think of the discovery of the chain-store concept, and its devastating consequences on mom-and-pop stores, or of entrepreneurs in Figure 1 effecting a shift from (Left, Left) to (Right, Right), we see the disruption of established patterns of activity and a *prima facie* discoordination. But if we interpret Kirzner to mean that entrepreneurial discovery, while not necessarily coordinating, is, in general, metacoordinating, then his theory makes good sense.

## 12. Typology

Figure 3 presents a typology of the topics we have discussed. It is based on three intersecting distinctions:

- A) The distinction between conventions and social orders. (This distinction is parallel to the one between coordination and metacoordination.)

- B) The distinction between undesigned and designed. For conventions, there is the further issue of whether the standard (or rule) was designed, such as the QWERTY keyboard, and whether *its adoption or emergence* as a convention was designed. My focus here is the emergence. Thus we say the QWERTY is an undesigned, or emergent, convention, even though it is a designed standard.
- C) The distinction between good and bad. For a convention, the issue is whether it is good or bad *for* achieving metacoordination. The assessment is based on comparison with *other* plausible or relevant conventions, not with the state of affairs where there is no convention at all. For a social order, the issue is whether it is good or bad *in* achieving metacoordination.

The two by two by two typology gives us eight micro-cells, which have been numbered in the Figure. I proceed to comment on each in turn.

(1) Emergent conventions which are good for metacoordination include the gold standard and the common law rules of property and contract.

(2) Emergent conventions that are bad for metacoordination are the British and American system of weights and measures, and the Chinese writing system, which generally requires a distinct symbol for every word.

(3) The metric system was planned and adopted in France in 1799. It is a convention that was designed and which is very good for metacoordination.

(4) Compared to standard time, the daylight-savings clock setting makes for less light at 6:00 A.M., when most people are asleep, and more light at 6:00 P.M., when most people are awake. In America, during World War II and during the Winter of 1973–74, daylight-savings time was enacted year round. In late 1974, however, America adopted, and has since maintained, a system of shifting during each year between daylight-savings time for the eight warmer months and standard time for the four Winter months. The current system may be a good example of a designed convention that is bad for metacoordination. Its badness would lie in its calling for two clock changes each year, and its inferior clock setting during the Winter months.

(5) The leading example of a spontaneous order that is good in metacoordination is a catallaxy, “the special kind of spontaneous order produced by the market through people acting within the rules of the law of property, tort and contract” (Hayek 1976:109). A more visible example is the particular pattern of movements of roller skaters in a roller rink. One skater’s movements influence those of other skaters, making a concatenation of movements. Polanyi (1951:162–65) applies the idea of spontaneous order to the *process of making* law, and the *process of making* science. He is careful to speak of the process of making, as opposed to the distilled results.

(6) The fate of common or unowned property shows that spontaneous orders need not be good in metacoordination. When a common pool is over-fished, or a fraternity house beer keg is over-indulged, we see the functioning of a spontaneous order.

(7) Planned order is never planned in full; there is always scope for decentralized action within certain bounds. But, as Hayek (1964:10) says, what distinguishes planned order from spontaneous order is that the *skeleton* of the pattern of activities is consciously designed. For

reasons explained by Ronald Coase (1937), it will sometimes be good for metacoordination for owners and managers to create a planned order in creating and running a firm.

(8) “As the area of unified planning is extended, particular knowledge of local circumstances will, of necessity, be less effectively used” (Hayek 1960:352). Centrally planned economies score poorly in metacoordination.

### 13. Concluding Remark

Despite its marvelous feats of progress, modernist economics has failed to bring the idea of spontaneous order into its grasp. The closest thing we have to a model of the complex process that makes a woolen coat are general equilibrium models, but they seem to miss something essential in spontaneity, and seem to obscure and even misrepresent how the process actually works. Indeed, the models largely omit altogether *the process of* metacoordination.

I suggest that, whatever our methods, we can better clarify the various social mechanisms at work, and the intellectual matters at hand, by taking care to distinguish between conventions and social orders, and to distinguish between coordination and metacoordination. The distinctions can help us to better understand the writings of Smith, Menger, Hayek, Polanyi, Coase, Schelling, Kirzner, and the recent path-dependence theorists. There is a categorical difference between the emergence within an industry of a common technological standard, or within a reoccurring situation of a set of rules for conventional behavior, and the concatenation of market activities that makes a woolen coat.

### Notes

1. For valuable comments and criticisms the author thanks the following individuals: David Anderson, Peter Boettke, Tyler Cowen, Pia Koskenoja, John Majewski, Stephen Margolis, Adrian Moore, Mario Rizzo, Ken Small, Lars Udehn, and Richard Wagner.
2. Other thinkers treated by Barry (1982) include Luis de Molina (1535–1600), Sir Matthew Hale (1609–1676), Bernard Mandeville (1670–1733), Josiah Tucker (1712–1799), David Hume (1711–1776), Adam Ferguson (1723–1816), Frederic Bastiat (1801–1850), Gustave de Molinari (1819–1912), and Herbert Spencer (1820–1903).
3. Along with Smith and Hayek, Herbert Spencer deserves mention for discussing the vast concatenation of economic activities as an undesigned order. Not only did he articulate its “invisibility” to the participants, he consistently described it as “spontaneous” (Spencer [1884/1892]:135, 196, 274, 301, 326).
4. It seems to me reasonable to say that Smith did not pay special attention to the “organic” or undesigned origins of social institutions and conventions, but unreasonable to say, as Menger does, that Smith strove for an understanding of such institutions as being “pragmatic” or designed. Barry (1982:27) construes Smith in the *Lectures on Jurisprudence* (1978) as viewing the law as organic in its origins. On the other hand, Smith makes remarks in the *Jurisprudence* (1978:337) about geometry, arithmetic, and writing having “all been invented originally to facilitate the operation of the severall arts.” Menger, at any rate, could not have read Smith’s *Jurisprudence* before writing his *Investigations*. Perhaps Menger, who describes at length the organic emergence of money in both the *Investigations* and his *Principles of Economics* (1871), felt that Smith’s own discussion in *The Wealth of Nations* of the origin of money was not as organic as it might have been.

5. In *The Road to Serfdom* (1944:51), Hayek writes: "It is, for example, at least conceivable that . . . the use of electricity for all purposes could be made cheaper than coal or gas if everybody could be made to use only electricity. . . . [I]t must be admitted that it is possible that, by compulsory standardization or the prohibition of variety beyond a certain degree, abundance might be increased in some fields . . . It is even conceivable that a new invention may be made some day whose adoption would seem unquestionably beneficial but which could be used only if many or all people were made to avail themselves of it at the same time."
6. I am grateful to Lars Udehn for enlightenment on these matters.
7. Of the several Austrian economists who have taken issue with Kirzner's claim that entrepreneurial discovery is coordinating, two can be seen using the word "coordination" in the Schelling sense (whereas Kirzner uses it in the Hayek sense). Ludwig Lachmann (1971:49) writes: "An institution provides a means of orientation to a large number of actors. It enables them to co-ordinate their actions by means of orientation to a common signpost." Elsewhere Lachmann (1986:5) writes, "Competitive market forces will cause discoordination as well as coordination of agents' plans . . . Schumpeter epitomized it in his phrase 'the perennial gale of creative destruction'." Jack High (1986:117–18) writes: "Each new division of labor necessitates additional coordination somewhere in the social structure. . . . Thus is the complexity of the market limited by the difficulty of coordinating actions."

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