

# RECONCILING GROUP SELECTION AND METHODOLOGICAL INDIVIDUALISM

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## ABSTRACT

*Methodological individualism underpins economic analysis. In his paper in this volume, however, Douglas Glen Whitman demonstrates that group selection can be reconciled with methodological individualism. This essay extends Whitman's analysis in two ways. First, it summarizes and restates the necessary conditions for group selection to play a role in the evolution of human preferences and societies. Second, it discusses the role of group selection in Hayek's thought, with a particular focus on the role of group selection in the evolution of legal rules and the rule of law. The viability of group selection is demonstrated to be an empirical question.*

Individuals exist as parts of groups – families, tribes, firms, clubs. Given this observable fact, it is plausible that under at least some evolutionary conditions, individual tastes and preferences might evolve so as to contain sympathy for other members of a larger group in which the individual exists. As Whitman observes in the core paper of this discussion, “MI (methodological individualism) dictates that individual choices lead to social outcomes; GS (group selection) is one force (among many) that determines what sort of individuals are present in the system.”

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As I have argued elsewhere (Zywicki, 2000), properly understood, the argument against group selection cannot be resolved as an *a priori* matter, as has been previously argued. As Whitman extends the argument here, for similar reasons, the argument that methodological individualism and group selection are incompatible as an *a priori* issue is similarly flawed. In both circumstances, the question of the relationship of group selection to individual selection and methodological individualism is an empirical question. As Whitman observes, the argument between group selection and methodological individualism in the social sciences mirrors in many ways the argument between group selection and individual selection in biological and cultural evolution. Rather than rehashing the arguments in Whitman's insightful and provocative paper, this comment will discuss some additional aspects of the group selection versus individual selection debate. Whitman's central conclusions strike me as correct, thus there will be little direct commentary on his argument but rather an attempt to supplement his analysis with some discussion of the conditions under which group selection can operate as an empirical matter, as well as some further elaboration on the possible compatibility and complementarities of group selection and methodological individualism. Consistent with the overall focus of this volume on Austrian economics and group selection, although perhaps outside the specific issues addressed in Whitman's paper, I also will use this opportunity to discuss some unresolved questions related to the role of group selection in Hayek's thought.

## THE CONDITIONS FOR GROUP SELECTION

Group selection models posit that individuals will sometimes act "altruistically," i.e. in ways that are good for others but detrimental to the individual. Groups that have members that are willing to act altruistically will have a comparative advantage in any competition with other groups. For instance, a basketball team that has players who are willing to pass the ball to open teammates or to expend energy playing defense will have a comparative advantage over teams that lack this willingness of players to sacrifice for the good of the team, even though these acts may reduce the number of points the player scores (and the recognition that results). More dramatic is the example of soldiers who are willing to sacrifice their lives in order to protect the lives of other members of their unit, such as by jumping on a live grenade. It is clear that in these situations, a group that has members who are willing to sacrifice themselves for the greater benefit of the group will have a comparative advantage against groups whose members lack this willingness to act altruistically or selflessly. Thus, from the perspective of the group as a whole, it is beneficial to encourage this sort of behavior.

On the other hand, with respect to each individual member of the group, altruism is subject to a free rider problem. While jumping on a live grenade certainly benefits the group, it is anything but beneficial for the soldier who sacrifices himself. From the perspective of the group as a whole, the group benefits from *someone* jumping on the grenade; from the perspective of the individual soldiers within the group, by contrast, each prefers that someone *else* jump on the grenade. Group selection provides one possible explanation for this altruistic behavior between genetically-unrelated individuals. As Richard Dawkins states the problem, “Even in the group of altruists, there will almost certainly be a dissenting minority who refuse to make any sacrifice. If there is just one selfish rebel, prepared to exploit the altruism of the rest, then he, *by definition*, is more likely that they are to survive and have children” (Dawkins, 1989, pp. 7–8, emphasis added). Most biologists have traditionally adopted this logic that group selection is unworkable as an *a priori* matter, because over time the force of individual decision-making will necessarily undermine the social benefits of altruism and group selection. Economists have similarly rejected group selection because it too seems to violate the premises of methodological individualism, in that the set of incentives necessary for robust group selection appear to lack firm and coherent individual-level foundations.

But it now appears that this rejection of group selection was too hasty (Sober & Wilson, 1998). The possibility of group selection cannot be disposed of as an *a priori* matter. It is an empirical question about the relative influence of the force of intragroup selection, i.e. competition among different individuals within a given group, versus intergroup selection, i.e. selection between different groups. The possibility of group selection arises from the interaction of these two offsetting forces: intergroup selection versus intragroup selection. Intergroup selection encourages altruism within a given group because it benefits the group as a whole in competition with other groups, even though altruistic individuals contribute more to the group than they personally receive in exchange. Intragroup selection, by contrast, favors selfishness and free riding – it is better to be on the receiving end of the public benefits contributed by altruistic individuals rather than being the “sucker” who contributes more than he personally receives in exchange.

Given that these two influences offset one another, the question of group selection is an empirical question, not *a priori*. It may be that the historical circumstances that are necessary for group selection to exert an influence in human affairs are implausible or unlikely; nonetheless, recognizing that the question is empirical in nature reorients the discussion to an examination of the actual circumstances that have shaped the evolution of individuals and cultures.

Whitman provides a technical discussion of the circumstances under which group selection is possible. In practice, however, the conditions for group selection

may be restated as requiring three operative conditions to be satisfied (Zywicki, 2000, pp. 87–88).

- (1) First, the genetic trait or cultural rule must promise sufficient *benefits* to the group that the members of the group will benefit from adopting it. In other words, there must be some benefit to the group that results from the practice when compared with groups that do not adopt the rule or practice, i.e. a social surplus is generated. Thus, for instance, a group that adopts rules that honor private property, freedom of contract, and restraints on the use of force and fraud will tend to prosper relative to groups that adopt the opposite rules (Hayek, 1988, p. 23). These rules may be invented consciously or may simply arise by accident.
- (2) Second, there must be some mechanism for between-group competition to occur, i.e. for groups with more superior traits or practices to displace others. This competition and displacement may occur either through: (a) warfare and conquest by the more successful group; (b) migration from the less-successful group to the more successful; or (c) imitation of the more successful by the less-successful (Hayek, 1972, p. 169, n. 7; Hayek, 1988, n. 121). An isolated group that never comes into contact with other groups will be unable to engage in between-group competition, thus group selection will exert no selection effect on the group's rules in terms of group selection.
- (3) Third, the group must be able to restrain free riders. The existence of an altruistic trait or practice inevitably gives rise to the possibility of free riding on those altruistic impulses. If unchecked, the ability of self-interested individuals to free ride on others' altruism can dissipate the social surplus generated by the altruistic act. On the other hand, it is not necessary to completely eradicate free riding, which will be virtually impossible given the incentives to free ride. It may be possible to *reduce* free riding to the point where the overall benefits to the group are sufficiently large such that the benefits of retaining the trait or practice are large enough to offset the costs imposed by free riders.

This specification of the third condition is perhaps the least-understood. Earlier thinkers supposed that it would be necessary to eradicate free riding for group selection models to be viable. This seems to be because it was thought that there was no stable social equilibrium between complete altruism and complete selfishness. But this ignores the fact that there is an intermediate equilibrium that *restrains* free-riding without completely eradicating it. It is not necessary to completely eliminate free riding, it is sufficient to control it to the extent that social surplus generated by the practice or trait is not completely dissipated by intragroup competition. Group selection predicts the possible emergence of altruism, not masochism – successful groups will develop rules that will *both* generate social

surplus as well as limit its dissipation. Again, it does not matter whether the rule is initially developed consciously or by accident, so long as selection forces can act on it. Social norms against antisocial behavior, legal and political institutions such as police forces that prevent theft, and constitutional institutions that encourage positive-sum wealth creation activities rather than zero-sum redistributive activities (or negative-sum rent-seeking activities), can all be viewed as mechanisms to limit the ability of free riders to dissipate the social surplus (Zywicki, 2000, pp. 90–93).

If these three conditions are met: – (1) a beneficial practice that benefits the group in intergroup selection competition; (2) a mechanism for between-group competition (war, migration, or imitation); and (3) a mechanism for preventing free riding by social parasites seeking to capture some of the newly-created social surplus for themselves – then the group selection model generates coherent testable hypothesis. Note, however, that it may be difficult to meet these conditions in practice, precisely because the forces identified by the methodological individualism model are so powerful. Moreover, identifying circumstance where group selection has actually operated will be difficult, given that the “losers” will have been extinguished or absorbed into the more successful group. Nonetheless, whether these conditions are met is an empirical question.

## **HAYEK, AUSTRIAN ECONOMICS, AND GROUP SELECTION**

The interest of Austrian economists in the relationship between methodological individualism and group selection can be traced to Hayek’s interest in the topic. The interest of Austrian economists in group selection is somewhat incongruous, in that a cornerstone of Austrian economics is its emphasis on methodological individualism. In large part, this strong commitment to methodological individualism explains the hostility of many working in the Austrian tradition to Hayek’s invocation of group selection in his writings (Vanberg, 1986). Many scholars have been puzzled by Hayek’s use of group selection, precisely because it seems incompatible with his emphasis on methodological individualism and also because the selectionist model is not well-specified in Hayek’s work (see for instance, Shearmur, 1996). This puzzle evaporates, however, if Hayek is modeling groups of individuals as a sort of “super-organism,” as modern group selection theorists do (Sober & Wilson, 1998). In fact, Hayek’s understanding of the relationship between group selection and methodological individualism may have changed over time, further adding to the confusion.

In his early writings invoking group selection, such as in Volume 1 of *Law, Legislation, and Liberty*, Hayek resolves the tension by arguing that group

selection of social rules is useful to any given individual because the rules produced by evolution at the group level enable a given individual to better coordinate his purposes with other members of the same group (see, for instance, Hayek, 1972, pp. 17–18). Although Hayek also makes some suggestions that the rules that have survived the winnowing of the group selection process are better than those that have not, he seems less concerned with the optimality of the content of the overall rules, than with the fact that a system of rules will in fact evolve in a given society. In this sense, Hayek's use of group selection in Volume 1 of *Law, Legislation, and Liberty* seems to be a sort of coordination game, with only a weak inference of optimality. In this model, there is clearly no real tension between methodological individualism and group selection – given some set of rules that govern the behavior of other individuals within the same social group, a given individual best accomplishes his own purposes by following the same set of rules. Following the same rules as other members of the society will best enable him to coordinate his affairs with other members of the society. In this sense, the social rules themselves become part of the exogenous “environment” within which the individual acts, just as the climate and presence of predators in a given society similarly create the relevant environment for natural selection. In this sense, Hayek's argument was primarily concerned with proving the hypothesis that a set of rules could actually emerge that were exogenous to individual choice and amendment, even though they were initially constructed by individuals and appear at first to be under individual control to change. Thus, any individual can prosper by following the rules given to him by tradition within a given society, even if he does not understand the origin or purpose of those rules.

What was Hayek attempting to accomplish through this demonstration that rules could emerge through the group selection process, while retaining a focus on the benefit to the individual from following those rules? I suspect that Hayek's purpose was to respond to the criticisms to his articulation of the rule of law in *The Constitution of Liberty*. There (and less precisely in *The Road To Serfdom*), Hayek argued that the rule of law required that any coercion applied by the state to individuals must be according to rules articulated beforehand and applied consistently to all parties (Zywicki, 2003). “Freedom” was defined as the absence of arbitrary coercion by political actors. Hayek argued that compliance with the rule of law was both a necessary and sufficient condition for freedom to prevail. If all government application of coercion was structured and controlled by rules articulated beforehand and applied equally, then the members of that society were by definition, free. Thus, even if individuals were coerced by the state (through taxation, imprisonment, even conscripted for military service), they were still “free” if these restrictions were set out clearly ahead of time and applied rigorously.

In Hayek's account, however, the rule of law may be a necessary but not sufficient condition of a free society. Even though advance articulation and equal application of the law reduces the threat of arbitrary coercion, it does not eliminate it because the rules themselves are still created by men (Hamowy, 1961, 1978). Thus, even if it is possible to fully articulate the conditions for government coercion in advance, those conditions themselves may have improper distinctions built into them. Human actors (legislators and judges) must still *choose the rules*, therefore, the law itself can have human will built into it, thereby seemingly legitimating undue restrictions on freedom so long as they comport with the rule of law (Liggio, 1994; but see McDaniel, 2003).

I believe that Hayek wrote *Law, Legislation, and Liberty* (from this point referred to as *LLL*) in response to this critique of his earlier articulation of the rule of law. Hayek's goal in Volume 1 of *LLL* is to argue that it is fundamentally incorrect to believe that human decision-makers, whether legislators or judges, choose the rules that govern their society. The rules are "*chosen*" for them through the process of group selection. Thus, men simply *articulate* these pre-existing rules, they do not *create* them. This argument, if correct, provides Hayek's key response to the Hamowy critique. If the rules themselves are not consciously chosen by political decision-makers, but rather the political decision-makers merely articulate the rules that are chosen through the group selection process, then it appears that Hayek has closed the loop on his argument regarding the rule of law. Tradition and group selection "choose" the rules, not transient political actors. To the extent that an individual is "coerced" into performing on a contract, or imprisoned for burglary, or prohibited from trespassing on another's property, this coercion does not constitute an undue infringement on his freedom. For, by definition, "freedom" is defined as the absence of arbitrary coercion by another person. Here, it is not the legislator or judge who is coercing the wrongdoer, but the force of tradition and spontaneously-generated rules produced by the impersonal process of group selection.

This explains Hayek's repeated comparison between the legal system and the market system in *LLL*. Hayek suggests that it is a logical absurdity to say that a grain farmer is "coerced" when he has to sell his grain for a price lower than the price at which he would prefer to sell. Because prices are set by the impersonal process of the market, it cannot be said that any identifiable individual or individuals have "coerced" you in deciding the price at which you can sell your grain. If you can be said to be "coerced" at all, it is by the impersonal process of the market. In *LLL*, rules emerge in society in the same way that prices emerge in a market. Thus, just as it is nonsensical to say that the farmer is "coerced" by the market into selling his grain for an undesired price, it is equally nonsensical to say that your freedom is restricted when you are coerced by legal rules that have evolved

spontaneously. To illustrate the point, it would be equally absurd to say that you are “coerced” into using the word “car” to communicate the idea of a car to someone else, rather than some other word you may prefer for the same idea, such as “gooblestopper.” Is your freedom restricted when you are required to use the term “car” to coordinate communication with others? No, Hayek suggests, because language is not invented by anyone and so no particular person is forbidding you from using “gooblestopper” instead of “car.” It is just that the word “car” has evolved to mean a certain thing, and if you use that term you can coordinate with others and accomplish your goals. If you do not use that term, you will be unsuccessful. Thus, when the rules that govern interactions – market prices, language, customs, legal rules – are generated by impersonal processes that are controlled by no one, then being forced to comply with those rules cannot be said to be an improper restraint on your freedom. With respect to the rule of law specifically, common law rules that develop spontaneously and are articulated by judges (not “created” by them) can thus be said to embody the rule of law. It is the *rules* that coerce, not individuals. And because the rules themselves emerge from the evolutionary group selection process and are not chosen by anyone, Hayek argues that it can be said that their application is consistent with the rule of law and freedom.

At first glance, the emphasis on the common law process, the spontaneous development of law, and the centrality of common law judges in *LLL* seems to represent a repudiation of the argument in *The Constitution of Liberty*. There, the emphasis is on the idea of the *Rechtsstaat* and the discipline of the rule of law is aimed at legislatures rather than judges. As suggested by this argument, however, Hayek probably saw the argument of *LLL* as an elaboration of *The Constitution of Liberty*, not a repudiation, in that it explains how the rules exist independent of the will of individual law-makers. Thus, it is fully consistent to say that rules may be the result of human action (methodological individualism) but not human design (group selection). Put differently, Hayek’s thesis is that while individual reason and individual action are good for introducing variation in to a system of rules, individual reason and control is too limited to effectively shape the selection among rules or systems of rules.

Individuals can choose and experiment with different individual rules *within* an ongoing spontaneous order, exerting choice over which rules are selected to prevail within the spontaneous order. The emergent properties of the system, however, result from the spontaneous interaction of all of these individually created rules, and thus are not designed by anyone. The spontaneously-generated *system* of rules, therefore, can be understood as having group selection properties independent of the particular attributes of the rules that comprise it. Because of the abstract and complex nature of the spontaneous order, individuals will generally be unable to



know for certain which set of rules are optimal; it is only through competition among different systems of rules that we can discover which system is best. Like natural selection, selection among systems of rules is backward-looking, in that which set of rules is superior to alternatives can be determined only after the fact. On the other hand, Hayek is not wholly defeatist – experience, history, and anthropology can provide some insight as to the attributes of systems of rules that are most likely to prevail from this selection process.

In this analysis, group selection operates to generate a set of rules that allow individuals to *predict* how *others* will likely act, and thereby to coordinate with them. To the extent that this is the function of group selection, there clearly is no conflict between group selection and methodological individualism (see also Richerson & Boyd, 2001 for a further discussion of related issues). As Hayek observes (Hayek, 1972, p. 44), “Society can thus exist only if by a process of selection rules have evolved which lead individuals to behave in a manner which makes social life possible.” He continues, “It should be remembered that for this purpose *selection will operate as between societies of different types*, that is, be guided by the properties of their respective orders, but that the *properties supporting this order will be properties of the individuals*, namely their propensity to obey certain rules of conduct on which the order of action of the group as a whole rests” (Emphasis added).

This reading of group selection in *LLL* arising in response to the rule of law debate triggered by *Constitution of Liberty* is confirmed by its reduced importance in the next two volumes of *LLL*. A rough count finds that Hayek mentions the concept of group selection at least eight times in the text and several additional times in the footnotes in the first volume of *LLL*. Many of these discussions are quite extensive. There are far fewer references in the latter two volumes of the *LLL* trilogy and in Volume 3 of *LLL* (Hayek, 1979, p. 202, n. 37). Hayek observes that “the conception of group selection may now not appear as important as it had been thought after its introduction,” although he adds “there can be no doubt that it is of the greatest importance for cultural evolution.”

Beginning with his 1983 lecture at the Hoover Institution, “The Origin and Effects of Our Morals: A Problem for Science” (Hayek, 1984), Hayek began to develop a larger focus on the role of group selection in human affairs. Recall that the emphasis on group selection in *LLL* may have been for the relatively limited purpose of placing his model of the rule of law on a firmer foundation, by showing that the rules existed independent of a particular individual’s will. Given this focus, there appears to have been no strong effort in *LLL* to try to claim optimality for these rules. In some sense, Hayek’s argument was limited to the observation that the common law provided a foundation for a free society grounded in the rule of law. To the extent that Hayek was making an argument about the

optimality of the rules that emerge from the group selection process, those claims appear to have been fairly weak. By *The Fatal Conceit*, however, Hayek seems to be making stronger claims about the optimality of evolved rules and practices (Whitman, 1998).

*The Fatal Conceit* frames the issue in a manner anticipated in the 1983 Hoover lecture and offers a different reconciliation of the tension between individual and group selection. As Whitman and I have both suggested, there seems to be little incongruity in treating a business firm as a “individual” for purposes of an evolutionary unit, even though a firm is actually a collection of individuals (Alchian, 1997 [1950]; Zywicki, 2000). Hayek offers a similar argument about the small-group hunter-gatherer societies in which humans lived for most of their evolution. Hayek sees most of the challenges facing these groups as being collective challenges against a harsh physical environment or warring tribe. To coordinate these small groups against ever-present threats, Hayek argues, it was natural that humans would evolve genetic traits that helped to build the solidarity of the small group internally and to oppose external threats. It is this instinctual desire for solidarity and intragroup commitment that remains with us today, motivating humans to aid one another to act altruistically toward one another.

Like Whitman, Hayek suggests that there is no inherent tension between individual and group selection. Because we have evolved “*instincts of solidarity and altruism*” (Hayek, 1988, p. 12), Hayek implies that we ourselves gain happiness and utility from seeing other members of our group prosper. It is possible for small groups facing consistent threats to the group as a whole to develop a high degree of cooperation and agreement on group ends as well as the means to be used to accomplish those goals (Hayek, 1988, p. 19). In economic terms, human beings have interdependent utility functions, in the sense that they instinctively care about one another within their group. This seems to be the model discussed by Whitman. And, if Hayek’s hypothesis about the content of human nature is true, obviously there is no incongruity with the idea of group selection and methodological individualism being consistent with one another.

On the other hand, while it thus appears that group selection is possible and consistent with methodological individualism, this simply leads to the next question of whether group selection is valid empirically as playing an important role in the evolution of human preferences and of human societies. Answering this question will require further explanation of why these instincts would have come into being in the first place and a deeper understanding the historical and anthropological contexts that could have created an evolutionary environment conducive to a role for group selection in human preference formation.

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