The Positive Political Economy
of Individualism and Collectivism:
Hobbes, Locke, and Rousseau

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In rich capitalist countries, Liberal political cultures mix ideas from Thomas Hobbes, John Locke, and Jean-Jacques Rousseau: both laissez-faire and New Deal Liberals value maintenance of societal order, protection of individual property, and consent by the governed. But when aggressive competition abets inequality, disrupts communities, undermines consensus, and encourages disorder, this mix is increasingly contradictory. One response is what Sandel's calls "search for a public philosophy,"[1] including communitarianism,[2] aiming to create a harmonious "civil society."

Because the theories of Hobbes, Locke, and Rousseau are merely utopian if they do not work in practice, this article aims to reveal their needed positive assumptions. Their perspectives are seen as special cases of a general model in which people choose the type of society that they want while society shapes their customs and characters, centering on the dimensions of personal individualism and societal individualization. Such two-way causation suggests the possibility of societal equilibrium, so that societies can be described as different equilibria and disequilibria.

Any examination of the assumptions needed for a political vision to work involves a critique of ideology. Because the nature of society is not unique in the

model, it rejects notions of TINA ("There Is No Alternative"). The Lockean property rights assumed by laissez-faire partisans are but a special case. Because of free rider problems, such rights exist in a disequilibrium that must be preserved by state coercion. Further, Locke's assumption of equal participation in a Social Contract contradicts the reality of the class society that he endorsed. While communitarianism aims to stabilize this society, it is similarly assumes equality or ignores the need for it.

Rousseau tries to save Liberalism by positing an ideal egalitarian society, while making human character endogenous to society. The criticism of Rousseau points to the limitations of ideologies based partly on his ideas, including that of socialism from above. This analysis is complemented by the model's portrayal of democratic collectivization from below.[3]

The author's main graphic model is complemented by analysis of the societal mechanisms behind it, starting with the Social Contract and ideas from the "public choice" literature. This article differs from that literature in four ways. First, despite the role of individual decisions, it rejects methodological individualism. Heterogeneous individual choices must be aggregated by institutions, while those societal institutions "feed back" to determine the character of individuals and their decisions.[4]

Second, the totally self-centered *homo economicus* (*HE*) is seen as only a special case. Third, the degree to which people deviate from *HE* can vary, due to calculation of how to achieve given ends or changes in these aims. This variation may be exogenous or endogenous: individual character is determined by both genetics and society.

Fourth, while issues of individualization versus collectivization are usually summarized by only the relative importance of central government, here the extrastatal institutions play important roles. This follows communitarian discussions, Akerlof's model of custom, de Jasay's discussion of nonstate organizations absent the state, and Ostrom's study of decentralized organizations.[5]

The first part sketches the views of Hobbes, Locke, and Rousseau. Rather than being exegetical, this article simply assumes my interpretations to be accurate.[6] Many details of these thinkers' philosophies are ignored, making summaries clearer but less nuanced. In sum, the authors represent the schools they founded.

The second and third parts show that none of these thinkers' models of society are simultaneously stable, normatively attractive, and politically feasible. Hobbes' image of anarchy is stable in an atomistic society but is unattractive, as is his solution, state despotism. But Locke and Rousseau's solutions to the public-goods problem inherent in a property system have major elements of instability that they did not address.

The fragility of Locke's society is only moderated, not ended, by a communitarian order. Further, absent an actual Social Contract, Hobbesian war may

appear. The existence of classes can temper that instability, but Lockean capitalism loses its normative appeal. The role of conflict brings up the alternative vision of Marx, but this article does not center on his work.

The third part shows that Rousseau can save many Liberal values. But finding a stable, societal equilibrium requires a deeper vision of psychology, one that stresses the limits on society shaping of human character. Even that vision is politically infeasible.

The fourth part draws some conclusions: the three philosophies are not especially coherent. The model not only describes abstract situations but sheds some light on real-world cases, while indicating the limits of its analysis. An appendix of technical notes explaining the assumptions behind the analysis is available from the author (or at http://clawww.lmu.edu/~jdevine/hlr.html).

1. BACKGROUND

Liberalism asks, "Given a large number of individuals with roughly equal power, what institutions and policies allow them to attain the common good?" The basic institutional decisions are made via a Social Contract; usually hypothetical, tacit, or normative. Hobbes and Locke follow methodological individualism, deriving the "public" sphere from the "private" sphere of individuals, while Rousseau adds an extra twist to societal choice. Consider these thinkers in turn.

A. Based on experience in the English Civil War, Hobbes argued that freed from state restrictions, power-seeking individuals invade each other's property, implying a war of each against all, in which "peace" is preparation for further conflict.[7] This Hobbesian "state of nature" reflects the human nature he posited. Examples include Beirut (1989), Bosnia (1995), and the world absent a hegemonic power or a world state. To avoid their destruction, people must agree to be dominated by a permanent, unified, and despotic sovereign, organized as a *state*[8]—no matter who or what it might be. All individual rights are granted by that state.

B. As Locke suggests, Hobbes did not solve his stated problem.[9] Since the sovereign seeks power, the wrong kind of sovereign can arise, as with Hitler, creating war against its subjects. Facing government that rebels against its people, Locke justified revolt, as with the "Glorious Revolution" of 1688. Rather than rejecting the need for a unified sovereign, to Locke the state's organizing force—the government—must be subordinated to the governed.

Locke did not see revolution as automatically provoking Hobbesian havoc, since he assumed a consensus based on "natural" property rights. In effect, sovereignty is vested in the property-owning class as a whole. His contract gives this class freedom to control resources without state-enforced responsibility to society, assuming that individual ownership produces benefits that trickle down to nonowners.

Against Locke's vision, economic theory suggests that state enforcement of generally accepted property rights is insufficient. The ubiquity of externalities and information problems means that "private" property is inherently ambiguous: even when ownership of an object is clear, its impact may be more than private. This produces dispute, lawsuits, political strife, and government intervention, getting far beyond the Locke-inspired minimal state.

Focusing on information issues, state enforcement cannot solve the principal/agent problem, in which hired agents use the principal's ignorance to interpret contracts to their own benefit. Principals must thus set up extrastatal hierarchies.[10] Even so, such systems require the conscious goodwill of the agents, since information problems cannot be abolished and enforcement costs can overwhelm management.[11] As communitarians point out, Adam Smith's "fellow-feeling" or Rousseau's public spirit is needed.[12] A moral consensus deeper than Locke's is needed, one that individuals actively embrace rather than leaving tacit.

C. Going farther than communitarianism, Rousseau criticized Locke for failing to solve his stated problem: Locke's sovereign—the property owners—creates a war with the propertyless classes when trickle-down fails. To Rousseau, the entire citizenry should be sovereign.[13] Following Hobbes to see property rights as societal creations, he argues that individual ownership should be limited to ensure democratic rule. Both Locke and Rousseau favored "popular sovereignty," but while the former wanted property rights to constrain citizenship rights, the latter wanted the reverse.

Rousseau adds an extra twist, seeing human character as largely a societal creation. Thus, as for Plato and Aristotle, Rousseau's ideal state is structured to produce good individuals. In addition, he favored a voluntary contract. To Rousseau, people can choose society at the same time that society "chooses" people, producing equilibrium. This is the central idea of the present article.

2. LOCKE AND HOBBES

So turn to the dialectic between individual and society, starting with the simplest Lockean case. After (A) an overview of the theory of property systems and the model, this part develops the model of (B) a simple Social Contract. Following communitarianism, section C introduces civil society. Section D indicates that when the Social Contract is dropped, Liberal society's problems multiply. If these do not result in a complex society impossible to describe within the model, they lead to (E) Hobbesian war or (F) class society. This sets the stage for Rousseau's proposed solution (part 3).

A. Overview

Locke presents two seemingly inconsistent visions of humanity absent the state.[14] Opportunism produces a Hobbes-style "state of war." But if individuals respect others' property rights, a harmonious Lockean Order, his "state of nature,"

results. Why this order is "natural" or how transcendence of opportunism occurs remains a mystery. The solution of this mystery can be provisionally solved by using a public-goods theory of the Property System and the graphic model.

1. Locke's inconsistency is initially solved by seeing Locke's Order as a *public good*. All Property Systems are pure public goods for property owners. As in text-book definitions, one's use of this system does not detract from others' benefits, while nobody is excludable from its laws. It is also indivisible, since property law must be standardized across a country and between transactions.

The system's creation benefits all owners, but each is encouraged free ride, to benefit without following its rules, encouraging its fall. This is especially true if the free riders get rich, as in post-Soviet Russia. If, however, the state forces people to heed property rights, a Property System can persist.

The issue thus is restated as a collective action problem involving a large number of individuals in an imaginary territory (with no in- or out-migration). The two-person Prisoner's Dilemma (PD) model[15] is rejected because a large number of two-person games is qualitatively different from a "game" that simultaneously involves many.[16] Further, PD models assume that choice of a Property System is an either/or choice between Hobbesian and Liberal outcomes, whereas the model posits a spectrum of degrees of collectivization.

The process of understanding the "public good" problem starts with a Hobbesian context, which Locke invoked vaguely, centering on two abstractions from empirical reality. First, each individual possesses roughly the same amount of each of the various types of resources, including hir or her own body and mind. This *Equality* abstraction implies classlessness. Second, individuals seek to attain their goals. Under the *Autonomy* abstraction, these goals are given independently of current society. Both abstractions are dropped below.

The *Simplicity* abstraction combines several premises never dropped. First, only logical time, in which processes can be costlessly reversed, is considered. Second, an individual's location within the territory is irrelevant. Finally, many details of real-world politics are ignored to focus on the individual *versus* society: issues such as gender, race, and ethnicity are ignored, while "individuals" are monolithic households. The other abstractions listed in Table 1 are introduced when relevant.

2. The graphic apparatus extends the public-goods story by examining the spectrum of Property Systems that can be created, how they can be created, and their effects on willingness to accept such systems. Involving a very abstract description of possible personalities, the model centers on one dimension of the extreme complexity of human character, individualism *versus* collectivism. Correspondingly, a single variable distills the essence of equally complex societal organizations, individualization *versus* collectivization.

A glance at Figure 1 indicates how the model works. The vertical axis measures the degree of collectivism of an individual personality (P), reading upward

Table 1
The Main Abstractions of the Model

a. Societal *Equality*: each individual possesses roughly equal amounts of resources. (Dropped in
    section 2F)
b. Personal *Autonomy*: each maximizes utility, with preferences given exogenously. (Dropped in
    section 3)
c. Societal *Simplicity*: the model operates in logical time, in which the physical location of individ-
    uals within the given territory is ignored. Many other details of real-world politics are ignored.
    (Never dropped)
d. Preference *Single-Peakedness*: the distribution of the degree of collectivism among individuals is
    single-peaked. (Weakened in section 2D)
e. Societal *Modernism*: no role for tradition or decentralized democracy—central government is
    the only kind of collectivization. (Dropped in section 2C)
f. Societal *Cohesion*: nonexistence of vested interests backing (de)regulation or its opposite of spe-
    cific resources. (Weakened in section 2D and dropped in 2F)
g. Political *Contractarianism*: the will of the people is expressed in a social contract. (Dropped in
    section 2D)
Societal *Unity* combines Cohesion and Single-Peakedness.

from ultraindividualism to ultracollectivism. To simplify reading, $P = 0$, the per-
sonality of *HE*, is drawn above the horizontal axis.

In the simplest Lockean vision (Figure 1), preferences for collectivization
and actions based on them are given exogenously. However, individuals are
heterogeneous: personalities vary along the spectrum following a rough statisti-
cal distribution.

In addition to the preferences of an abstract individual (P), the degrees of col-
lectivism of the most opportunistic individual (P_o) and the median individual (P_m)
receive the most attention below. ($P_m > P_o$ unless unanimity prevails.) That the
societal environment does not affect P_o or his or her actions implies the horizontal
"*cd1*" line. The role of P_m is not shown by a line in the graph, since it determines
the nature of society only in an ideal Social Contract. This simplification fits the
emphasis on possible real-world processes.

The results of individual actions are measured along the horizontal axis, show-
ing the degree of collectivization (S) of the Property System. As S rises, society
moves rightward from the most individualized (anarchy) to the most collectivized
(total collective control). Third, the upsloping social-choice line (*sc*) represents
the way that individual preferences are expressed to determine S. More collectiv-
ist individuals choose more collectivized societies. However, social choice occurs
at two levels that differ except in societal equilibrium.

A Social Contract by an Assembly of all can determine the degree of collectiv-
ization: the given median personality P_m determines societal collectivization S_m.
Under special conditions (see section D), this interest can also be expressed
through representative democracy, an imperfect contract. P_m thus corresponds to
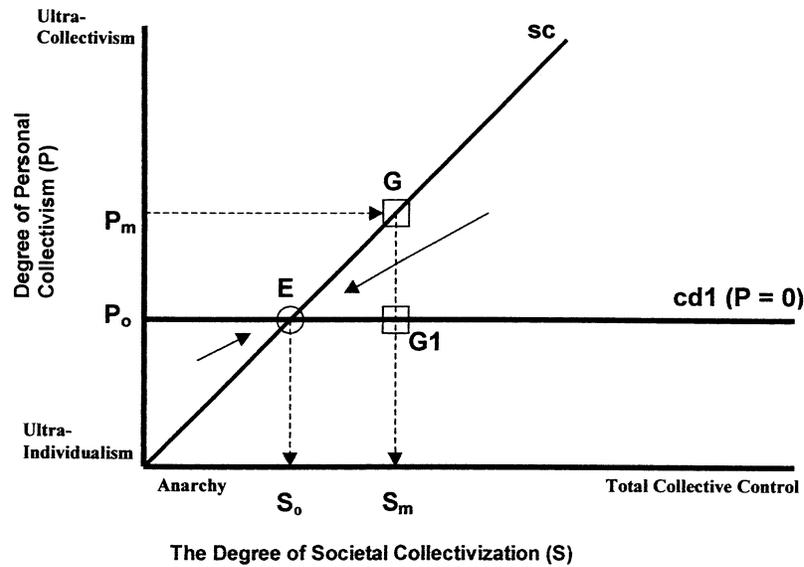notions of the "public interest."

Figure 1. Simple Lockean case.
Note. At point *G*, the person with the median degree of collectivism P_m chooses the societal degree of collectivization, S_m, in a Social Contract, following the social choice line, *Sc*. The *cd1* line corresponds to the personality of the most opportunistic personality P_o, here assumed to be independent of the degree of collectivization, with a degree of collectivism equal to 0 (*Homo Economicus*). Point *G1* indicates the type of individual behavior that prevails in the decentralized realm in a society characterized by the degree of collectivization S_m. The vertical free rider Gap ($G - G1$) that exists for a society with S_m, indicates that if the state does not prevent the free rider problem from prevailing, the society moves to a lower degree of collectivization, S_o. The direction of this movement is shown by the light arrows (as are other free rider dynamics). Point *E* shows the societal equilibrium that results from these dynamics. It and other stable equilibrium points are circled, while disequilibrium and unstable equilibrium cases are indicated by squares.

How society actually works depends on the actions outside of the Assembly, by the opportunistic individual. For this personality P_o, the resulting society is S_o at a lower level of collectivization than S_m. That both the median and opportunistic individuals determine S through the same *sc* curve is equivalent to that of the PD treatment of the Hobbesian dilemma, in which the same matrix is used for both cooperation and defection.

The contrast between S_m and S_o is the free rider problem. Since we seldom see an explicit contrast between two possible societies with different degrees of collectivization, this problem is shown as a vertical "free rider Gap" at any given degree of collectivization, S_t. This Gap ($G - G1$) measures the disparity between the median personality that would choose that degree of collectivization in the Assembly (P_t) and the point on the *cd* line (P_o) corresponding to S_t. (In Figure 1, P_t equals P_m.) Absent state coercion preserving the Property System, the Gap means

that society moves toward point *E*, toward the level that the free rider chooses: the "lowest common denominator," not the democratic will, prevails. Figure 1's light arrows show the direction that society moves due to *free rider dynamics*.

Point *E*, where the *sc* and *cd* lines intersect, is *societal equilibrium* with no state: the most opportunistic individual has chosen (through his or her actions) a society that creates no further move toward individualization. Lacking a state, more publicly minded voters are unable to impose their preferences for a more collectivized system; this is a simple Hobbesian hostility.

After Figure 1, the actions or the character of the opportunistic individual are endogenously determined by society, so that *cd*, the custom or character development curve, slopes up. This slope arises because individual actions are determined partly by society: once established, societal collectivization encourages collectivist actions and/or personalities. This endogeneity refines the definition of equilibrium: at any such point, not only does the most opportunistic individual choose the degree of collectivization of society but the resulting society shapes the actions of said individual so that he or she chooses that value of *S*.

Two main types of equilibrium are discussed below. In Hobbesian equilibrium, as with point *H* in Figure 2, free riding encourages anarchy, which, in turn, encourages defensive and destructive behavior (see section E). Second, Rousseauian equilibria, as with points R_A and R_D in Figures 3 and 4, are cases where collectivized societies encourage collectivist behavior that reproduces relatively "civilized" situations over time (see part 3). On the other hand, class society cannot be represented in the *sc*/*cd* diagram (see section F).

Even with Equality, real-world societies are not in equilibrium and thus require states to enforce the Property System. To understand such disequilibrium, first consider the Lockean Contract.

B. A Lockean Contract

The theoretical foundation must be developed further, defining key variables, the *sc* curve, and the model's dynamics. The basic model starts by defining *P*. Next, explaining *S* involves the problem of living with others' externalities, the ways of dealing with the free rider problem, and the degree of state regulation of resources. The choice of *S* involves decisions made in a Social Contract and outside the Assembly. Finally, the role of the state is developed.

Assume that the imaginary territory produces only a single good, so that the only issue is its distribution among people. In contrast, many different types of resources are used to produce it; they differ in terms of external effects.

1. As usual, the utility an individual gets rises with the number of goods received. For *HE*, the story ends there: since this "person" only cares about the goods it receives, its degree of collectivism *P* is defined as equal to zero. This is a special case, since two other general personality types exist, even given our one-dimensional vision of people.

First, the "collective action" and communitarian literatures emphasize the more collectivist (public-spirited) person, here represented as getting pleasure as the number of goods received by the average person in society rises ($P > 0$).[17] In a setting that allows an individual to express his or her preferences (such as a democratic vote), this means putting utilitarianism into practice. Second, Hobbes's work suggests that some may be threatened by others' goods, so that $P < 0$. Others' goods are a proxy for their ability to accumulate resources, to gain an edge in competition or battles.

Since individuals are diverse, some measure of the prevalent personality is needed. Assume preferences to be *Single-Peaked*, so that the "voters' paradox" does not apply.[18] Thus, the individualist or collectivist character of a population can be described by the median degree of collectivism, P_m.

2. Defining S starts with the reason for regulation: an individual's goods reflect not only output from the resources he or she controls but also externalities arising from those controlled by others. The word *externalities* refers not only to technical ones such as pollution but also to "pecuniary" ones (through markets) and those through other forms of human interaction (e.g., war).

Following Equality, each person has the same technology for transforming resources into goods. One's control of any resource raises one's production of goods. Further, others' control of resources can raise or lower one's output, depending on whether its use causes beneficial or detrimental externalities.

The *salience* of externalities also distinguishes resources. This is the magnitude of the impact on the output of goods for an individual by a resource held by others.[19] Here, the "public goods" usually discussed are simply resources producing external benefits with high salience. The only exception is the Property System, a pure public good.

3. This discussion implies the need for collectivization: if each is an *HE*, externalities exist, and life is organized totally by voluntary bilateral agreements; the well-known economic result is that resources with external benefits (costs) are underused (over-used). Worse, this means that the Property System would not result, implying Hobbesian war.

It is even more ruinous if some have Hobbesian personalities and want to reduce others' goods. But even if $P > 0$, people are unable to act on fellow-feeling: if all are stealing, then a collectivist cannot do anything but use violence in defense. The war continues, since charity is most difficult when it is most in need.

So societal organization is required. This must be more than markets, since market individualism encourages the free riding that undermines the system (see below). Markets cannot exist without institutions to mitigate free riding on the system.[20] There are four *modes of collectivization*, allowing peace—and trading that rises above chronic theft and fraud. The most familiar is *central command* by the state, applying sanctions when property laws are broken. The other three are parts of "civil society." Extrastatal *decentralized hierarchies*, such as slavery,

mafias, political machines, or corporations, handle free riding through top-down sanctioning. *Customs* and *local democracy* both involve sanctions imposed by individuals in a decentralized way.

Until section F, decentralized command is ruled out by Equality. Until section C, the *Modernist* abstraction means that only state enforcement occurs, fitting with "modernist" Liberalism, which unlike communitarianism, sees social problems only in terms of individual freedom versus central control.[21]

4. The key question thus concerns which of an individual's resources are officially accepted as his or her property and the rights given to him or her. Rather than emphasizing the binary choice between individual rights and state control, the analysis is of degrees of *regulation* of both individual resources.

One extreme has individual possession without property rights; neither government restrictions nor protections exist. In a moderate case, one has legal title to the resource (possession and property) but must follow government rules, while benefiting from silences in the laws. The other extreme has possession without individual property: the state owns the resource, so that one can use it only within the law; with possession allowed only by government fiat, the laws have no silences.

For any specific resource, movement along this continuum is represented by changes of the *degree of regulation*. Assume *crude collective rationality*, that is, that the government sees the difference between external benefits and costs and encourages the former while impeding the latter. Then, the possessor of a resource with external benefits is subsidized, while benefiting from the encouragement of others' holdings of that resource. Thus, he or she would favor more regulation, especially if *governmental effectiveness* is high.[22] For a polluting resource, the individual pays higher taxes as regulation rises but can gain as the external costs due to others holding it also falls, especially if government is effective.[23] Thus, while a free rider tries to evade any tax on his or her pollution, he or she might favor raising that tax if it were strictly enforced.

Heterogeneity of resources makes it hard to quantify the overall degree of collectivization (S) unless we assume *sophisticated collective rationality*, That is, that those resources with the most salient external effects are regulated the most.[24] With the degrees of regulation of resources set relative to each other, S is the *average* degree of regulation.

An extremely individualized (low-S) society has no property rights at all, as in Hobbes's nightmare. The laissez-faire ideal is less individualized, with most resources being individual property; the only collectively owned resource is state force. As S rises, regulations on privately owned resources rise beyond contract enforcement—and the list of government-owned resources lengthens.

Examine the two bases for collective rationality. The first is Equality: every preference has equal weight; neither rich individuals nor powerful state officials can bias decisions in their favor. The second is societal *Cohesion*, the absence of

vested interests. Consider its opposite: assume one person controls a fetid factory, while another has resources with external benefits. The first would strive for low regulation in general to avoid regulation of his or her resource, while the latter wants high regulation in general (to get a subsidy).[25] So Cohesion assumes that each holds resources with similar external effects. Thus, nobody has an interest in creating or preventing any specific government regulation that would affect the overall level of regulation.

We could instead assume a Rawlsian "veil of ignorance": since no one knows what resources he or she will hold, each ignores vested interests. Or we might assume that those with polluting resources accept sanctions if they serve the perceived public interest. Since it is hard to sustain such attitudes if they contradict reality, these alternatives work if they correspond to actual Cohesion. So simply assume the latter.

5. Since collective rationality determines only the relative degree of regulation of resources, the absolute degree of regulation of any specific one is unknown unless the average level is known. That is, the model assumes that no specific S is "rational," given by nature, or a "global optimum" independent of preferences. Rather, it is chosen by society, given its collectivism and the modes for expressing preferences.[26]

This choice is summarized by the "societal choice" or "Social Contract" line (*sc*): as collectivism rises, so does desired collectivization, moving up along *sc*. The location of *sc* also changes with other characteristics of society's objective organization that can vary to determine the society that people create, including the technologies of communication, transportation, and decision making. To emphasize the interaction between the two curves, *sc* shifts are ignored until section 3D.

This article stresses the upsloping linear *sc*. A horizontal *sc* seems irrelevant since it implies that people do not care about the degree of collectivization, while the vertical *sc* simply rules out choice about the value of S, a kind of technological determinism.[27]

The mode of preference expression lies behind the *sc* curve. Given Equality and Modernism, this can happen only via autarchy (opting out), central government (a directly democratic Assembly, representative government, etc.), and individual efforts in the decentralized realm (trading or battles). The first—which totally eschews aggregation—is ignored. Given Simplicity, there is no place to go to opt out (while out-migration is assumed away). The other two methods are treated separately. Collective decisions are made in a centralized way, determining the Property System's rules. Decentralized decisions made within or against these rules establish societal results. An individual's preference for autarchy is counted as being for low S in the constitutional decision and for free riding at the individual level: like the Montana Freemen, an "autarkist" exploits his or her societal environment.

6. Under the *Contractarian* abstraction, the constitutional decision is a Social Contract. Dropping Locke's notion of a tacit contract, and leaning toward Rousseau, the decision is made by a majority vote of an Assembly of all; the property laws are then enforced by an elected government that runs the state.

Everybody must participate in the Assembly: applying Okada's model, the minimum number of participants that guarantees that the payoff to each exceeds that in absence of participation is the entire population.[28] Further, the system requires that the rules, their interpretation, and their enforcement be standardized. Thus, de Jasay's decentralized contract enforcement and Ostrom's organizations for regulating resource use are at most auxiliaries to state enforcement.[29]

Majority rule replaces Buchanan and Tulloch's unanimity criterion because the contract involves conflict over the definition of property rights along a single dimension where all must participate.[30] The unanimity rule, however, is necessary for deciding that the contract occurs and follows majority voting.

This two-stage conception of the Social Contract differs from those of Locke[31] or Buchanan and Tulloch, because rather than always endorsing Lockean property rights, the contract can establish other types. Lockean rights are only one specific point on the collectivization continuum. The presumption that a contract would choose only one type of Property System implies that the most important political decision in history can be solved by simple fiat.

The nature of this political process is rather pedestrian. Individuals do not argue about visions of socialism, capitalism, or anarchism. Instead, decisions involve people voting on the degree of collectivization (S) simply in terms of their varied degrees of personal collectivism (P). Resources are more regulated as P_m becomes more collectivist, because of the Single-Peakedness of preferences. S is determined by P_m, following the median-voter rule.[32]

S and P must be linked: while collectivization refers to government regulation of resources, personal collectivism concerns the distribution of goods. That the link exists can be seen from the case of a resource having high external benefits. Such equipment helps all individuals, raising the goods received by the average person. *HE* puts no value on the latter (while the direct benefits to *HE* are minimal) and so votes to promote only a small amount of this resource. A more collectivist person ($P > 0$) values benefits to others and thus favors a higher degree of regulation. But a Hobbesian ($P < 0$) puts negative weight on promoting this resource since it aids rivals.

7. Outside of the Assembly, decision making is neither centralized nor democratic. Rather, choice is organized in individual bargains and markets, in theft and fraud, or in battles. At this level, agents' decisions affect and define the implementation of collective decisions, directly and without needing others' cooperation. Even with a dictatorial state, the preferences of the ruled have an impact: the Soviet "we pretend to work and they pretend to pay us" ethic determined the operation of the Gosplan.

The Assembly's decision making implies more collectivized institutions than do individual actions: while voters band together to protect common interests (here, property rights), acting on social values, the incentive at the individual level is to act on narrow greed alone.[33] Since one has some control over one's own goods but can only treat the average person's goods as fixed and given, maximizing utility is the same as maximizing one's own goods. The best one can do is to give to charities, but one does this best by first maximizing one's goods.

8. Now reconsider Liberal civilization and its discontents. The horizontal *cd* in Figure 1 incorporates strong Autonomy, that expressed preferences are exogenous. The graph also assumes that the opportunistic person (P_o) has a degree of collectivism equal to zero (*HE*).

The median personality that would choose Locke's Order (or any Property System with $S > S_o$) in the contract is more collectivist. The entire population need not undergo "partial transcendence" of opportunism. But the median person must do so, shifting the entire distribution of personalities toward collectivism.

Even assuming that P_m is Lockean, that is, that the contract establishes his type of property rights, a collective action problem exists. Competition encourages each to "defect," to use PD terms. This problem is amplified by the difficulty of inducing large numbers to cooperate. Absent state restraint, opportunism dominates and defines the equilibrium society at point *E*. "Equilibrium" means that this situation persists if neither *sc* nor *cd* shifts (and the model's assumptions do not change).

The equilibrium is stable, since the *free rider dynamics* that result if society starts with any S_t to its right or left of *E* move the system back to equilibrium. Reading up to the *sc* line at any given S_t implies a specific median personality P_t, that is, the personality that would choose S_t in a contract. In these dynamics, the actual degree of collectivization falls if the P_o is less collectivist than P_t. Society slides down the slippery slope to *E*, as each agent finds that he or she can profit by breaking or reinterpreting contracts and stealing.[34]

In sum, Locke's Order is a disequilibrium, so that state power is needed.[35] The "natural" freedom of a stateless society must be violated to create the societal freedom of property owners: in Rousseau's seemingly sinister saying, people must be "forced to be free." Locke would never deny the need for force or to advocate anarchy. Although Rousseau applied this phrase to his own contract, here it applies to all systems that are more collectivized than S_o.

C. Civil Society

As Lichbach finds, state coercion is insufficient.[36] So reject Modernism and examine the communitarian solution, bringing in other ways to deter free riding: ideology, custom, and grassroots democracy.[37] As Lichbach concludes, however, none of these *supporting institutions* can stand alone to solve the problem.[38] Rather, they must complement each other, just as they must complement the

state's enforcement. The discussion below develops the psychological assumptions of this vision, the institutional underpinnings, the new role of the state, and how the graphic model changes.

1. To allow social peace, people must have what Elster calls "mixed motivations": people should be not only self-interested but also embrace (1) cooperation if it is seen to be better than universal defection and (2) social norms against free riding; "participation altruism" or "commitment" is needed to explain why individuals are willing to participate in votes offering no obvious positive individual benefit (and to obey such collective decisions).[39] Assume that this is linked to the "goods altruism" or "sympathy" assumed when $P > 0$, so that public spirit now means more than practicing utilitarianism in a democratic vote. This formulation preserves economic "rationality" (consistent pursuit of given goals) even as it discards greed as summarizing human psychology.

Given this, propaganda can convince people to voluntarily comply with the system, perhaps fitting with one of Locke's aims in his *Second Treatise*. This compliance might also be induced by fear of foreign invasion or the perceived inferiority of systems prevailing abroad. Accurate or not, such perceptions are part of society's ideology, which can be internalized as social values that can ratify the system when practiced.[40]

2. However, changing assumptions about individual preferences is not sufficient: since they provide only the motive to act in a less-than-greedy way, individual public spirit and belief in order-preserving ideology should be treated as secondary to actual modes of collectivization. Decentralized institutions give an individual, even the most opportunistic, the means and opportunity to act on public-spirited motivations outside of the Assembly. That is, getting people away from atomized competitive markets or Hobbesian uncivil society can allow and encourage the expression of fellow-feeling in practice. Without such a basis, public spirit falls out of favor, since few will expect others to act in such a way.

First consider *custom*. Once established, people see the prevailing level of collectivization (S) as normal and moral, and thus tend to follow its traditions: they willingly act in a more collectivist way than *HE*, given experience with others' actions and informal codes of conduct. As Rabin notes, people are more willing to be public-spirited if they believe that others are being so also.[41]

In Akerlof's model of the nature and workings of custom,[42] tradition does not abrogate the Autonomy abstraction, since personal goals are exogenous in the model: people see acting in a collectivist way as a way to attain their aims. It does reject the universality of *HE* because some may believe in a custom rather than following it for opportunistic reasons. But such belief is not "irrational," since it is based on the tradition's success in the past.

Applying this model to the question at hand, the cost of losing reputation means that individuals comply with those customs that support the Property System. However, as Elster notes, this ignores the costs of imposing sanctions on free

riders.[43] Thus, for big issues like property rights, custom cannot substitute for, but instead complements, state enforcement. The state ensures that noncheaters exist, so that it is good business to avoid dealing with swindlers.

Further, Elster points out that not all customs support the system.[44] However, assuming such a system exists and is protected by state power, customs may evolve in the order-preserving direction. Such customs might evolve via trial and error and/or imitation, as with "business ethics" or tacit collusion: competitors learn "what works" to avoid mutual destruction.[45] Instead or in addition, customs may arise from decentralized hierarchies or democracy.

Decentralized democracy can also minimize the role of force in preserving the system under the Equality abstraction.[46] Community discussion and decision making appear as formal and informal groups, newspapers, business self-regulation organizations, political parties, and the like.[47] As a mode of collective control over individual use of resources, extrastatal democracy is akin to tradition since sanctions are applied in a decentralized way; at best it complements state enforcement. It differs in that rules change following community discussion and voting (perhaps informal), while customs need not arise democratically. But these institutions are hard to separate in practice: while today's customs are often old community agreements, neighborhood decisions are often small modifications of past tradition.

Because most observers see diminishing effectiveness of democracy as the number of individuals increases, assume the existence of a threshold number of individuals, below which democratic agreement is possible at a local level. The number would depend on the technologies of communication, transport, and preference aggregation and on the homogeneity of ethnicity, language, and social values. Here posit a large number of neighborhoods in the territory, each small enough to have its own democracy without the external application of force. The large number means that the collective-action problem still exists at the societal level.

Extrastatal "middle-level organizations" (between individuals and the state) help society deal with new issues and problems at the macro level. They allow improved communication between the populace and the state, while keeping the latter honest and organizing popular support for its initiatives. Following Toqueville, such organizations can foster the public spirit needed to uphold the system.[48]

Given the large number of neighborhoods, local democracy has its effects in conjunction with the evolution of custom sketched above: different extrastatal organizations come to democratic solutions to similar problems, followed by a process of give-and-take and compromise between competing organizations, similar to the way in which U.S. states standardize traffic laws. Similarly, ideology, custom, and decentralized democracy can work together to form an interacting and mutually reinforcing bundle, the *ideal civil society*. These combine to set

nongovernmental restrictions on individual opportunism, as when the interest of "stakeholders" must be considered by corporate managers in some theories of business ethics.

3. This ideal civil society can legitimate the state. That is, Locke's emphasis on *power* can be complemented by Rousseau's stress on *authority*.[49] "Authority" is not the credibility of the state's threats but rather the conscious consent of (and active compliance by) the governed, their sympathy for the state's goals, including the Property System. This is not Locke's "tacit consent," a passive willingness to "go along," but Rousseau's type of law that is inscribed "in the hearts of the citizens."[50]

With such a consensus in place, the state does not simply legislate and enforce laws: it also acts like an oligopolistic price leader or a Microsoft-type standards setter, determining conventions that individuals and communities find beneficial to follow. The state sets the "focal points" that allow individuals to coordinate activities.[51] Since civil society limits which foci can succeed, state enforcement and civil society's sanctions can be mutually reinforcing.

In preserving the system, a trade-off exists between state force (use of power) and legitimation (reliance on authority). The greater its legitimacy, the less force is needed to protect the system: a lawbreaker is less likely to be seen as a Robin Hood, to be ignored, aided, or imitated. Also promoted is its ability to collect taxes, to pay for the use of force.[52] Further, the state's ability to economize on force can boost its authority: the less that it "forces people to be free," the more people accept restrictions on perceived "natural freedom." With legitimation reducing the need for force and its sparing use raising the state's authority, a virtuous circle can result.

4. Figure 2 shows how supporting institutions and the virtuous circle change the model. The latter gives *cd* an upward slope, as with *cd2*, reflecting "custom development": rising *S* encourages individual actions (P_o) to be more collectivist.[53] P_o and the location of *cd* can also change with cultural traits (the degree of homogeneity of ethnicity, language, and social values) that can vary to determine people's actions. Such exogenously generated shifts are ignored until subsection 3D.

The focus is instead on its slope: the *cd2* curve is drawn as rotating relative to *cd1*, implying a lower intercept on the vertical axis, allowing the existence of Hobbesian equilibrium (see section E). The success of the ideal civil society is drawn as reducing the free rider Gap at S_m from *G – G1* to *G – G2*. It would also lower the Gap for other Property Systems with high degrees of collectivization.

The flattening of *cd2* at high levels of *S* reflects the Lockean vision, presuming diminishing returns to propaganda, custom, and grassroots democracy.[54] Protection of one's property rules out complete collective unity of purpose, as does the low threshold needed to allow local democracy.
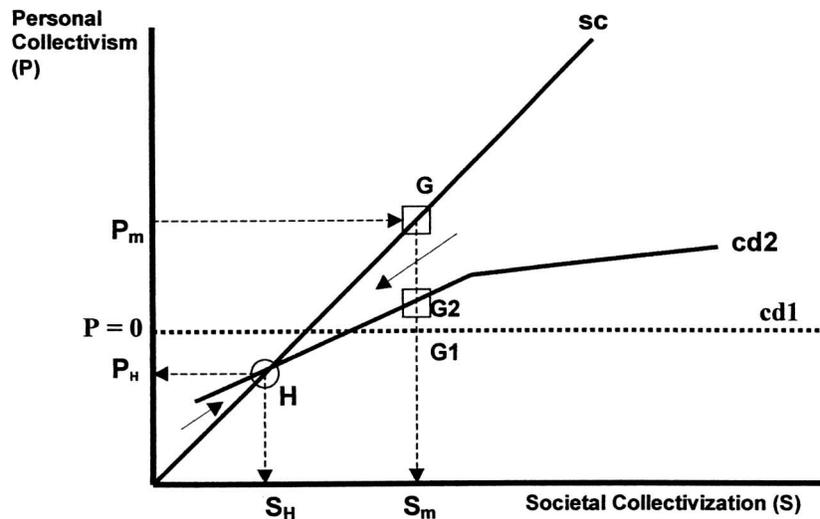
Figure 2. Hobbes and Locke.

Note. As in Figure 1, a given person with the median degree of collectivism P_m chooses point G on the social-choice function sc, so that the degree of collectivization equals S_m. The virtuous circle of the supporting institutions of civil society is indicated by the upward-sloping custom development function *cd2*: with this function as drawn, the level of personal collectivism that prevails in this society corresponds to point $G2$. This is more collectivist than with the horizontal *cd* curve, *cd1*, which is copied from Figure 1 for comparison. That means for a society with collectivization S_m, the free rider Gap ($G - G2$) is smaller than when *Homo Economicus* prevails ($G - G1$), easing the state's job of keeping the degree of collectivization from fulling due to free rider dynamics. Also drawn is Hobbesian equilibrium H, where the low degree of collectivization encourages a Hobbesian behavior P_H to prevail, which then chooses Hobbesian society, S_H, reproducing the equilibrium over time. This equilibrium is stable as long as society remains atomistic.

To be true to Locke, the revised picture does not abolish state force, since the free riding persists. A zero-force equilibrium does not fit with his admission that a Hobbesian state of war might be lurking in the wings. So the case where *cd* is high enough that point H coincides with both G and $G2$ is ruled out.[55] But the situation at S_m might be a "workable" Lockean society. Similarly, other "workable" societies can be imagined with other degrees of collectivization.

D. Liberal Egalitarianism

The workability of such Liberal societies is based on an outrageous presumption, Contractarianism. The importance of this abstraction to all Liberal thinking is indicated when we kick out the that prop. In theory, a "Unified" civil society might approach the Contractarian ideal if political democracy prevails. However, deviation from this ideal allows the complicated dynamics of egalitarian Liberal Society, reinforcing the possibility of Hobbesian discord.

1. A voluntary Social Contract among many people is totally unrealistic.[56] Establishment of a Property System requires a high degree of participation: not only the "rules of the game" but an enforcement agency and a tax system are being created. But considering voluntary participation in the contract by *HE*, the likelihood that anyone will participate in contracting converges to zero as the population becomes large.[57]

Even assuming the prevalence of participation altruism, the creation of an Assembly in a stateless setting involves severe problems. Dropping *HE* might end Hobbes's problem of societal *cooperation*, avoiding war, but Hume's problem of *coordination*, determining the details of the peace, remains.[58] That is, how can a large number of even public-spirited individuals unite to agree on the nuts and bolts of a system, standardizing and unifying existing diverse systems? Further, the two problems can interact to be mutually reinforcing: the argument about the details of a system that people want can make it more difficult to establish it.

Although tradition and local democracy might allow small numbers to cooperate and coordinate to form coherent communities, they are not sufficient with a large number of communities: decentralized institutions usually imply diverse results, just as the expression of ideology may use different dialects.

In sum, the Social Contract must be only normative for Liberalism.[59] Further, these difficulties imply that the common criticism that Rousseau's contract works only with small communities applies to Locke's as well. So, instead of looking to the Contractarian's usual mix of normative and positive theories, the origins of the state can be found only in history, based on previous states or from nonstate hierarchies (e.g., chiefdoms and fiefdoms); in wars; in prestate leaders' self-promotion, and the like.[60]

2. So the character of the state and society, as measured by the degree of collectivization at a given time (S_t), can be inherited only from the past. There is no reason to assume that this society ever corresponds to either Locke's Order or the society reflecting the democratic wishes of the majority, S_m.

However, some of the analysis of sections B and C applies to the "Egalitarian Liberal Society," a non-Hobbesian case with Equality. Just as with the societies analyzed above, this has a free rider Gap. The personality P_t that would choose the existing S_t in a hypothetical Social Contract (along *sc*) differs from the behavior of opportunistic individuals given the Property System (the P_o corresponding to the point on *cd* for S_t). Because of the Gap, state power is needed, although this need can be moderated by civil society's institutions.

The change is that the Gap coexists with a rift between the type of society people would prefer to establish in a Social Contract, S_m, and the actual society S_t. That is, P_m may be in disequilibrium not only vis-à-vis P_o but also compared to P_t, the personality that would choose the actual society S_t in a contract.

The rejection of Contractarianism does not automatically rule out the existence of a meaningful P_m or even the attainment of S_m in an egalitarian society. On the

former, P_m exists and can be expressed as "the public interest" if civil society is *Unified* in the sense that both Single-Peakedness and Cohesion apply. On the latter, assuming that the state blocks free rider dynamics, a democratic state can allow cooperation and coordination. This means that S_t can gravitate toward S_m, as part of *democratic dynamics*, an iterative process of incremental agreements, moving the system from whatever was inherited from the past to that desired by the people. Further, the virtuous circle can play a role: to the extent that the state is organized to serve the individuals being regulated, less force is needed to deal with the free rider problem, while such economizing on force promotes this legitimacy. This story is akin to one vision of the United States during the 1950s, one of pluralistic competition.

Assuming that P_m wants Locke's Order, governmental democracy helps society to achieve it. However, this goes against Locke's own prescriptions: he favored strict limitations on the role of the legislature and what is, in effect, an elective monarch.[61] Locke may have forgotten how power can corrupt even such a monarch. Alternatively, he may have assumed that society's culture not only favored his vision of property rights but was Unified enough that occasional popular efforts to rein in the state were sufficient.

3. Now consider deviations from the ideal Egalitarian Liberal Society. If the degree of Unity falls,[62] as with the growth of NIMBYism [not in my backyard], the movement to S_m under democratic dynamics would be undermined, blocked by the efforts of vested interests. Worse, improved democratic forms cannot compensate for a disUnited civil society: democracy can simply encourage rent seeking by vested interests.[63] But abolishing political democracy does not solve the problem of vested interests. Instead, some of these could take over the state, as with the kleptocracy of the late General Mobutu of Zaire. As before, democracy is needed for a Unified society to aggregate preferences.

A less than fully democratic state may coexist with a less than fully Unified society for a long time. Not only would the democratic dynamic be weak but it might be inverted: P_m might move toward the status quo attitude (P_t) as people cynically adapt their views to what seems "unavoidable" or "natural." This *cynical dynamic* leads to a convergence of S_m and S_t, just as with the democratic dynamics—but with society moving in the opposite direction along the horizontal axis. In fact, the two opposing dynamics can coexist, causing S_t to approximate S_m: assuming that $S_m > S_t$ initially, the democratic dynamic raises S_t, while cynicism lowers S_m.

Dropping the assumption that the state is successful at avoiding free rider dynamics, the two "gaps" of Liberal Society interact, likely making matters worse: with weak democratic dynamics and a disUnited society, cynicism encourages P_m to fall toward P_t, while free riding pushes P_t downward. Via interaction, these two dynamics amplify each other, unless democratic dynamics are strong.

The multitude of dynamics gets us toward real-world politics, which cannot be formalized by the model. It is best adapted to understanding equilibria and some specific disequilibrium situations, not of processes of change. It does indicate that the contract's absence allows collapse of an incompletely Unified Liberal Society.

E. Hobbesian Equilibrium

Even assuming a Unified civil society, without the state as the backbone of the system, free rider dynamics cause a lurch toward Hobbesian hell. So consider the state's collapse, the way in which "supporting institutions" can support anarchy, and the Hobbesian equilibrium point.

1. The state might collapse because of lack of democracy (and the resulting corruption), ineffective government, the absence of societal Unity, or some combination of these three. Consider here the possibility that the state becomes dictatorial and exploitative.

Like Jefferson, Locke advocated revolution against despots. But Hobbes advocated keeping the state as is, fearing disorder. This difference arises from disagreement concerning the nature of civil society. Unlike Hobbes, Locke assumed a moral consensus, so that property rights would not be threatened; to have an impact, that consensus requires a Unified civil society. But if the state is abolished by revolution, it is very difficult to create a new one. Thus, it is possible for the stateless situation to persist, encouraging free riding.

Two assumptions could justify Locke's advocacy of political revolution. First, it could be that only the government rather than the state poses the problem to society. Thus, the government can be replaced without abolishing the state. If the state and government can be clearly separated in this way, this issue needs no further consideration except to note that it fits most interpretations of Locke. If these institutions cannot be separated, we must assume swift establishment of a new state—because the longer that statelessness endures, the more civil society is likely to lose its Unity: anarchy puts increasing strains on communities and norms, setting individuals and communities against each other.

2. In the Hobbesian case, "mixed motivations" cannot block the slide toward chaos, since how an individual's values work in practice reflect his or her societal environment. While markets make the application of public-spirited values difficult, a societal war doubles the problem. *Compassion fatigue* encourages people to seek self-preservation over other goals.

The supporting institutions can thus become disorder preserving. As Hobbes said, propaganda, social values, and ideology are "mere words," having only ephemeral impact on human character: when the chips are down, people forget grand ideas, rejoining the struggle for survival. Slogans about the "public interest" evoke only yawns and cynicism; people cling to only those ideologies that justify their battles.

Order-maintaining customs can be shaken by natural or societal disaster. Akerlof's model has two equilibria: traditions may not only persist but disappear completely.[64] Since customs no longer work, there is no reason for anyone to believe in them. If almost everyone is a swindler, the loss of good reputation no longer counts as a sanction. Further, the development of order-disrupting customs, such as "norms of retribution," is encouraged by statelessness.[65]

Absent a more general order, and with significant communication costs, local democracy has a hard time handling intercommunal issues. Localities can turn against each other. With anarchy persisting, the pluralistic competition of "middle-level" organizations can turn into factional war, as with the splintering of the old Yugoslavia. Just as the successes of propaganda, custom, and grassroots democracy can support each other, their failures can be mutually reinforcing.

3. In sum, the *cd* curve cuts both ways: the virtuous circle of section C can become a vicious circle that gets us to point *H*. The *cd* curve can be read as saying that individualized societies breed individualist customs (and personalities), what Albert and Hahnel call "snowballing individualism."[66]

Point *H* involves total statelessness; the institutions of civil society are presumed to operate in an order-preserving way only at the local level. With the *cd* curve drawn, a negative P_o results from S_H: individuals and communities hole up in fortresses, defended by pit bulls and razor wire. Then, given this Hobbesian attitude (P_H), the Hobbesian case (S_H) will persist, following the *sc* curve. At the micro level, if people were to shun a public park as a place of thugs and drugs, it ends up being exactly that. Fears are realized and so persist, a self-fulfilling prophecy.

For society as a whole, this defines the Hobbesian abyss: not only is there severe overuse (underuse) of resources having external costs (benefits), as in subsection B3, but also the "paranoid" defensiveness ($P < 0$) described and assumed—but never explained—by Hobbes. This is not clinical paranoia but a rational response to the societal environment, seen at a more moderate level in rivalrous situations (as when oligopolistic competition encourages negative advertising and "dirty tricks").

That Hobbesian behavior develops in a Hobbesian situation explains why the graph was drawn so that even though the "supporting institutions" of section C reduced the size of the free rider Gap, an equilibrium exists below $P = 0$.

The cooperation and coordination problems mean that individual action cannot solve the Hobbesian horror. Defending one's possessions by hiding them, for example, cannot solve the collective action problem. Rather, it is a symptom of the general distrust involved in the fall to *H* by expressing a suspicion of others that encourages them to do likewise. This "solution" also undermines fellow-feeling: even if an individual is public-spirited, he or she cannot get pleasure from others' success if they hide it.

F. Class Society

Absent the creation of a contract, the way to escape the Hobbesian melee is to go beyond mere individual solutions. Given difficulties of uniting disparate communities or traditions to solve a civil war from below, the obvious solution is to set up extrastatal hierarchies, dropping Equality. Similar to other extrastatal modes of collectivization, such hierarchies can attenuate the cooperation and coordination problems normal to even non-Hobbesian situations. But this abrogation of Equality begets new problems for the legitimacy of the state and its Property System: property rights are no longer a "public good" for all. Nonetheless, temporary peace can be achieved under specific historical conditions. Examining this allows greater understanding of Liberal society via contrast.

This section develops reasons to drop the Equality abstraction and the effects of its dropping, the possibility of creating social peace via a Pact of the dominant class, the issue of "trickle-down" of wealth or income to the lower classes, a Class Society without trickle-down, and a state bureaucracy striving to exploit property owners.

1. Dropping Equality is quite reasonable, since no recent large-scale societies have fit this abstraction. Capitalism did not spring from "natural equality" as in Contractarian theories but from previous class societies. Even Locke did not assume Equality except very abstractly, since he assumed the existence of hierarchies in the form of extended families, including servants as subordinates. In addition, inequality seems a natural conclusion since he justifies the endless accumulation of individual wealth.[67]

Further, inequality develops in any atomistic war, allowing escape from Hobbesian chaos. Some individuals, using advantages in luck, pluck, skill, guile, strength, and cruelty (Rousseau's "natural inequality"), attain the ability to make credible threats against others and create their own private armies: they gain the support from less powerful individuals wanting protection from other grandees in return for obedience.[68] These warlords can exclude from societal decision making less powerful groups and individuals huddling alone in their homes. This theoretical picture is akin to Western European feudalism or Chinese warlordism between the two world wars. In fact, all of the "Hobbesian" situations mentioned in section 1A involve conflict among a relatively small number of groups rather than one among many individuals.

2. Dropping Equality then moderates the cooperation and coordination problems blocking the creation of a state. Crucial to making Hobbes's inferno stable is the existence of a large number of competing individuals. But inequality means that a relatively small number of powerful decentralized hierarchies exist, each dominating many individuals.

Domination by a small number of military-political leaders can, in turn, lead to a political Pact. Although a civil war among these powers might continue indefinitely, they likely tire of war. Alternatively, one of them may conquer the others. Third, foreign invaders may exploit the "power vacuum" to impose their own

peace, creating inequality between themselves and the vanquished. Fourth, some combination might occur.

A Pact is not an agreement among peers: the powers also aim to protect themselves against their subordinates using property laws, mechanisms to catch runaway slaves, and the like. "Bandits" who do not participate are suppressed or merged into larger hierarchies. Autonomous individuals make Hobbes's choice, opting to support the state against chaos.

Because the Pact formalizes, entrenches, and standardizes the overlords' power as law as "might makes right," it differs drastically from the contracts proposed by Hobbes and Rousseau. Rather, it fits with medieval conceptions described by de Jasay, in which participants did not sacrifice all of their preexisting powers to the state.[69] Locke's conception is similar to the Pact, in that control over resources exists prior to agreement.

The Pact also differs from the contract in that it does not center on the benefits to all but only on those of the agreeing parties. The establishment of this social order—a system with classes—is thus not a "public good." Nonparticipants face a "take it, or leave it" choice (Locke's tacit consent).

3. Although the ruling class may struggle mightily to capture all the system's benefits, our theoretical framework is too abstract to rule out trickle-down of the sort that Locke hoped for. Such unintended consequences are so common in real-world political economy.

What, then, does the "trickle-down" effect mean? Locke asserted that "he who appropriates land to himself [as individual property, in his state of nature] by his labor, does not lessen, but increase the common stock of mankind" manyfold. Increased efficiency compensates for any inequity.[70] Under *strong* trickle-down, the system's development abolishes inequality of resource holdings and thus, classes. A *weaker* version has inequality of asset holdings persisting, but with a decrease (or at least no increase) in income spreads.

4. The cases where trickle-down succeeds are akin to that of the egalitarian society of section D: classes exist but are unimportant. Here, consider the opposite case, where trickle-down totally fails. This may be as violent an abstraction as Equality or strong trickle-down, but since the real world probably exists somewhere on the continuum defined by the extremes, some understanding comes from examining it.

Society without trickle-down is described by a static model. Assume two mutually exclusive groups, workers and capitalists, differing by possessing distinct resources. Workers have only labor power, while capitalists possess only physical capital. This implies we forsake Cohesion, since each individual no longer holds assets with similar external effects.

Assume also that capitalists have the upper hand: as Rousseau stressed, the capitalists gain control over the workers' labor time, *exploiting* them.[71] Capitalist control of physical assets allows the domination of workers' time in production

and imposes the costs of alienation on them; workers' labor provide property income. In our terms, workers suffer external costs from, and give external benefits to, capitalists.

There are three levels of conflict inherent in the model: choice of system, its maintenance, and changes within it. On the first, workers face a system where not only are they exploited but they pay taxes financing a state protecting that exploitation. Workers may prefer to create a different system, something capitalists would oppose. Alternatively, workers might allow capitalists to control their wealth in return for, say, abolishing either slavery or Hobbesian havoc. The result is more tractable using historical rather than formal analysis.

Second, consider the situation where Class Society already exists. The conflict appears clearly if decisions are made by a majority vote of an Assembly. Assume that Equality and Unity apply within each class. Also assume that each class's median voter is an *HE*. If workers are the majority, the property owners would always be outvoted and their property rights threatened: workers threaten to slash spending on the overhead needed to maintain the system, while imposing taxes on capital and giving subsidies to labor.

In that case, capitalists strive to restrict the franchise to property owners, as Locke recommended. Alternatively, they need something like the U.S. system, where the importance of campaign contributions makes the franchise work roughly in proportion to wealth holdings and important powers are assigned to agencies (like the Fed) largely independent of democratic control. This is the conflict between "one person/one vote" under democracy and "one dollar/one vote" in markets.[72]

We must shun the functionalist notion that capitalists automatically attain an undemocratic state. Restricted democracy is likely a hangover from the past, a victory of those wishing to protect their possessions, persisting when it reflects the balance of power. Workers might, via marches, strikes, riots, and the like, change the balance of power and influence policy.

Dropping the *HE* assumption can make matters worse for capitalists: if workers get pleasure from other workers' receipt of goods, system maintenance problems intensify as feelings of solidarity rise. However, if workers get pleasure from capitalist success, as when people enjoy the British Royal spectacle, class conflict moderates. Protecting the system also requires a lack of solidarity within the working class, the encouragement of a free rider mentality toward one's class. Inequality and disUnity among the workers promote this result. So the conditions needed to maintain Class Society—division among workers combined with capitalist solidarity—radically differ from the communitarian vision.[73] However, since real-world institutions need not fit these ideals, this society's persistence is not guaranteed.

Third, consider the case where the state is undemocratic in a way that preserves capitalist property no matter what but allows workers say on government regula-

tion. Assume crude collective rationality: capital pays taxes because of its negative impact on workers but while workers enjoy subsidies such as public education for producing beneficial externalities to capital. Sophisticated collective rationality cannot be assumed, since its bases, Equality and Coherence, do not apply. The variable S makes no sense, so consider the regulation of the two resources separately.

Workers prefer raising both taxes on capital and subsidies for labor. On the other hand, capitalists prefer cutting capital taxes and raising labor subsidies. This implies room for compromise on subsidies for workers as both classes gain from increases in them. Although taxes on capital are a bone of contention, they might help capitalists if they pay for labor subsidies that raise capital's income, especially if the government is effective. Training workers raises workers' productivity to capitalists, perhaps more than paying for the cost. This a *political* trickle-down.

Even assuming that this compromise is possible, to the individual capitalist perspective, the benefits of subsidizing workers are less direct than the taxes. So capitalists face a collective action problem: individual profit seeking goes against their collective interest in subsidizing labor.[74] Allowing capitalists to solve this problem would be noblesse oblige, where they gain utility from workers' receipt of goods. Ideology can help: leaders may point to the material rather than the psychic benefits of subsidizing labor. Institutions are also needed, including traditions of taking care of social inferiors and democracy within the capitalist class.

Further, workers' organization may win these benefits. Order can be maintained, say some capitalist leaders, by making concessions. This is especially likely to occur when external threats exist, as during the cold war. Then cross-class alliances may develop, as with Western Europe's social democracies after World War II, including the raising of governmental effectiveness.

The forces underlying the social democratic compromise are different than for Liberal Society. The capitalist collective action encourages profiteering to arise with opportunities for capital mobility, pressure from foreign competition, and the waning of external threats and the grassroots workers' movement. Further, social democratic coalitions themselves succumb to collective action problems. Social democracy is not permanent.

Another way to preserve Class Society involves a "middle class" that owns both asset types. This drops mutually exclusive classes, moderating the structural conflict between classes. Recent history of changes in the wealth distribution in the United States and elsewhere suggests that this solution is neither guaranteed nor permanent.

Finally, capitalists might hide their income or resources. But this undermines the legitimizing force of the celebrity spectacle and encourages societal distrust between classes, with potentially explosive consequences. It is also hard to hide resources used in exploitation.

5. As Lockeans are well aware, a related problem concerns the state: if the state is a specialized part of society rather than "the people armed" (i.e., popular militias of property owners), it may act against the wills of property owners, as power corrupts. Some refer to a "new class" of bureaucrats who suck the lifeblood of the "people." This gap between the property owners and the state is a variant of that between property owners and workers, reflecting the disparity between property owners' power (control over capital) and state workers' payment to maintain that power. State workers may organize, becoming a political force against the property owners' interests. In fact, the state is typically more organized than the workers in society and thus more likely threaten property owners. It is the latter class's unwanted partner, an unruly agent to the property owners' principal.

In Class Society, however, the property owners may have little choice but to accept a large state. When economic trickle-down fails, a "welfare state" of political trickle-down is needed to help legitimation—or a large police force. Either way, the abolition of Equality frustrates the Lockean striving for a small state.

3. Rousseau

These dilemmas get us far beyond Liberalism, since societal consensus disappears. While a powerful minority made the state's establishment more likely than with many peers, class struggle became possible. Given large degrees of inequality within communities, Ostrom's decentralized systems for regulating resources would be conflictual. Similarly, communitarian efforts to Unify society fail if much of society must be disorganized to preserve Class Society. Further, the state itself is a problem. Either a society riven by class or a government dominated by its officials would face severe troubles maintaining the legitimacy that Margaret Levi sees as needed to encourage compliance with conscription and taxes, while social democracy does not last forever.

Rousseau aims to preserve Liberal ideals by dealing with these issues: society must not only regulate individual resource use but also limit the amount each owns. This collective imposition of Equality rules out Locke's accumulation and the consolidation of classes. Further, the Rousseauian state would be democratically controlled, "the people armed." Societal institutions are no longer merely supporting: ideology, custom, and local democracy would be united with centralized politics (the Assembly). This abolition of the state/civil society distinction fits with Marx's "withering away" of the state.

To understand Rousseau's solutions further, examine (A) his view of "human nature" and the implications for societal equilibrium, plus the two types of Rousseauian equilibrium, (B) the Authoritarian and (C) the Democratic. Finally, weakening the Equality abstraction, (D) the implications of an Authoritarian equilibrium are reconsidered, suggesting some elements of a Marxian revolution.

A. The Basis

Rousseau's vision of humanity differs radically from those of Locke and Hobbes. So examine why such a conception is required for his theory, its content, and its impact on the nature of societal equilibrium.

1. Imposition of Equality is not enough, since it means that the problem of opportunism not only includes the issues described above but also efforts to accumulate, intensifying the need for state coercion and/or legitimation. Adding to Rousseau, for Equality to persist, Single-Peakedness and Cohesion are also required. Education may encourage the former. The latter is encouraged as education, tradition, and democracy spur people to act as if they had either assets with similar external effects or a Rawlsian veil of ignorance. These forces may not be needed if people are induced to actually hold similar resources. But they must be convinced to accept this imposition. So Rousseau's extra twist is needed: the social structure itself can encourage voluntary acceptance. This can happen for Rousseau because his vision of "human nature" differs from those of Hobbes or Locke.

2. Most interpreters of Rousseau reject the notion that he exalted the "noble savage." If anyone is noble in his vision, it is the resident of a small democratic city-state, as in his vision of Geneva. Further, rather than seeing people as "naturally good," he saw our character being deeply affected by society, as malleable. Rousseau's hypothetical state of nature rejects Hobbes's and Locke's introduction of situations and people from their societies into "nature": neither state nor society, and neither good nor evil, exist. People lack speech, industry, war, social ties, and distinguishing names.

Because, as Aristotle pointed out, people without society are inhuman, this seems a reductio ad absurdum of state-of-nature theorizing. But like Freudians or sociobiologists, the point was to isolate the traits we share with beasts, drives independent of societal conditioning. These include self-preservation and empathy with others. although a basis for morality, empathy is not identical to it: since our characters are empty vessels to be filled by society, the moral potential can be perverted.

While the existence of specific human instincts is always controversial, strong evidence exists for Rousseau's view that human character is deeply shaped by society, as sociologists emphasize.

3. While for Locke people contract as a means to a predetermined end, to Rousseau, the ends are determined by society's structure: for him, the *cd* curve represents "character development" rather than custom development. The formal difference is that the *cd* curve is steeper for Rousseau, lacking the flat "diminishing returns" region of Figure 2. This twist allows the existence of non-Hobbesian equilibria: society produces people willing to replicate that society over time.

At the most abstract level, with free rider dynamics blocked, this society follows democratic dynamics: S_t gravitates to the collectivization level desired by P_m

as the Assembly makes repeated contracts. The Assembly legislates not only limits on individual wealth but also censorship, propagandistic education, and a civic religion that encourage people to share common goals. (Rousseau prescribed for all what Plato proposed for only the elite.) Given this, the general will is expressed in the Assembly, completing the circle.

Most cannot imagine Rousseau's Contract outside of a small, simple, and static society, that is, an agrarian community, a Fourierist *phalanstery*, or a kibbutz. However, if universal agreement only on the degree of collectivization is required, perhaps many of the appealing characteristics of Rousseauian society might be realized on a larger scale. But as with Locke, details are not central here: Rousseauian societies might be traditionalist-theocratic, romantic-nationalist, or modernist-socialist (or some mixture), a small community or a federation. But there are two general types of equilibrium.

B. Authoritarianism

For the first type, which fits with Rousseau's own writings, the key issues concern existence and stability.

1. Malleability of human character implies a steep *cd* curve: P_o changes a lot with S as societal collectivization breeds personal collectivism. For equilibrium to exist, *cd* must become steep enough to intersect *sc* above H, as in Figure 3. Lockeans argue that *sc* would be even steeper than *cd*, due to falling government effectiveness as collectivization rises. Rousseauians riposte that effectiveness might increase due to the rise in public spirit. Here, the existence of point *RA* can only be assumed. If so, initially assume $P_m = P_A$ so that the Assembly chooses S_A. Then, the *cd* curve implies that P_o equals P_m. Since P_o chooses S_A, no Gap exists, and free rider dynamics do not occur.

Since Rousseau never denied that people could be Hobbesian, the steep part of *cd3* starts after a flat "tail" at negative P. Compared to R_A, Hobbesian equilibrium (H) is a low-level equilibrium trap. Locke's Order and, more generally, Liberal Society (S_L) are unstable situations somewhere between H and R_A. Since the horizontal axis (S) cannot be defined without Equality, Class Society is not on the graph.

2. Although R_A is an equilibrium, it is unstable and so requires force for its maintenance, as with Locke's Order. But the instability is different than for Locke: any deviation toward more individualized society, due to a natural disaster or a demagogue's charisma, means that $P_o < P_t$. With the Gap reestablished, outside the Assembly, people create a more individualized society than existed before, so that the initial contrast with P_A is amplified. Both free rider and cynical dynamics can then be unleashed.

If force is not used but Equality is preserved, the contract collapses and society slips toward H. Thus, the possibility of deviation from R_A means that society's elected guardians would always have to be alert. But people would support the use of force to prevent deviation: as with Locke's Order, S_A is a public good.
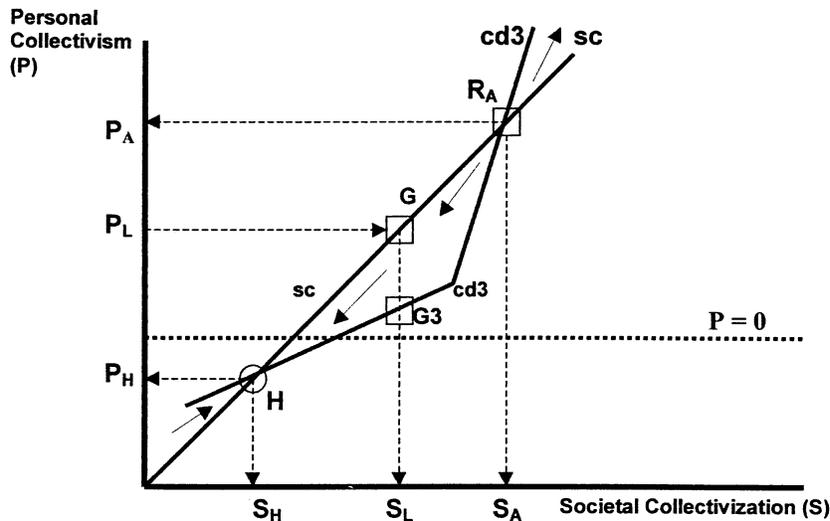
Figure 3. Rousseauian authoritarianism.

Note. Three key points are shown. The steep character development function *cd3* drawn allows the existence of a non-Hobbesian societal equilibrium: this is point R_A, the authoritarian Rousseauian equilibrium, which has a high level of collectivization S_A, promoting a high level of personal collectivism P_A. This is an unstable equilibrium and so is indicated by a square. Point H, which corresponds to a society with degree of collectivization S_H and a personal degree of collectivism P_H is the Hobbesian equilibrium. Drawn to allow comparison, point G represents a Liberal society S_L, with a free rider Gap of $G - G3$.

As with Lockean society, but despite Rousseau's strictures against inequality, the need for force might allow state officials to accumulate personal power. Similarly, if force fails or officials convert their position into individual wealth, inequalities can arise outside government. If so, Equality is broken and Class Society emerges.

With small deviations from S_A, only minor force might be necessary. But since failure risks the future need for greater force, excessive force is quite likely. This vision of paranoid protectiveness fits with common criticism of Rousseau: his theory has often been interpreted in terms of the French Revolution's "Dictatorship of Virtue." But as long as equilibrium is maintained, it is more a matter of conformity stifling individual initiative, as in a small town.

Nonetheless, the possibility of dictatorship is reinforced by Rousseau's implausible scenario of its creation. Since society corrupts people, they cannot create a healthy society by themselves. So a wise "Legislator" must set it up. But there is no reason why the Legislator should be immune to the temptations of power.

The model suggests further problems. How could P_m equal P_o, so that the choice of S_A would be unanimous? Although we are all conditioned by society,

there is no reason why it should be exactly the same way. This problem is not unique to Rousseau: Buchanan and Tulloch never explain the unanimous endorsement of the Lockean property rights they favor.[75]

Second, the equilibrium is unstable not only to the left but to the right: if $S_t > S_A$, then $P_o > P_t$, because cd (which determines P_o) is above sc (which corresponds to P_t). Voluntary decisions of individuals in a decentralized setting cause a more collectivist result than that decided by the Assembly. Finally, if we drop unanimity and return to our usual assumption that $P_m > P_o$, if S_t initially equals S_A, then the community would want such a rise in collectivization. The rightward movement makes little sense if no equilibrium exists at higher collectivization, since it would never end.

C. Democracy

The stabilizing role of the cd curve's slope is different than for Locke: whereas Locke's free rider Gap is narrowed by a steeper cd, its flatness promotes the stability of Rousseauian equilibria. So, some factor must discourage personalities from becoming more individualist or collectivist as S changes. If flat enough, a second Rousseauian equilibrium can exist and be stable, helping to solve the problems noted above. Rousseau's vision of human malleability is necessary to the existence of a non-Hobbesian equilibrium, but it is insufficient for stability. So consider an alternative vision of people, how it alters the diagram, and the state.

1. Rousseau either did not discuss or implicitly assumed the inherent possibility of harmonious collectivism within human character. This potential, only hinted at by Rousseau, follows from the classical Greek vision that happiness and morality can be in harmony within society. To make sense of this vision, posit an *intra*psychic equilibrium: if this equilibrium is similar between individuals because of the shared characteristics of humans as a species (perhaps akin to Marx's "species being"), its existence limits the variation of human personalities, allowing for the existence of the needed unanimity: if the potential for consensus exists within our psyches, the right societal organization can transcend the normal discord.

To explain in familiar terms, follow Plato or Freud to posit three components of the human psyche.[76] These are Id, the urge for immediate gratification; Ego, the calculation of long-term benefits; and Superego, the wish to be honored by society (Plato) or to obey society's values (Freud). The last one is based on Rousseau's empathy instinct, while the first two arise from the self-preservation drive. The distinction between these two arises because of the importance of meeting basic survival needs, the natural absence of perfect futures markets, and the like.

Assuming that an individual's decisions are made by vote among the three, an internal voter's paradox is possible.[77] The relevant case occurs with property rights and thus the possibility of "theft." With collective property, theft is identical

to free riding. Under Equality, this also applies to individual property since a thief is exploiting the public good of the Property System.

Id wants to steal now, Ego counsels a strategic approach, Superego argues against all theft. Id prefers (1) stealing now to (2) later, which, in turn, is preferred to (3) never filching. Ego prefers strategic delay (2) to impulsive theft (1); mindful of the consequences of being caught, it will settle for never robbing (3) over (1). Superego prefers never swiping (3) over delaying (2), since delay means that theft may never occur; instant gratification (1) is the least-favored option.

Education and the societal environment can promote harmony among the three. Education inspires people to "know themselves," allowing the three parts to have the same ranking. Material security (fulfillment of basic needs) allows the unification of short- and long-term rationality. Democracy permits harmony between society and the individual: the meaning of society's moral standards would be agreed upon by individuals, making internalization more effective. In this scenario, society would encourage the emergence of an intrapsychic equilibrium that would lead to choice of a societal equilibrium. The two equilibria would then become mutually reinforcing, allowing unanimity on the question of the degree of collectivization.

2. Figure 4 shows the democratic Rousseauian equilibrium R_D, based on limits on human malleability. In theory, cd and sc might intersect more times than shown, implying more equilibria. A "structuralist" perspective takes this approach to its extreme: S_t shapes personalities so that they choose that society whatever it is, so that sc and cd coincide, implying an infinite number of equilibria and no prediction of what S_t would actually be. However, if we accept the nonstructuralist theory of personality limned above, a unique democratic equilibrium can exist.

So consider only the case of Figure 4. Limited malleability means that people can have a personality that does not change much in response to the changes in S: cd has a "logistic" shape, flatter at both the low and high levels. While cd's upward slope reflects endogeneity of customs and character, the upper and lower asymptotes represent limits, possibly genetic, on the malleability of personality. The upper part intersects sc from above, so that the second Rousseauian equilibrium R_D is stable. If S_t is slightly to the left of S_D, then P_o (corresponding to cd) exceeds P_t (corresponding to sc), so that "opportunists" would choose to act in a more collectivist way, moving society to the right. Rather than forcing people to be free, society educes a possibility already inherent in their natures. Since P_m would equal P_o, the society would not choose to vary S.

3. In this equilibrium, the state no longer fights to avoid a spin into disequilibrium or H. Rather, there is much less need for indoctrination, democracy, or even the force of habit. As in all societies, children and psychopaths would have to be indoctrinated, but this task would be made easier by the working example of har-
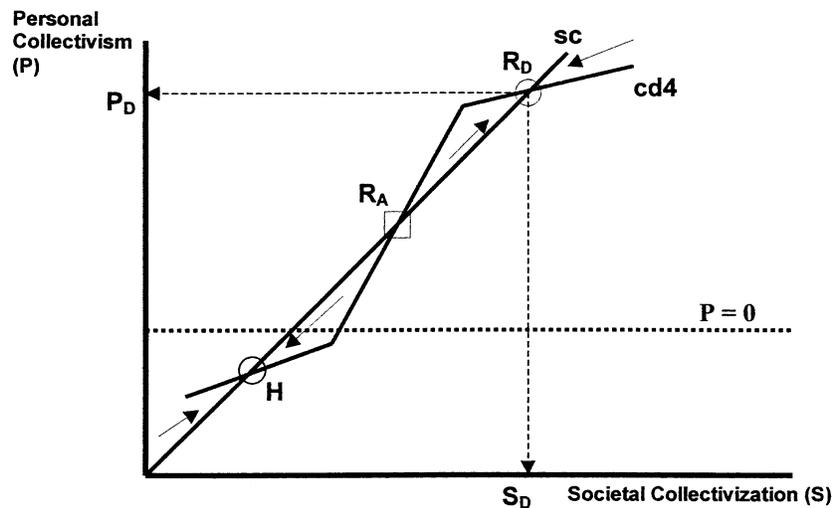
Figure 4. Rousseauian democracy.
Note. The logistic-shaped character development function *cd4* allows the existence of point R_D, a stable democratic Rousseauian equilibrium. It has higher degrees of personal collectivism P and societal collectivization S_D than for the Hobbesian equilibrium H and the authoritarian Rousseauian case R_A.

monious collectivization. Adults would have fewer neuroses that interfere with their ability to teach and to model civilized behavior.

Because people act in a way that not only pleases themselves but benefits society, collective decisions would not be needed in many cases. As in Rousseau's *Social Contract*, few laws would be needed. Further, since force would not be needed to protect disequilibrium or unstable equilibrium, democratic forms would no longer be needed to legitimate it. A true "withering away" of the state results. Utopian novels such as those of Thomas More or William Morris describe possible details.[78]

Rousseau's Legislator is not needed to create the ideal commonwealth. Since the possibility of harmonious and democratic collectivism is inherent in each personality, people can democratically create it from below. Equilibration to R_D might be a matter of collective democratic learning by doing, the development of new institutions (*S*) and new consciousness (*P*).

D. State versus Society

Equilibrium R_D sheds new light on R_A: the latter represents a society in transition, although which way it will go is unknown. Because of the high level of abstraction, there are at least two interpretations of R_A. Assuming that Equality can be relaxed a little without undermining the model, allow state authoritarian-

ism to prevent deviation from equilibrium. Civil society is assumed to be Egalitarian so that S can be defined. As a first approximation, this story may be a Class Society where the economic ruling class is merged with the state and separated from civil society. After reexamining the equilibrium, consider the effects of shifting curves.

1. In the first case, R_A represents an egalitarian Liberal Society preserved by a state. The state would always have to be alert to the opportunists who can push society toward H and socialist or traditionalist movements striving for R_D.[79] Conflict among antiestablishment groups might weaken this movement, easing the state's job. DisUnity among the ruled complements political dictatorship, allowing a certain amount of stability.

The equilibrium R_A might also be a preliminary stage on the road to attaining R_D, involving state imposition of Equality. It might be a painful but necessary "dictatorship of the proletariat" advocated by some socialists. If everything works out for the best, society starts a virtuous circle toward R_D: growth of societal collectivization encourages collectivist personalities and vice versa without needing further force to stuff it down people's throats.

This movement will be resisted, however, by a state wishing to perpetuate or extend its power: the means for building socialism—state power—can become an end in itself. Advocates of Lockean society might ally with the state to ensure that P_m was not expressed in a democratic way, because that would encourage a move toward R_D.

Although either the uneasy Liberal or the transitional-socialist Society might work from day to day, section C's analysis suggests that they involve an inadequate attainment of human potential: point R_A, like point H or Locke's Order, represents profound alienation compared to R_D.

2. Defenders of the Liberal or transitional-socialist status quo make a point that cannot be denied: the actual shapes of the two curves are arbitrary as drawn—and unknown. R_D might not exist.

However, assuming that it can exist, our model suggests factors that can make its realization more possible. First, Marx's theory suggests that improvements in the technologies of transportation, communication, and collective decision making under capitalism make the degree of potential collectivization rise over time: as in Figure 5, *sc* shifts rightward; for any given degree of collectivism, S would rise. Individualists would come to more collectivist solutions as the threshold allowing community democracy rises.

Second, the same result occurs (but is not shown in the figure) if the homogeneity of ethnic, linguistic, or shared values rises: greater personal collectivism would arise at each degree of societal collectivization, shifting *cd* upward. In Marx, this shift is encouraged by the spread of capitalism.

With either shift or both, R_A moves in a more individualized direction at the same time that the value of S at R_D climbs. To prevent the move to R_D, the state
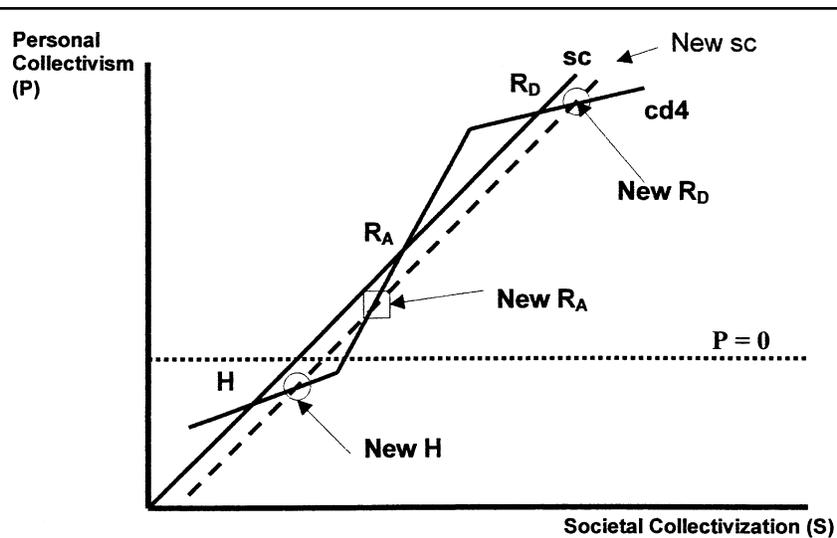
Figure 5.   Marx and technology.
Note. If the technologies of communication, transportation, and democratic decision making improve, the societal choice (*sc*) line moves to the right, encouraging people to choose a higher degree of societal collectivization S at any specific degree of personal collectivism P. In conjunction with the *cd* curve from Figure 4, this implies that both the Hobbesian equilibrium H and the democratic Rousseauian R_D equilibrium points correspond to greater degrees of societal collectivization than they did with the old *cd* curve. On the other hand, the authoritarian Rousseauian equilibrium R_A is less collectivized than before: to get people to accept this option, they must be encouraged to be more individualistic than before.

must forcefully impose individualization: such despotism artificially sabotages the technologies of transportation, communication, and collective decision making, disorganizing communities, reminiscent of the Pinochet dictatorship, which forced "free markets" onto Chile after 1973.

With some violence to the model, one could see the conflict between R_A and R_D as a formalization of Marx's notions of class struggle. But his vision also involved class inequality that prevents us from defining S. His view of history was also more complicated, as suggested by section 2F. The details of this issue get us far beyond the scope of this article.

4. Final Remarks

This article presents a very abstract model of individuals with different degrees of personal collectivism, the choice of societal collectivization, and feedback from society in determining the society desired. This allowed analysis of societal equilibria and disequilibria, helping us understand the most important assumptions allowing the societies described by Hobbes, Locke, and Rousseau to work in

practice. Although it cannot be applied in an unvarnished way to real-world politics, the model does produce some conclusions about general political-economic issues. In addition, it shows the limits of formal analysis and the need for historical-empirical understanding.

Locke saw the enforcement of individual property rights as a public good, the opposite of Hobbesian war. His most important assumption was that a societal consensus exists, endorsing his type of property rights. Even so, his Property System must be imposed by the state, since free rider problems persist.

To communitarians, force is not sufficient: the state must be backed by consent of the governed, minimizing the role of force. This involves education, law-abiding habits, and community democracy. Although these institutions do not abolish Liberal society's problems, they provide the possibility of a "workable" system. Locke implicitly assumed a unified civil society of this sort existed, with little democratic control of the state and only distant fear of Hobbesian chaos.

Locke's endorsement of the existence of classes does not fit his superficial egalitarianism. With inequality, the problem of legitimation is amplified. Although seeing the problem of power corrupting the state officials, he assumed that the ruling property owners would not become corrupt.

Even absent a Social Contract, it is possible—perhaps by historical accident— to have a relatively unified egalitarian Liberal Society, although again that Society's problems are intensified by a class divide and the failure of trickle-down. The dynamics of this Society are more complicated than those of Locke's Order: in addition to free riding, a rift exists between what society wants and what it gets. This makes the dynamics more complicated, allowing a tumble into the abyss if cynicism and free riding prevail.

In an atomistic society lacking a state or a unified civil society, Hobbesian equilibrium prevails. The institutions that supported Locke's Order or Liberal Society no longer promote civil peace but its opposite. While Hobbes never explains his key assumption of paranoid individualism that stands behind his vision of anarchic war, the war itself helps explain why people develop such attitudes.

The Hobbesian equilibrium arises partly because of the fragmentation of society into a large number of roughly equal warring factions. Inequality—decentralized hierarchies—allow society to "solve" the collective action problem. However, the property system thus established is not a public good, so that most of Liberal political philosophy is irrelevant. Legitimation problems also become more severe.

Rousseau's solution involves an equilibrium society with greater collectivization than for Locke. The state prevents classes, while their absence allows popular control of the state. The latter legitimates state restrictions and encourages people to have collectivist personalities that ratify them. Rousseau assumes not only that

Table 2
Text and Graph Abbreviations and Symbols

P	= degree of the collectivism of personalities
P_m	= degree of collectivism of median person
P_o	= degree of collectivism of the most opportunistic person
P_L	= degree of collectivism of someone choosing Liberal society
P_t	= degree of collectivism of someone who would choose society S_t
S	= degree of collectivization of society
S_m	= degree of collectivization chosen by the median person
S_o	= degree of collectivization chosen by the most opportunistic
S_L	= degree of collectivization corresponding to one Liberal society
S_t	= degree of collectivization currently prevailing
E	= equilibrium based on a given personality, on HE ($P = 0$)
H	= the Hobbesian equilibrium
G	= Liberal Society: degree of collectivization chosen by P_m
R_A	= authoritarian Rousseauian equilibrium
R_D	= democratic Rousseauian equilibrium
$G1$, $G2$, $G3$	= actual personalities encouraged by Liberal society in Figures 1-3
$G - G1$, $G - G2$, $G - G3$	= the free rider gaps in Figures 1-3
sc	= social choice or Social Contract function, where the society S chosen depends positively on the degree of personal collectivism P and the technology of communications, transportation, and decision making
cd	= custom development or character development function, in which P_o depends positively on the current society S_t and the degree of cultural and linguistic homogeneity
HE	= Homo Economicus, an individual with $P = 0$.
PD	= Prisoner's Dilemma game

a high degree of collectivization is technically feasible but also that our characters are profoundly shaped by society. Because any deviation of society from this equilibrium leads to its abolition, it must be guarded jealously. This authoritarianism is a potential cause of its demise, as the authorities grab power for themselves. Thus, although Rousseau might have been an intellectual father of modern collectivism, he was not necessarily a democrat.

The second—and stable—Rousseauian equilibrium is based on the rejection of the strong assumption of human malleability, in favor of positing the inherent potential for human beings to cooperate harmoniously and democratically. This is more democratic, being a realization of individuals' collective efforts to attain harmony rather than being imposed from above by an all-wise Legislator.

Despite the authoritarianism or utopianism of Rousseau's vision, his work is instructive. One communitarian solution to the "search for a public philosophy" to make civic ideals work in practice is to follow Tocqueville to merge Lockean capitalism with a somewhat Rousseauian civil society.[80] But this school has to face capitalism's tendency to continuously dislocate and undermine community groups and similar organizations that stabilize society, resulting from the accumulation that Locke endorsed and capitalism practices with such vigor. That is, the ideals of Liberal capitalism can only be saved by destroying it.

NOTES

1. Michael J. Sandel, "America's Search for a New Public Philosophy," *The Atlantic Monthly*, March 1996, 57-74.

2. Amitai Etzioni, ed., *The Essential Communitarian Reader* (Lanham, MD: Rowman & Littlefield, 1998).

3. See Hal Draper, "The Two Souls of Socialism," in his *Socialism from Below*, ed. Ernest Haberkern (Atlantic Highlands, NJ: Humanities Press, 1992), 2-33.

4. This fits with Richard Levins and Richard Lewontin's description of dialectical method in *The Dialectical Biologist* (Cambridge, MA: Harvard University Press).

5. See George Akerlof, *An Economic Theorist's Book of Tales* (Cambridge, UK: University Press, 1984); Anthony de Jasay, *Social Contract, Free Ride: A Study of the Public Goods Problem* (Oxford, UK: Clarendon, 1989); and Elinor Ostrom, *Governing the Commons: The Evolution of Institutions for Collective Action* (Cambridge, UK: University Press, 1990).

6. See George H. Sabine, *A History of Political Theory* (New York: Holt, 1937); C. B. Macpherson, *The Political Theory of Possessive Individualism: Hobbes to Locke* (Oxford, UK: Oxford University Press, 1962); and Brian R. Nelson, *Western Political Thought from Socrates to the Age of Ideology*, 2d ed. (Englewood Cliffs, NJ: Prentice Hall, 1996).

7. Thomas Hobbes, *Leviathan* (1651), ed. C. B. Macpherson (Harmondsworth, UK: Penguin, 1981).

8. Adapting Max Weber's definition, a state is a specialized organization that successfully monopolizes the legal use of force in a given territory. See "Politics as a Vocation" (1918), in Hans H. Gerth and C. Wright Mills, eds., *From Max Weber: Essays in Sociology* (New York: Oxford University Press, 1946), 78.

9. John Locke, *Second Treatise on Government* (1689-90).

10. Samuel Bowles and Herbert Gintis, "Contested Exchange: New Microfoundations for the Political Economy of Capitalism," *Politics & Society* 18, no. 2 (1990): 165-222.

11. Writes Amartya K. Sen, "To run an organization *entirely* on incentives to personal gain is pretty much a hopeless task." See "Rational Fools: A Critique of the Behavioral Foundations of Economic Theory," in Frank Hahn and Martin Hollis, eds., *Philosophy and Economic Theory* (Oxford, UK: Oxford University Press, 1979), 102, his emphasis.

12. Adam Smith, *The Theory of Moral Sentiments* (1790), in Robert Heilbroner, ed., *The Essential Adam Smith* (New York: W. W. Norton, 1986). Below, these two terms are used interchangeably.

13. "Discourse on the Origin and Foundation of Inequality among Mankind" (1754) and "The Social Contract" (1762), in J.-J. Rousseau, *The Social Contract and Discourse on the Origin of Inequality*, ed. Lester G. Crocker (New York: Washington Square Press, 1967).

14. Nelson, *Western Political Thought*, 198 f.

15. For recent Prisoner's Dilemma (PD) interpretations, see Hans-Jorg Schmidt-Trenz, "The State of Nature of Contract Formation: Adding a Missing Link to J. M. Buchanan's Social Contract Theory," *Public Choice* 62, no. 3 (1989): 237-51; or Robert Rider, "War, Pillage, and Markets," *Public Choice* 75, no. 2 (1993): 149-56.

16. See David Braybrooke, "The Insoluble Problem of the Social Contract," and Russell Hardin, "Individual Sanctions, Collective Benefits," in Richmond Campbell and Lanning Sowden, eds., *Paradoxes of Rationality and Cooperation: Prisoner's Dilemma and Newcomb's Problem* (Vancouver: University of British Columbia Press, 1985), 277-306 and 339-54; and Mark Irving Lichbach, *The Cooperator's Dilemma* (Ann Arbor: University of Michigan Press, 1996), chap. 5. The model of Akira Okada ("The Possibility of Coopera-

tion in an n-Person Prisoners' Dilemma with Institutional Arrangements," *Public Choice* 77, no. 3 [1993]: 629-56) or de Jasay (*Social Contract*, 134 f.) are superior to PD models.

17. Howard Margolis, in *Selfishness, Altruism, and Rationality: A Theory of Social Choice* (Cambridge, UK: University Press, 1982, 21-22), calls this "goods altruism," while to Sen (in "Rational Fools") it is "sympathy."

18. See Dennis C. Mueller, *Public Choice II* (Cambridge, UK: Cambridge University Press, 1989), 65-67.

19. By including external costs, this generalizes de Jasay's concept of degrees of "publicness" (*Social Contract*, 127-31).

20. Almost all see the need for a state. Smith (*Theory*) saw the need for a societal consensus to avoid Hobbesian results. See also Robert Heilbroner, *Behind the Veil of Economics: Essays in the Worldly Philosophy* (New York: Norton, 1988), chap. 1; and Douglass C. North, *Institutions, Institutional Change and Economic Performance* (Cambridge, UK: Cambridge University Press, 1990).

21. Ostrom, in *Governing the Commons*, argues against this modernist either/or approach.

22. This article usually takes the degree of government effectiveness as given and for granted.

23. Finally, a rise in taxes helps pay for the subsidies and also for the government's administrative overhead.

24. Assume that governmental effectiveness does not vary between resources.

25. See the appendix for more complete analysis (available from the author by mail or at http://clawww.lmu.edu/~jdevine/hlr.html).

26. This is similar to de Jasay's view that "it is the public that decides what is a public good" because the status of a good as "public" depends on the method of its distribution (*Social Contract*, n. 84).

27. A vertical *sc* might occur at a specific level of *S* if the overall effectiveness of government regulation fell to zero above that level: laissez-faire partisans severely criticize any government activity beyond the preservation of Lockean Property rights. However, there is no a priori reason to assume that this vertical *S* would correspond to these rights, while the experience of European social democracy suggests the possibility of effective government at relatively high degrees of collectivization. A full critique is beyond the scope of this article.

28. Okada, "The Possibility of Cooperation."

29. See de Jasay, *Social Contract*, 27-29; and Ostrom, *Governing the Commons*.

30. See James M. Buchanan and Gordon Tulloch, *The Calculus of Consent, Logical Foundations of Constitutional Democracy* (Ann Arbor: University of Michigan Press, 1965); Douglas W. Rae, "The Limits of Consensual Decision," *American Political Science Review* 69, no. 4 (1975): 1270-94; and Mueller, *Public*, 105, table 6.1.

31. See Nelson, *Western Political Thought*, 200.

32. Mueller, *Public*, 65-66.

33. Cf. Kenneth Arrow, *Social Choice and Individual Values*, 2d ed. (New Haven, CT: Yale University Press, 1963), 18. Similarly, to Matthew Rabin ("Psychology and Economics," *Journal of Economic Literature* 34, no. 1 [1998]: 20-21), purely self-interested behavior is encouraged by competitive markets.

34. If the society implied by P_o is more collectivized than S_t, collectivization rises. If $P_o = 0$, for example, people would spontaneously avoid behaviors that hurt others simply to lower the average person's receipt of goods, but continue to do so if it raises their own direct individual benefits.

35. See Lichbach, *Cooperator's*, chaps. 3, 5.

36. Ibid., chap. 6.

37. Each involves what Lichbach terms "Community" (*Cooperator's*, chap. 4).

38. Ibid., 25-26, 220-23.

39. See, for example, Udehn's survey of theory and evidence, centering on the contributions of Margolis, Sen, and Elster, which are reminiscent of Smith's *Theory*: Lars Udehn, *The Limits of Public Choice: A Sociological Critique of the Economic Theory of Politics* (London: Routledge, 1996), chap. 5. See Margolis, *Selfishness*; Sen, "Rational Fools"; plus Jon Elster, *The Cement of Society: A Study of Social Order* (Cambridge, UK: Cambridge University Press, 1989) and *Nuts and Bolts for the Social Sciences* (Cambridge, UK: Cambridge University Press, 1989).

40. Robert Sugden, "Spontaneous Order," *Journal of Economic Perspectives* 3, no. 4 (1996), sees this as necessary to individual property rights' preservation.

41. Rabin, "Psychology," 21.

42. Akerlof, *Economic*, chaps. 3, 5. Rejected is de Jasay's (*Social Contract*, 12-14) view of customs as simply based on freely made bilateral contracts.

43. Jon Elster, "Social Norms and Economic Theory," *Journal of Economic Perspectives* 3, no. 4 (1989): 105.

44. Ibid. Similarly, we cannot assume that all ideologies and community democracies support the system.

45. See Sugden, "Spontaneous Order," and H. Peyton Young, "The Economics of Convention," *Journal of Economic Perspectives* 3, no. 4 (1996).

46. This is akin to de Jasay's "mutual aid" (*Social Contract*, 28).

47. If organized as hierarchies, they violate Equality unless the organizations are subordinated to their members via democratic processes and/or the possibility of leaving.

48. See Sandel, "America's Search."

49. Udehn provides empirical evidence on the role of extrastatal supporting institutions (*Limits of Public Choice*, chap. 7).

50. See also Margaret Levi's profound discussion of compliance in her *Consent, Dissent, and Patriotism* (Cambridge, UK: Cambridge University Press, 1997, chap. 2).

51. See Thomas Schelling, *The Strategy of Conflict* (Cambridge, MA: Harvard University Press, 1960).

52. See, for example, Margaret Levi's empirical study in *Consent* of the societal forces encouraging compliance with conscription, a form of taxation.

53. Compare Akerlof, *Economic*, 76, eq. 3. See also Rabin, "Psychology," 20-21; and Samuel Bowles, "Endogenous Preferences: The Cultural Consequences of Markets and Other Economic Institutions," *Journal of Economic Literature* 36, no. 1 (1998).

54. As Erik Wright points out in personal correspondence, *cd* might become negatively sloped, as a rise in collectivization encourages individualism. Figure 2 incorporates part of this phenomenon by highlighting the way in which *cd* levels off after a certain degree of collectivization. It might start sloping downward without changing the conclusion that civil society can only help the state fight the free rider problem up to a point. This response might also be to the *type* of collectivization in place. For example, it might be to the kind of authoritarian collectivism discussed in sections 3B and 3D.

55. One case is where *cd* is tangent to *sc* from below, which need not represent a specifically Lockean value of *S*. This case is unstable, requiring the use of force for dynamic reasons, as with point R_A discussed in section 3B. Because disequilibrium movement is only toward *H*, it is similar to the situation at *G* and *G2*.

56. Braybrooke, "The Insoluble Problem," and Lichbach, *Cooperator's, sec. 5.4.*

57. Okada, "The Possibility of Cooperation."

58. See Elster, *The Cement Society*, 1-16.

59. The U.S. Constitution's creation was not a true Social Contract, since the most important issues had already been settled.

60. See Robert L. Carneiro, "A Theory of the Origin of the State," *Science* 169, no. 3947 (1970): 733-38; and Marvin Harris, *Our Kind: Who We Are, Where We Came from, Where We Are Going* (New York: Harper, 1989), 387-95.

61. Nelson, *Western Political Thought*, 208-9.

62. This presumes that the degrees of equality and cohesion can be measured and aggregated in a simple way.

63. This critique is associated with James Buchanan's Virginia school of political economy.

64. Akerlof, *Economic*, 87. Similarly, Young's equilibrium conventions may be "punctuated," leading to rapid change ("Economics," 112).

65. See Elster, "Social Norms."

66. Michael Albert and Robin Hahnel, *Quiet Revolution in Welfare Economics* (Princeton, NJ: Princeton University Press, 1990), chap. 7. The role of personalities is discussed in section 3A.

67. See MacPherson, *Political Theory*, chap. 5.

68. See de Jasay, *Social Contract*, 43, 67-68; Ostrom, *Governing the Commons*, 41.

69. de Jasay, *Social Contract*, chap. 4.

70. Locke, *Second Treatise*, 37. Adam Smith makes this process more explicit (*The Wealth of Nations*, various editions, 1776, bk. 1, chap. 1).

71. See Rousseau, *Discourse*, pt. 2. For a less abstract model of this exploitation, see James Devine, "Taxation without Representation: Reconstructing Marx's Theory of Capitalist Exploitation," in William Dugger, ed., *Inequality: Radical Institutionalist Views on Race, Class, Gender, and Nation* (Westport, CT: Greenwood, 1996).

72. Samuel Bowles and Herbert Gintis, *Democracy and Capitalism* (New York: Basic Books, 1986).

73. This is similar to the Marxist vision of Nicos Poulantzas, *Political Power and Social Classes* (London: New Left Books, 1973).

74. This differs from the situation of workers, for whom the benefits of such subsidies and of the taxes on capital to finance them are both positive and more likely to be in sync.

75. See Buchanan and Tulloch, *Calculus*.

76. Plato (c. 370 B.C.E.), *The Republic of Plato*, trans. and ed. Francis M. Cornford (New York: Oxford University Press, 1945), chap. 13.

77. On the internal paradox, see Ian Steedman and Ulrich Krause, "Goethe's *Faust*, Arrow's Possibility Theorem and the Individual Decision-Taker," in Jon Elster, ed., *The Multiple Self: Studies in Rationality and Social Change* (Cambridge, UK: Cambridge University Press, 1986).

78. See Sir Thomas More, *Utopia* (1518), trans. Paul Turner (London: Penguin, 1965); and William Morris, *News from Nowhere* (1890), ed. James Redmond (London: Routledge and Kegan Paul, 1970).

79. If *cd* is tangent from below *sc* (as suggested in the last note in section 2B), then only the former problem is relevant.

80. See Sandel, "America's Search."