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An Austrian Reexamination of Recent Thoughts on the Rise and Collapse of Societies

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In *Guns, Germs, and Steel* (1997) and *Collapse* (2005), Professor Jared Diamond argues that geography and environment are the "ultimate determinants" of the fates of societies.[1] These books can be described as focusing on the fields of environmental geography and geographical anthropology. The 1997 book explores the ascendancy of certain cultures and their dominance over competing societies. For Diamond, the broad pattern of history can be understood and explained within the context of geographical and environmental circumstances facing societies. In his 2005 book, Diamond continues to focus on geographical and environmental considerations, but in this case, seeks to demonstrate the role of "ecocide" (environmental destruction from human activity) in societal collapse.

This paper examines Jared Diamond's success in explaining the broad pattern of history within the context of geographical and environmental considerations. While Diamond addresses many disciplines in both his 1997 and 2005 books, this paper will focus on Diamond's

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[1]Jared Diamond is a Ph.D. physiologist trained at Cambridge University in England and faculty member of both the department of geography and the medical school of the University of California at Los Angeles.

disregard of purpose-driven human actions of individual human beings, property rights, and the institutions that foster specialization and cooperative exchange—these institutions being principally money *and* monetary exchange. Where present, these aspects of human existence have been central in the ascendance of societies and, where absent, a cause of social stagnation and declining living standards. This criticism is apt for both books; Diamond's failure can be attributed to the vane attempt to attribute major social developments to geographic and environmental factors. In *Guns, Germs, and Steel*, Diamond concludes that new technologies emerge randomly across continents. He further asserts that successful societies are so-called *complex societies*, which in his view, must be centrally organized and centrally managed.

This same misunderstanding and neglect of institutions is apparent in Diamond's much more controversial attempt to deal with the issue of societal collapse. But to some extent, Diamond's detractors also evince an incomplete understanding of the economic penalties that follow from the absence of certain societal institutions. In *Collapse*, Diamond explores the causes behind the demise of several societies. In this undertaking, he employs Easter Island as a metaphor in highlighting the role of ecocide in the collapse of past societies and in warning of the imminent global collapse. Diamond's interpretation of ecocide should be viewed in the context of both books since the aptness or inaptness of the Easter Island metaphor rests on ideas that first make their appearance in *Guns, Germs, and Steel*. The term ecocide, as used by Diamond, seems to refer to a pattern of continued resource exploitation that is not sustainable and is ultimately socially self-destructive. Diamond mistakenly attributes this ecocide to faulty decision making by the group or society as a whole. But Diamond's critics are eager to discredit his ecocide thesis and to attribute the destruction of the Easter-Island society to other events such as later European predations. But in failing to *fully* address the institutions that make prosperity and sustainable resource use possible, his critics also err.

The alternative thesis offered here is that gradual but inevitable destruction of the resource base followed logically from an absence of critical institutions necessary for the Easter Islanders to reckon the net future gain from replacing and maintaining that which was depleted or depreciated by current resource use. These institutions are private property and monetary exchange. With individuals in control of their property and with exchange of property conducted with a commonly accepted medium of exchange, sustainable resource use and maintenance are possible even for an island community such as Easter Island. To a degree, the contemporary world is plagued by governmental interventions that undermine the processes

through which these institutions function to assure societal sustainability.[2] It is in this sense that Diamond's use of Easter Island as an ecocide metaphor is apt. Nonetheless, his interpretation of this ecocide must be drastically revised.

II. Diamond on Geography, Innovation, "Complex Societies" and Societal Formation

In *Guns, Germs, and Steel*, Diamond (1997, p. 14) is presumably trying to answer a question posed by a man native of New Guinea: "Why is it that you people developed so much cargo and brought it to New Guinea, but we people had little cargo of our own?" The word "cargo" was this man's way of referring to his perception of material well-being. The book represents Diamond's attempt to answer this man's question. In exploring the answer, Diamond seeks explanations in geographical and environmental circumstances faced by different people around the world. But Diamond's focus on geographical and environmental considerations leads him to essentially minimize or ignore (1) private property rights, and (2) human action leading to specialization and institutions of cooperative and calculative monetary exchange.[3] In largely ignoring these institutions, he finds it possible to believe that social interdependence sets the stage for conflict and, hence, reveals the need for a highly centralized governmental order. Diamond is prompted to attach excessive importance to political unification in the formation of society. His neglect of the aforementioned institutions reveals his ignorance of the nature of society and the processes by which societies are formed. For example, mutually-beneficial market exchange *conducted in money* allows individuals to arrive at a rational reckoning of both scarcity and capital. Hence, money is not only a critically important calculational institution, but in conjunction with private property, allays interpersonal conflict, fosters cooperation, and establishes the foundations of society itself.

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[2]On this general issue, see Brätland (2006, pp. 40-41).

[3]The phrase "calculative monetary exchange" refers to the decision-making ability afforded individuals by being able to use market prices. In particular, individuals can make rational choices between consuming or providing for the future by saving. Without both private property and monetary exchange, members of primitive societies have no means by which to place a marginal net worth on alternative actions necessary to replenish and maintain their personal resource base. Hence, primitive societies tend to remain primitive. The implications of this concept are discussed at greater length below.

A. Geography's Role in Societal Success and Its Link to Innovation and Inventiveness

Jared Diamond is largely a "geographic determinist." But the issue of social adaptation seems to lead him in confusing and erroneous directions. In *Guns, Germs, and Steel*, Diamond presents the thesis that external factors such as geography and environment actually determine the fate of societies and that the nature and direction of particular civilizations are largely determined by geographical considerations. Geographical determinism has been described as embracing the notion that "the physical, geological and climatic conditions of a region determine the thoughts and the actions of inhabitants" (Mises 1969, p. 324). In this effort, Diamond pursues what he sees as a "scientific hunt" for ultimate causes or "historical laws" accounting for the success or failure of certain societies. Ostensibly he intends to make geography the active or causal element in his thesis; but human action as manifested in innovative adaptation and receptivity to new technologies becomes a problematic issue since Diamond must find a way to link these phenomena to geographical considerations.

Certainly geography is not unimportant in the actions of human beings. But the question is: is it a determinant of human action? Diamond must find a way to deal with this question. In fact, the role played by geography in the lives of acting men is essentially three-fold. First, it provides a stimulus to action. Second, geography plays a large role in providing the means available to acting men striving toward certain goals. Third, geography can act as a restraining element affecting the opportunity costs borne by acting human beings in trying to achieve certain objectives. While geography affects man in these various ways, it does not determine responses to the conditions imposed by it. Ludwig von Mises (1969, p. 325; emphasis added) has observed that "the way in which he [man] adjusts himself, the methods of his social, technological and moral adaptation, are not *determined* by the external physical factors." Elsewhere Mises notes that

> the same situation has a different effect on different men. . . . [T]he same men react differently at different times, and there is no means of ascribing unequivocally definite modes of reaction to different ages or other objectively distinguishing periods or conditions of life. One expresses the same idea in pointing out that it is not possible to grasp how the action of the external world influences our minds, our will, and consequently, our action. (2003, p. 12)

In a sense, Diamond is forced to at least partially accept these realities. He clearly acknowledges that one of the plausible indicators of societal advance is to be seen in improvements in existing techniques and development of new technologies. Diamond seeks to explain why

technological innovation has been clearly robust for some societies while in others it has lagged. But even more difficult for Diamond is the attainment of his narrower objective of trying to explain these differentials in terms of geography and environment. Diamond (1997, p. 249) attempts to answer the specific question: how do differences in the receptivity to new technologies arise? He explores considerations that he seems to view as factors accounting for these differences. Diamond first notes that patent protections that protect ownership rights of inventors have rewarded innovation in the West, while the lack of such arrangements in other parts of the world has meant a more stagnant approach to the development of new technologies. Second, Diamond observes that capitalism with its attendant property rights has made it profitable to invest in the development of new technologies. Third, Diamond acknowledges the strong individualism in western countries, particularly in the United States, that allows successful inventors to retain earnings that accrue from the profitable applications of new technologies. Diamond categorizes the above elements as falling into what he labels an "economic or organization-of-society" category. A fourth factor mentioned by Diamond is risk-taking behavior that is important in cultivating an environment in which innovation can occur (p. 250).[4] One should note that in acknowledging these factors he comes closest to acknowledging the importance of secure rights of private property, division of labor, and cooperative exchange. But he never finds a way to fully integrate these insights into his broader examination of societal ascendance. As the subsequent discussion will reveal, Diamond finds a way to assign virtually secondary importance to these insights. Diamond (pp. 250-51; emphasis added) remarks: "*none of these causal factors has any necessary association with geography. . . . Worse yet, all of these proximate explanations bypass the question of ultimate factors behind them.*" Groping for a way to explain the apparent irrelevance of these factors to geographical considerations, Diamond observes,

> it is untrue that there are continents whose societies have tended to be innovative and continents whose societies have tended to be conservative. On any continent, at any time, there are innovative societies and also conservative ones. . . . To the student of broad historical patterns though, it makes no difference what the specific reasons were in each of those cases. *The myriad factors affecting innovativeness make the historian's task easier, by converting societal variation in innovativeness into essentially a random variable.* (1997, p. 254; emphasis added)

[4]The actual list of elements examined by Diamond is more inclusive and mentions other factors such as the influence of religions and the availability of slave labor, for example.

The notion that innovativeness of different societies is a random variable is not only implausible but truly bizarre. One finds astonishing Diamond's inability to recognize the real causes of societal ascendance even after he has listed and discussed them. His search for geographical linkages leads him to the fundamentally implausible notion that receptiveness to innovation and new technologies is a random phenomenon defying a means of prediction.

This list of conditions that Diamond ultimately rejects as being of primary importance can be distilled into the following elements all bearing on some form of purpose-directed human action: (a) secure rights of private property as an inducement to successful inventing,[5] (b) property rights assuring an appropriable return on investment in technological advances, and (c) property rights nurturing an environment in which the actions of undertaking risky ventures are rewarded. Innovative actions on the part of individual human beings only become profitable and "socially beneficial" within environments characterized by secure rights of private property, division of labor, and cooperative exchange. Capitalism embraces all these features and nurtures the indispensable environment in which investment risks can be profitably undertaken in trying to introduce innovations. *To this extent, contra Diamond, the preceding capitalistic institutions must be seen as primary determinants of innovative activity and receptivity to new technologies.*

But the preceding list of three items is incomplete. An additional element (d) totally ignored by Diamond, is the fact that new technologies are introduced through acts of saving and investing. In other words, acts of saving are a critical underpinning of a rational reckoning of technology development and application. New technologies emerge in a growing stock of new capital goods. Capital goods embodying new technologies do not come into existence without savings. "Large savings continuously in search of the most profitable investment opportunities are providing the resources needed for rendering the accomplishments of the physicists and chemists utilizable for the improvements" (Mises 2006, p. 115). The practical deployment of the technological innovations emerging from the natural sciences is critically conditioned by the institutions of the capitalism.

And finally and most importantly, (e), the savings necessary to incorporate new technologies in a growing stock of capital goods is critically dependent upon monetary institutions fostering calculative

[5]Murray Rothbard (2004, pp. 745–54) is critical of patent systems and favors a "copyrights" for inventors that would prevent buyers of the patented product from reselling the same or duplicate product.

exchange and a rational comparative reckoning of alternative investments. Without economic calculation made possible by a medium of exchange—money, the concept of capital would be virtually impossible.[6] Without rational capital reckoning, accumulation of new capital goods most probably would not occur. Few technological innovations would ever come into practical use in a society that did "not employ a generally used medium of exchange" (Mises 2006, p. 114). The ability of businessmen and engineers to make a rational calculation of the profitability of alternative investment in different capital goods also accommodates a thoughtful contrast of the advantages of applying one technology over another. The formal mathematical relations emerging in the development of physics and chemistry, the new discoveries emerging in biology would be economically sterile if it were not for the monetary institutions accommodating economic calculation.

Hence, Diamond's conclusion that the phenomenon of technological advance is a random phenomenon across continents is a gross absurdity that, in itself, greatly diminishes his credibility. One must fully reject Diamond's apparent judgment that the institutions of private property and market exchange are of only "proximate" importance in explaining technological advance.[7] Each of the latter items listed above illustrates the degree to which the liberal institutions associated with markets are indispensable and of primary importance in fostering innovative action on the part of individual human beings and are in fact the ultimate cause of not only receptiveness to innovation but also the pace of technological advance.

B. Diamond's Centralization Imperative for "Complex Societies"

In discussing the role of innovation and technological advance in the ascendance of societies, Diamond comes very close to outlining some legitimate and centrally important factors accounting for this phenomenon. These insights bear on human action and property rights. But he is finally led to assign them secondary or even minimal importance. Unfortunately, Diamond lets himself be drawn even farther astray in attempting to deal with what he labels "complex societies."

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[6]Capital is always a monetary reckoning of the worth of a plan undertaken to achieve a future net monetary gain. In a barter economy, such a reckoning would not be possible. Hence capital would not and could not exist.

[7]*Webster's New International Dictionary* defines proximate as "being near but not primary or ultimate as a causal explanation. The term gives Diamond wiggle room in assigning secondary importance to these market oriented institutions.

While the concept of "complexity" as applied to society seems critical to Diamond's explication of societal ascendance, he fails to actually define the concept in a manner that bears on the realities of the contemporary world. For example, he expresses the view that the principal predictor of complexity is population size. Oddly, the term complexity does not even appear in the index of *Guns, Germs, and Steel* (1997, p. 284). Diamond has obviously read Joseph Tainter's book, *The Collapse of Complex Societies*, since he references Tainter's book in his 2005 book *Collapse*. Tainter defines the term in the following way:

> Complexity [as applied to the characterization of a society] is generally understood to refer to such things as the size of the society, the number and distinctiveness of its parts, the variety of specialized social roles that it incorporates, the number of distinct social personalities, and the variety of mechanisms for organizing these into a coherent, functioning whole. Augmenting any of these dimensions increases the complexity of the society. (1988, p. 23)

One could infer a role for property rights and cooperative exchange in Tainter's definition but such an inference is not warranted. In fact, Tainter does briefly discuss trade issues, however, property rights or market exchange are not explicitly mentioned in Tainter's book. Nonetheless, Diamond does not reference Tainter's definition, possibly because Tainter's characterization seems to be a bit too sophisticated for what Diamond has in mind. When Diamond is using the phrase "complex society," he seems not to be talking about what one might call a *modern industrial society*. Rather, he is talking about a social order still subject to the type of explosive violence that one might find within and between primitive tribes. Without offering a definition, Diamond (1997, pp. 281–286) seems to see four characteristics as exemplary of what may be called complex societies; these are (1) large population size, (2) centralized government, (3) the ability to produce large quantities of food, and (4) a centralized management of resources.[8] As the following discussion will make clear, when discussing what he labels a complex society, Diamond is still thinking about a tribal culture, writ large, with a centralized social and political structure. He is not thinking about the actual institutions that commonly characterize modern societies in the present day.[9]

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[8]Steven Hayward (2005, p. 487) has noted Diamond's apparent confusion over the detrimental implications of centralized decision making.

[9]This aspect of Diamond's thinking has been noted by Fred L. Smith (2005, p. 427).

In approaching the requisite features of the complex society, Diamond poses the question of why a tribal organization is inadequate in the context of larger populations. He catalogues a series of four reasons why tribal organization cannot serve the needs of large populations. "Considerations of [1] conflict resolution, [2] decision making, [3] economics and [4] space converge in requiring large societies to be centralized" (Diamond 1997, p. 288). In effect, he is outlining a series of arguments for societal centralization. It is ironic that even though Diamond thinks he is addressing the needs of a complex society, he never seems to be able to free himself of assumptions that would accord with the characteristics of primitive tribal cultures. It is in his manner of addressing this matter that Diamond reveals his incomplete understanding and even ignorance of human action and property rights; he fails to understand their roles in a social order facing the universal issue of resource scarcity.

First, he notes that one of the problems that emerge within larger populations is "conflict between unrelated strangers" (p. 286). As Diamond characterizes this problem, its likelihood intensifies as the number of people becomes larger. He uses the following example to present his point:

> Relationships within a band of 20 people involve only 90 two-person interactions (20 people times 19 divided by 2), but a band of 2000 would have 1,999,000 dyads. Each of these dyads represents a potential time bomb that could explode in a murderous argument. . . . Once the threshold of "several hundred," below which everyone can know everyone else, has been crossed, increasing numbers of dyads become pairs of unrelated strangers. . . . Hence, a large society that continues to leave conflict resolution to all of its members is guaranteed to blow up. That factor alone would explain why societies of thousands can exist only if they develop centralized authority to monopolize force and resolve conflict. (1997, p. 286)

Diamond is certainly correct in raising the possibility of conflict between individuals over scarce resources. But Diamond stumbles. A more important institution for averting and eliminating the possibility of conflict is private property and monetary exchange. Private property emerges out of the certainty of scarcity. It is clear the without the reality of scarcity, the motives for interpersonal conflict would be markedly diminished if not eliminated;

> [i]t is the function of property rights to avoid such possible clashes over the use of scarce resources. . . . Property is thus a normative concept; a concept designed to make conflict-free interaction possible by

> stipulating mutually binding rules of conduct (norms) regarding scarce resources. (Hoppe 1989, p. 8)[10]

But monetary exchange plays a tandem role with private property in avoiding the interpersonal conflict that seems to concern Diamond. While an economy based on barter means that every exchange may have a personal dimension, often based on the bargaining skill and the mutual good will between the affected parties, monetary exchange means that transactions can be completed with complete anonymity. Not only is exchange made interpersonal but it is made impersonal. Moreover, monetary exchange enhances the extent of competition availed to the transacting parties meaning that each party to a transaction can make a more precise and more certain reckoning of what is received and what is relinquished in each exchange. This latter fact in itself dramatically reduces the scope of situations that might prompt misunderstanding and conflict.

Diamond sees a second reason that complex societies must be centralized: large populations must have effective means of communication and the means to engage in "communal decision-making." Here Diamond may be guilty of a non-sequitur: effective communication is not necessarily contingent on centralization. Moreover, he offers this observation under the premise that some sort of governing body is required to facilitate communications. Diamond is presumably addressing the communications thought to be required in effectuating democratic decision-making. In other words, Diamond (1997, pp. 286–87) sees a "growing impossibility of communal decision making with increasing population size. . . . Hence a large society must be structured and centralized if it is to reach decisions effectively." Here again one sees that Diamond is in the grip of confusion and misunderstanding largely because there is no scope for private action in the world that he posits. No allowance is made for the information acquisition capabilities of individual human beings in their efforts to pursue their own ends. He has no understanding of the fact that when individual actors have secure rights of private property and freedom to engage in market exchange, communal decision-making and supervisory intervention in private life is chaotic and disruptive. In a free market economy, the individual is able

[10]Friedrich A. Hayek was skeptical of the efficacy of governmental authority in imposing cooperative interpersonal association within society. In making reference to what he refers to as John Locke's "possessive individualism," Hayek (1988, p. 30) notes "that it was based on the insight that the justice that political authority must enforce if it wants to secure the peaceful cooperation among individuals on which prosperity rests, cannot exist without the recognition of private property."

to avail himself of sufficient information to act in pursuit of his own goals and in the process generate price information useful to others in pursuit of their own ends. Hayek notes

> the information that individuals can use to adapt to the unknown is necessarily partial, and is conveyed by signals (e.g., prices) through long chains of individuals, each person passing on the modified form a combination of streams of abstract market signals. (1988, p. 76)

Hence,

> it was found that decentralized control over resources, control over several [private] property, leads to the generation and use of more information than is possible under central direction. (p. 86)

The type of communal decision making that Diamond has in mind would only serve a purpose, however perverse, if individual property rights were foreclosed by a tyranny of the majority and if the actions of individuals were tyrannically constrained. Ironically, this type of tyranny turns out to be the logical outgrowth of democratic government. As Hans-Hermann Hoppe has remarked:

> As for the moral status of majority rule, it must be pointed out that it allows for A and B to band together and rip off C, C and A in turn joining to rip off B and then B and C conspiring against A, and so on. . . . [I]t is not democracy but private property, production, and voluntary exchange that are the ultimate sources of human civilization and prosperity. . . . Private property is as incompatible with democracy as it is with any other form of political rule. Rather than democracy, justice as well as economic efficiency requires a pure and unrestricted private property society allowing an anarchy of production in which no one rules anybody. (2001, pp. 104-05)

In expanding upon Hoppe's latter point, one notes that private property and a freedom of individual action mean that market processes impose a "rationality" upon social interaction that cannot possibly be replicated by interventionist actions perpetrated through communal decision making. For example, the institutions of private property are self-enforcing since each property owner has a vested interest in the integrity and security of his neighbor's property. Insecure property rights as may be experienced by the single property owner have implications for the security of property rights for the entire population. Moreover, each property owner is able to engage in exchange and is able to exclude the use of his property in lesser valued occupations. Hence, the rational property owner will always hold out for the highest bid, meaning that the prices that emerge in the process of exchange draw resources to their most highly valued uses. In this way, prices become a tool of rational calculation in the consumption and investment decisions of individuals in the complex society. In essence, prices expressed

in monetary terms offer the only coherent indications of relative scarcities. Communal decision-making that curtails or impedes this process can only be destructive of the society.

Diamond presents a third reason for believing that large populations require a centralized social structure. Diamond labels this reason as being 'economic' in nature though it bears on the first item in this list described above. He observes that situations will arise in which some individuals will acquire more of some essential commodity during some periods and less in other periods of time. Diamond sees a problem with these types of occurrence. Here again Diamond advertises his abysmal ignorance of economics. He offers the following astonishing observation:

> the same mathematics that makes direct pairwise conflict resolution inefficient in large societies makes direct pairwise economic transfers also inefficient. Large societies can function economically only if they have a *redistributive economy* in addition to a reciprocal economy. Goods in excess of an individual's needs must be transferred from the individual to the centralized authority, which the redistributes to the individuals with deficits. (1997, p. 287)

Here again, one sees that Diamond is unable to think in terms of the institutional framework of what one might legitimately view as a "modern society." There is no private property in the world that he characterizes. There is no exchange process in which the individual can make an offer to sell goods that may be in "surplus." Diamond disregards markets and the emergence of prices in which each individual is able to make his own decisions with respect to buying and selling of property. The redistributive economy to which he makes reference is not an economy at all but a system of forced confiscation of property with distribution being made on the basis of the central authority's judgments about the needs of those receiving the surpluses of others. But need is a fundamentally subjective judgment that can only be made by the individual. In actual fact, since interpersonal comparisons of utility or well-being are unscientific and epistemologically impossible, the redistribution process to be conducted by the central authority is totally arbitrary and without any legitimate scientific foundation. Only the individual is able to judge the extent to which his holdings of particular goods represent an excess or shortage with respect to his demand. While this sort of paternal intervention in the private lives may have its counterpart in the economic culture of primitive tribes, it has no place in a complex society that may exist in the modern world.

Diamond's incoherence and seeming ambivalence on the matter of centralization is further manifested in his view that the need for central control is necessarily more far-reaching in complex societies in which

economic specialization is more extensive. With regret, he notes that not even farmers are self-sufficient. Somehow, he has convinced himself that specialization and a drift away from self-sufficiency is detrimental to society. "Hence the effect on the society is catastrophic when the government collapses" (1997, p. 279). Presumably Diamond has concluded that without a centralized government, there can be no specialization, exchange and social order. He cannot bring himself to accept or understand the fact that the degree of efficient specialization and exchange are not contingent in the least on the existence of a governmental order—centralized or not. In fact these processes are more likely to be fostered and strengthened by the absence of a centralized governmental order.

Diamond's fourth reason for assuming that the structure of a complex society must be centralized relates to "space" and population densities. This reasoning is a bit difficult to understand until one realizes that Diamond is still immersed in the culture of a tribal society in which property rights do not exist. His observations have little relevance to a modern day economy with property rights and mutually beneficial exchange. Diamond reasons from the premise of generic bands comprised of perhaps a few dozen people. He also explicitly assumes that these bands coexist in a state of periodic war with each other, presumably over scarce resources. But for the Diamond, the likelihood of conflict is diminished as long as bands of people exist within a sparsely populated region in which the band faces a greater likelihood of being self-sufficient. "As population density increases, the territory controlled by a few dozen people would shrink to a small area, with more and more of life's necessities having to be obtained from outside the area" (1997, p. 287). As people find themselves in closer proximity to one another, and are reliant on others for the necessities of life, Diamond sees an elevated likelihood of conflict. As Diamond argues, societal interdependence creates greater likelihood that conflict and violence will erupt. Hence, he concludes that greater population density necessarily intensifies conflict; conflict, in turn, requires a strong centralized government to maintain civil order.

Again, Diamond's thinking about this issue is fundamentally erroneous. He is thinking about the band of a few dozen people that make decisions and act to attain the group's objectives. But within a larger society, the individual groups become more dependent upon others outside the band for the necessities. For Diamond, such situations set the stage for periodic conflict since he is unable to bring property rights and cooperative monetary exchange into the orbit of his thinking about any society—simple or complex. The error in this thinking is highlighted by reiterating a point made above; property rights serve to avoid interpersonal clashes over the use of resources by particular individuals.

The extent to which Diamond fails to grasp this point raises the question of whether or not he actually understands the nature of society as a concept. In the closing chapter of *Guns, Germs, and Steel*, Diamond reprises the issue of organization in a retrospective that appears to have been written some time after the preparation of the main text. In this chapter, Diamond seems to deal with organization as a type of decision variable with which some central authority chooses from among alternative patterns of organization in order to attain some type of social goal. He poses the following questions:

> [W]hat is the best way to organize human groups, organizations and businesses so as to maximize productivity, creativity, innovation and wealth? Should your group have a centralized direction (in the extreme, a dictator), or . . . diffuse leadership, or even anarchy? Should your collection of people be organized into a single group, or broken down into small or a large number of groups? Should you maintain open communication between your groups or erect walls of secrecy between them? . . . These questions may arise at many different levels and for many types of groups. They apply to the organization of entire countries: remember the perennial arguments about whether the best form of government is a benign dictatorship, a Federal system, or an anarchical free-for-all. (1997, p. 433)

The way in which these questions are framed only tends to reinforce the impression that Diamond has, at best, only a confused understanding of the legitimate role of organization in a modern society and what context in which legitimate organizational decisions are made. As noted, these questions seem to suggest the idea that organization can be manipulated by some governing authority. While, there are two broadly-defined contexts in which organization has become a decision variable, only one is justifiable in a practical and ethical sense. The *unjustifiable role* of organization as a decision variable emerges out of the democratic process in which governmental power has become more centralized and more invasive. This process has metastasized into a thicket of regulations impinging upon the affairs of the common citizen and encroaching on the rights of private property. Hans-Hermann Hoppe has observed:

> It does not follow from the right and need for protection of person and property that protection should or effectively can be provided by a monopolist of [territorial] jurisdiction and taxation. To the contrary, it can be demonstrated that any such institution is incompatible with the rightful and effective protection of property. (2001, p. 226)[11]

[11]Similar views are expressed by Robert Higgs (1987, p. 67) and T. Alexander Smith (1988, pp. 134–35).

While the concept of centralization of organization has become a type of decision variable within a political context, it has become a detriment to the general health and well-being of society as a whole.

One such area in which the government tries to use organization as a decision variable is in governmental efforts to regulate and alter the structure of industry. From an ethical perspective, one notes that such interventions are almost never undertaken without a breach of property rights. But legal sanctions such as anti-trust laws and their accompanying regulations have created a complex interventionist bureaucracy with the stated purpose of protecting the consuming public from monopoly and anti-competitive practices within industry. Implicit in this type of interventionist agenda is the assumption that the government can regulate the number, size, and behavior of firms in an industry to achieve the goal of increasing the welfare of consumers. However, from a practical perspective, there exists no scientifically legitimate means by which this can be done (Rothbard 2004, pp. 629–754).[12] Moreover, there are no legitimate analytical methods by which monopoly prices or predatory prices can be empirically discerned (Rothbard 2004, pp. 681–87). Attempts by government to treat "societal organization" as a decision variable in regulating industry are invalid and certainly unsupported by any scientific rationale.

The legitimate and ethical context in which organization can be treated as a decision variable occurs in the size and internal structure of private firms *when these decisions are made by the owners of the firm*. In this context, the questions posed above by Diamond become practical and important concerns. But the questions, as they pertain to firms, only have coherent answers within an aspect of society to which Diamond is largely oblivious. The same institutions that facilitate economic calculation, principally private property and monetary exchange, also allow the entrepreneur to assess investments in particular capital goods and, in the process, also present the same entrepreneur with answers to several questions posed above by Jared Diamond. These institutions include private property in the means of production and competitive prices for both consumer goods and capital goods. These institutions emerge only in environments characterized by private property and voluntary monetary exchange between property owners. A rational reckoning of profits (net monetary gain) allows an entrepreneur to decide what activities should remain within the firm and what

[12]An extensive critical examination of anti-trust policy is found in a book by Armentano (1990). On monopoly prices, see Hoppe (1989, pp. 173–74).

services should be obtained through transactions with other firms (Coase 1952, pp. 331–51). Economic calculation helps the entrepreneur to formulate answers to questions on the size of the firm, the degree of centralization or decentralization, the degree of competition verses cooperation in the operation of the firm, the nature of the communications and many other issues that affect the ability of the firm to profitably serve its customers.

C. Diamond on the Formation and Nature of Society

To an extent, Jared Diamond treats society as a type of living being with an existence of its own independent of the actions of the individual human beings that make up the society. He has employed such metaphorical techniques in examining the requisite conditions accounting for the growth of bands and tribes into larger societal entities such as nations or states. It is in his explanation of societal formation that Diamond finds himself relying on a militaristic explanation based on one group somehow acquiring power and eventual control over other groups. For Diamond, the formation of societies occurs through a process of cascading amalgamation through a perpetual process of conquest or union to ward off threat of conquest. In coming to this view, Diamond eschews Rousseau's notion that societies are the product of a social contract.

Contrary to Rousseau, such amalgamations never occur by a process of unthreatened little societies freely deciding to merge, in order to promote the happiness of their citizens. Leaders of little societies, as of big ones, are jealous of their independence and prerogatives. Amalgamation occurs instead in either of two ways; by merger under threat of external force, or by actual conquest. Innumerable examples are available to illustrate each mode of amalgamation (1997, p. 289).

While Diamond mercifully refrains from attempting to offer innumerable examples of each type of event, he does offer a few instances that superficially seem to support his case. In the case of amalgamation by threat of attack, he gives as his most prominent example to the formation of the Cherokee nation in dealing with the influx of white settlers in eighteenth century North America (1997, p. 289). He also notes the unification of the thirteen colonies in revolting against the British and the example of the German unification in 1871 in response to a French declaration of war (p. 290). In the latter category of amalgamation by conquest, Diamond of course includes the example of the Roman Empire and the empire of Alexander the Great. He could as well have included the conquests of Genghis Khan in the late middle ages and the formation of the Soviet society in the twentieth century.

Do Diamond's examples really support his argument? The answer is "no." Diamond fails to understand that societies are not necessarily

formed by political unification and centralization of governmental control. The thirteen colonies of North America did not suddenly become a society after having adopted a centralized Federal government under the current constitution. The people of the colonies became a society, independently of the form of government. But centralization of governmental control seems to be the principal criterion that he employs in labeling agglomerations of people as societies. The Cherokees, the thirteen American colonies, and the Germans were successfully able to cohere in the face of an external threat to the extent that they were because they already existed as societies. Political unification was an ancillary event almost unrelated to the actual events that made the formation of these societies possible. With respect to amalgamation by conquest, Diamond's use of this explanation of societal formation seems singularly unconvincing. While Genghis Khan tried to bestow power on his sons at the time of his death, the empire that emerged from his conquests eventually disintegrated (Prawdin 1940, p. 357). The Soviet state society was not really a society as made evident by its immediate dissolution in the wake of socialist collapse in 1989. The same has been said of Alexander's empire; it did not survive as a society after Alexander's demise (Durant 1966, pp. 557–58). These disintegrations occurred principally because these empires did not exist as societies in the true sense of the word. They were held together initially by tyrannical force. The Roman Empire eventually collapsed for perhaps several debatable reasons but, arguably, continued to exist in a highly transformed way largely because the Emperor Constantine adopted Christianity as the official religion of the Empire. But this example hardly validates Diamond's argument regarding the formation of societies.

But if societies exist prior to the establishment of a state wielding centralized control, what legitimate criteria can be employed to recognize a society and to understand its formation? As noted, Diamond is of a mind to label large agglomerations of people as societies if there is a centralized governmental authority to establish a state. From such a perspective, society is thought to have an existence separate and apart from the lives of individual human beings. But Ludwig von Mises has been critical of this metaphorical treatment of society on the part of historians and philosophers:

> society is nothing but the combination of individuals for cooperative effort. It exists nowhere else than in the actions of individual men. It is a delusion to search for it outside the actions of individuals. To speak of a society's autonomous and independent existence, of its life, its soul, and its actions is a metaphor which can easily leads to crass errors. (Mises 1998, p. 143)

For Mises, society emerges out of the actions of individual human beings. He offers a distinctly different perspective that acknowledges private property and cooperative exchange between individual human beings.

> Society is concerted action, cooperation. Society is the outcome of conscious and purposeful behavior [on the part of individual human beings]. This does not mean that individuals have concluded contracts by virtue of which they have founded human society. The actions that have brought about social cooperation and daily bring it about anew do not aim at anything else than cooperation and coadjuvancy with others for the attainment of definite singular ends [of individual human beings]. The total complex of the mutual relations created by such concerted actions is called society. It substitutes collaboration for the—at least conceivable—isolated life of individuals. . . . In his capacity as an acting animal man becomes a social animal. (Mises 1998, p. 143)

Mises explains the role of the mundane but, nonetheless, indispensable role of specific market institutions in the formation of societies. For example, he notes the fact that Western civilization emerged as a process of cooperation between individual human beings based on essentially contractual relations. In essence, cooperation between human beings is fostered by contractual relations between buyers and sellers. These contractual arrangements brought about the emergence of civilization in a process by which individual families abandoned action aimed at self-sufficiency and resorted to inter-familial exchange of goods and services.

> When inter-familial exchange of goods and services was substituted for each family's economic self sufficiency, it was, in all nations commonly considered civilized, a cooperation based on contract. Human civilization as it has been hitherto known to historical experience is preponderantly a product of [private] contractual relations. (Mises 1998, p. 198)

Both Mises and Hayek emphasize the division of labor as a fundamental element in the formation of society. "In a hypothetical world in which the division of labor would not increase productivity, there would not be any society. There would not be any sentiments of benevolence and good will" (Mises 1998, p. 145). Work performed under division of labor is the fundamental impetus to cooperation, society and civilization and historically has been responsible for converting animal man into human man. Man recognized the fact that work performed under the division of labor was more productive than the *isolated work* done under attempts at self-sufficiency. Hayek observes:

> The morals of the market do lead us to benefit others, not by our intending to do so, but by making us act in a manner which, nonetheless, will have that effect. The extended order circumvents individual

> ignorance . . . in a way that good intentions alone cannot do–and thereby does make our efforts altruistic in their effect. In an order taking advantage of the higher productivity of extensive division of labor, the individual can no longer know whose needs his efforts do or ought to serve, or what will be the effects of his actions on those unknown persons who do consume his products or products to which he has contributed. (Hayek 1988, p. 81)

Without this latter recognition, groups would have remained deadly enemies in a perpetual state of perpetual inter-tribal war as envisioned by Jared Diamond. Without specialization and rights of private property, the perpetual inter-group conflict over scarce resources would have been a description of the real world. Each group would have viewed other human beings from other groups with covetous suspicion and would have been unable to seek cooperation in the attainment of mutually beneficial ends. No sense of community would have been possible and what we have come to know as society could not come into existence.

III. Diamond on Societal Collapse and Easter Island as an "Ecocide" Metaphor

By his focus on geographical and environmental matters in *Guns, Germs, and Steel*, Diamond chose to ignore several institutions that have historically been central and pivotal in the ascent of societies. In *Collapse*, Diamond reprises his neglect of these institutions in placing heavy emphasis on centralized governance in explaining the success and survival of what he referred to as "complex societies."[13] His thesis is that faults in social decision making may occur in complex societies accounting for the destruction of environmental resources (ecocide) and, in the process, the capacity to achieve "sustainability." While Diamond discusses the collapse of several societies, he features Easter Island as a metaphor in warning of more widespread global disaster. But Diamond has been roundly criticized for his "ecocidal interpretation" of the Easter Island experience and the emphasis that he places on the deforestation. Some of his critics claim that the only collapse that befell Easter Island occurred because of disastrous contact with European societies in the 1700s. While the European depredations were an undoubted reality, it also true that Diamond and some of his harshest

[13]Recall that Diamond characterizes "complex societies" as having the following features: large population size, centralized government, the ability to produce large quantities of food, and along with a centralized government, a centralized management of resources.

critics tend to ignore or misunderstand the implication of using resources on an "open-access" basis (absence of private property) with no *monetary* pricing system to rationally reckon scarcities and the value of actions required to replace what is depleted through human use.[14] Without these institutions, societies have a common fate in that scarcity implies cessation of peaceful interactions, chaos, and an eroding standard of living. This eroding standard of living is the "collapse" at issue in the remaining parts of this paper.

A. Deforestation and Collapse: Matters of Debate and Disagreement

It is an acknowledged fact that most of what happened on Easter Island from the time of initial human settlement to the disastrous contact with Europeans is a matter of educated conjecture. As a consequence, there are few aspects of Easter Island history that have not been matters of debate and disagreement. The time of initial settlement is no exception. For example, Diamond places the earliest settlement at 900 A.D., but more recent research done by Terry L. Hunt arrives at the year 1200 A.D.[15] There is general agreement that at some point, some form of collapse occurred. But there is disagreement over the nature, cause, and timing of this collapse. Diamond attributes Easter Island's social collapse principally to "improvident" deforestation by its human inhabitants. For Diamond this ecocidal deforestation is synonymous with the societal collapse of Easter Island. However, this thesis is challenged by alternative explanations of deforestation and the importance of the forest to well-being of the islanders. Moreover, the cause of this deforestation is definitely in dispute. Some scholars embrace the view that rat infestation offers that best explanation for the destruction of the forest while others attribute the deforestation to climate change. Both groups discount Diamond's thesis that the use of the trees by the islanders had anything to do with Easter Island's societal collapse and, instead, attribute the destruction of that society to later European depredations in the 1700s. Benny Peiser (2005, pp. 513–39) of Liverpool John Moores University has given a compelling and convincing account of that tragic sequence of events.[16] Peiser's narrative of the murder, slave trading, rape,

[14]In commenting on *Collapse*, Fred Smith (2005, p. 427) criticizes Diamond for his lack of understanding of modern economies; this observation in itself could be taken as a very indirect reference to the importance of monetary exchange. However, if Smith is cognizant of this importance, he doesn't make it explicit.

[15]Jared Diamond (2005, p. 90) puts the date at 900 A.D. Terry L. Hunt (2006, p. 415), professor of archeology at the University of Hawaii, places earliest settlement at the latter date, 1200 A.D.

[16]Hunt (2006, p. 419) concurs in attributing the collapse to disastrous contact with Europeans.

and introduction of disease wrought by contact with Europeans is not at issue in this paper. There is no reason to doubt the accuracy of Peiser's account. However, Peiser and others reject and dismiss Diamond's contention that the Easter Islanders experienced an ecocidal collapse prior to any contact with Europeans. While Diamond's focus on trees and his explication of this ecocide is largely misguided, it cannot be flatly rejected unless one is prepared to conclude that the absence of private property and monetary exchange play no role in the eventual exhaustion of a society's resource base. The central issues examined here are the extent to which open-access use of resources and the absence of monetary exchange were responsible for a gradual deterioration in the well-being of that society prior to the later marauding intrusions of Europeans.

Was deforestation caused principally by human activity on the island? Some scholars would certainly answer "no" to that question. Terry L. Hunt, professor of archeology at the University of Hawaii, has convinced himself that deforestation was caused by rat infestation (2006, pp. 417-419). Hunt contends that the population of rats grew rapidly and concludes:

> I believe that there is substantial evidence that it was rats, more so than humans, that led to deforestation. . . . Almost all of the palm seed shells discovered on the island show signs of having been gnawed on by rats, indicating that these once-ubiquitous rodents did affect the Jubaea palm's ability to reproduce. (Hunt 2006, p. 7)

Diamond (2005, p. 492) also notes that the rats may have contributed to the extinction of the forest by gnawing the nuts of the trees, thus preventing germination. However, Hunt, unlike Diamond, is convinced that the rats were decisive in destroying the forest. In either case, this evidence at least establishes the fact the forest was very much a part of the island flora at the time of initial habitation by human beings since the earliest settlers brought the rats to the island. But the rat thesis raises its own doubts. While Hunt alleges that the rats were the principal cause of deforestation, he is, in fact, only alleging is that rats were eating the seeds (nuts) of the trees. *But he is making no claim that the rats were actually destroying grown trees.* According to Hunt's (2006, p. 415) own narrative, the rats would have had roughly four centuries in which to destroy a forest of *grown* Jubaea trees by preventing the growth of *new* trees. Hunt's thesis of forest destruction by rats would be plausible if the creatures had the island to themselves over the course of a much longer span of time. Yet in this case, according to Hunt, the forest of grown trees was presumably destroyed by rats in a few centuries simply by impeding the germination of *new* trees. While Hunt's thesis is certainly a plausible explanation of why new growth of

trees was prevented, it seems not to convincingly account for the loss of existing grown trees.

Could the deforestation of Easter Island be attributed to climate change? In his examination of the Easter Island collapse, Benny Peiser (2005, p. 517) cites several studies that "suggest that the climatic downturn caused by the Little Ice Age may have exacerbated the problem of resource stress and could have contributed to the disappearance of the palm tree from Easter Island."[17] This period from 1300 to 1850 is described as one in which there were glacial advances, due to decreased temperature, in both the northern and southern hemispheres (Fagan 2000, p. 119). However, in commenting on the age of the forest on Easter Island, James A. Brander and M. Scott Taylor (1998, p. 128) observe: "The forest had been in place for 37,000 years before first colonization." Presumably during this span of time covering nearly four millennia, the Easter Island forest would ostensibly have survived several periodic oscillations in global temperature of a severity as great as the Little Ice Age. Moreover, the forest was clearly present at the time of initial settlement of the island since the rats brought to the island by these settlers were able to find nutrition in the seeds or nuts of the palm trees. While climate change cannot be fully discounted as an impetus behind the deforestation of Easter Island, like the rat thesis, it seems unconvincing as a determinative factor.

A plausible inference is that human exploitation of the forest resources must have played some role in the eventual deforestation. Diamond has made a plausible and convincing case that the once abundant timber resources played an important role in relative prosperity enjoyed by the islanders during earlier period of habitation of the island. He seems to be supported in this view by Brander and Taylor whose research precedes his own (1998, p. 121). For example, larger trees would have been used to make large sea-worthy canoes for fishing and hunting porpoises in the open ocean. Also, the trees were a habitat for a variety of birds that were an important part of the diet on Easter Island. However, the trees were felled for a variety of other purposes including firewood and cremation of dead bodies. Certainly, a substantial number of trees were simply cleared to provide open area for the planting of gardens and the planting of crops. But according to Diamond and others, the other activity seeming to account for a significant human use of the forest resources bore on the transportation and erection of the famous statues for which the island has become famous

[17]Peiser cites Nunn (2000, pp. 715-40); C. Orliac and M. Orliac (1998, pp. 129-34); and R. Hunter-Anderson (1998, pp. 85-99).

(2005, p. 102).[18] Eventually, over the course of generations, the *Jubaea* Palms trees were gone but were survived by the *toromiro* tree.[19] Diamond tries to explain the underlying societal causes behind the use of this resource to the point of total extinction. While there is disagreement over the extent to which the depletion of forest resources triggered a collapse of Easter Island society, Diamond attributes this pattern of unsustainable use to faulty group decision-making as revealed in what Diamond perceives as political failures to develop social sanctions over the use of resources.

In addressing the broader issue of societal collapse, Diamond ponders the question of why complex societies make decisions with respect to the use of resources that have the consequence of self destruction. He calls attention to the skepticism voiced by Joseph Tainter, the author of *The Collapse of Complex Societies*.

> Complex societies are characterized by centralized decision making, high information flow, great coordination of parts, formal channels of command, and pooling of resources. . . . It is curious that these societies would collapse when faced with precisely those conditions they are equipped to circumvent . . . as it becomes apparent to the members or administrators of a complex society that a resource base is deteriorating, it seems most reasonable to assume that some rational steps are taken toward resolution. (Tainter 1988, p. 50)

Hence, with his apparent focus on essentially governmental answers to problems, Tainter has nothing to impart to Diamond but his own misunderstanding of the institutions that foster conservation of resources. It is at this point that Diamond actually stumbles onto a bit of truth since he mentions privatization of resources as a means to eliminate the clash of interests. He proceeds to correctly note difficulties raised by migrating species such as fish and the costs incurred in attempts to police certain kinds of private property such as ocean fisheries. He also is quite correct in calling attention to attenuated property rights such as leases in which the owner of such a concession has no long-term interest in conservation (2005, p. 430). While Diamond mentions property rights, he sees their function in only the narrowest particularistic terms and not as a centrally important institution in preventing societal collapse.[20]

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[18]See also Brander and Taylor (1998, p. 122).

[19]Peiser and others mention the fact that the smaller specie of tree, the *toromiro*, survived the *Jubaea* Palm on Easter Island. According to Peiser (2005, p. 519), this specie did not become extinct until much later.

[20] Other writers have noted Diamond's failure to understand institutions such as property rights. This aspect of Diamond's thinking has been noted by Fred

B. The Ecocide Metaphor Reexamined: Its Legitimacy and General Relevance

Jared Diamond's most vociferous critic is Benny Peiser (2005, pp. 515–16) who flatly denies the legitimacy of the ecocide metaphor in claiming that there was no ecocidal collapse prior to the disastrous contact with Europeans. Since he dismisses the likelihood of an ecocide having occurred on Easter Island, he also discounts Diamond's contention that civil war and cannibalism were part of any ecocidal apocalypse on the island. While Peiser is no doubt correct in attributing the *ultimate* collapse of Easter Island society to murder by European marauders, slave trading and the exposure of the islanders to new diseases, he is ostensibly on much less convincing ground in dismissing the ecocidal deteriorations of the resource base. Peiser observes:

> confirming the existence of palm trees and palm fruits is one thing; linking their disappearance with an alleged societal collapse of the island's civilization is an altogether different but much less convincing charge. . . . the disappearance of the palm, whenever it may have occurred, undoubtedly placed a considerable limit on Easter Island's ecology and culture, but what is highly questionable is Diamond's claim that the extinction of the palm tree [*Jubaea* Palm] automatically triggered societal collapse. . . . Yet despite exceptionally challenging conditions, the indigenous population chose to survive—and they did. They tackled the problems of a difficult and challenging environment which both their geography and their own actions forced upon them. They successfully adapted to changing circumstances and did not show any signs of terminal decline. . . . There is no reason to believe that its civilization could not have adapted and survived (in a modified form [?]) to an environment devoid of large timber. (Peiser 2005, pp. 518–36)

Peiser prudently debunks any "automatic linkage" between the extinction of the palm trees and the collapse of the Easter Island's society. However, there are strong *deductive* reasons for doubting and even rejecting Peiser's sanguine judgments concerning the health, welfare, and survivability of the Easter Island society. One should also note that a *collapse* of the type that Peiser denies is unlikely to have occurred as a distinct, discrete, and dramatic event. Rather, it is more likely to have unfolded as a gradual process over the course of time and would not necessarily have been manifested in the disappearance of any one resource but rather in the gradually increasing stress placed on several

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L. Smith (2005, pp. 427–28) and Wolfgang Kasper (2005, pp. 443–44). Unfortunately, these writers ignore the way in which the absence of money and monetary exchange keep primitive societies relatively poor and "fragile" in terms of survivability.

resources used by the islanders. Why? Without adoption of basic market institutions, the islander would have been exploiting resources much as nomadic tribes exploit the resources of their immediate temporary environment. For example, on Easter Island, even the tree that survived the *Jubaea* palm, the *toromiro*, eventually became extinct through human activity (Peiser 2005, p. 519). While nomadic groups survive by being able to move on to new locations as their temporary environments become depleted; societies trapped on islands cannot.

There is little evidence that the institution of private or personal property rights existed to any important degree on Easter Island.[21] This fact in itself would have dramatically affected the way in which resources were used by the islanders since without private property the islanders would have had no precise quantitative indicators of economic scarcity. Private property affords the owner the right to retain control of the property or to offer it for exchange depending upon the owner's relative valuations. Having set the stage for exchange, emerging *economic* scarcities would ultimately have been revealed in the valuations and aspirations of property owners. Scarcities would have been evident in the terms through which property owners were able to exchange rights of ownership. In other words, a barter price would have emerged in acts of exchange. The individual owner of property would have been able to select uses and impose a cost (a barter sacrifice) upon other parties who would have been seeking the services of valuable resources. Those who would obtain rights to own or use resources would have had to relinquish a barter price to obtain such rights. Consequently, the parties in such transactions would have had the ability, through their own actions, to define the economic scarcity of resources. Dan Mahoney has aptly noted:

> Whether a good is scarce or plentiful from this standpoint depends on the wishes of the owner of that good. . . . Whether a particular good will be scarce or plentiful relative to potential use then depends on how much property in exchange that good's owner demands for it. (2002, p. 43)

[21]One can surmise that possible exceptions could have been very personal items such as clothing, eating utensils, or jewelry. In the discussion of institutions in Easter Island society, the only mention of something vaguely approximating land ownership is found in research by Van Tiliberg. "The statues were meant to demonstrate graphically lineage rank as a defining fact of life, just as the *ahu* [the platforms on which the statues were placed] defined lineage land ownership" (Van Tilberg 1994, p. 126). Van Tilberg also mentions a type of storage pit called a *manavai* that may have been treated as a kind of property but apparently only for a restricted group comprising several families (p. 64).

For the Easter Islanders, ownership would have imparted a social signal of scarcity in the use of resources that would have tended to induce a conservation of the resource over time. The people of Easter Island had no such institution with respect to the use of any of their resources. Hence, for example, eventual destruction of the timber resources was a foregone consequence of failure to develop property rights.

While a system of barter exchange is one critical element in establishing a framework for assessing scarcity, it is fraught with uncertainty and limited opportunities for property owners wishing to trade. Societies that remain reliant on barter exchange remain primitive since the opportunities for exchange are severely limited and the alternative uses to which resources can be allocated are drastically constrained. Hence private property and consequent barter exchange by themselves are inadequate institutions for assuring social survivability. But impediments to survivability begin to loosen with the emergence of money. Money emerges in primitive societies as the most marketable commodity that is generally accepted by all property owners wishing to engage in exchange (Menger 1976, pp. 262–71). In other words, the most marketable commodity begins to have an exchange value in addition to its use value since transactions are conducted in common units and exchange ratios emerge denominated in common units of money. In general, monetary prices afford individuals the means necessary to "calculate" the relative advantages of alternative actions since they allow scarcity to be a quantitative reflection of the aspirations of actual and prospective property owners. With monetary exchange, the costs and uncertainty associated with exchange are greatly diminished. The "double coincidence of wants" is not a barrier to the expansion of trade opportunities. Calculation means that monetary prices came into existence allowing a more precise reckoning of the net prospective benefits associated with acts of consumption or production. Producers of goods are able to sell more items than would have been possible without the common medium of exchange. As noted above, specialization in production becomes possible such that people are principally engaged in the production of goods and services that satisfy the demands of others.

For a society to be sustainable, individuals in the society require institutions of private property and free monetary exchange within which to acquire information on what provisions for the future represent a net gain and which do not. With money prices, an individual can establish at the margin whether a deferral of present consumption (savings) is likely to yield a sufficiently great future benefit to warrant the sacrifice (Mises 1998, pp. 209). Such a reckoning is the first step in making capital possible. But the people of Easter Island had no capital.

How can a primitive island society with valuable resources have no capital? If a primitive society is limited to a barter economy without a common medium of exchange, capital as a reckoning of the net gain associated with a planned use of resources cannot exist in any rational sense. In principle, capital can only be viewed as the net market worth of a plan employing goods that are productive in attaining some desired net future monetary gain. Capital goods, as distinct from capital, are acquired by deferring immediate consumption (saving). They become capital goods by the decisions of some members of society to commit these goods to undertakings thought to yield a prospective monetary gain at sometime in the future. As such, capital is only a monetary appraisal of a plan involving the use of capital goods; it is never a collection of "capital goods" and cannot exist as a mental appraisal without monetary exchange (Mises 1998, pp. 260-64).

For the individual functioning in a barter economy without monetary exchange, the prospective gain in choosing between consumption or deferring consumption cannot be rationally calculated since market prices for capital goods do not exist.[22] Hence, without private property and monetary exchange, primitive societies confined to particular locations must remain primitive, inefficient, wasteful, and in a state of perpetual resource degradation. Without these calculative institutions, the *individual* islanders had no way of placing a marginal net worth on alternative actions necessary to replenish and maintain the resource base. In brief, the islanders would have been in a perpetual process of resource depletion because they had no rational means of maintaining capital. They were unable to maintain capital because there were no institutions that made capital possible. Peiser himself provides a case in point; he

[22]Some may doubt the importance of money in the survival of primitive societies. One may note that tribal societies survive to this day without money, as did all mankind for hundreds of thousands of years. Why could not the people of Easter Island survive without money? First, one can well appreciate the fact that the institution of monetary exchange is meaningless in the absence of rights of private property. Exchange is premised on secure ownership. Second, while it is true that tribal societies have survived for thousands of years without the use of money and no reliance on institutions of private property, these peoples have remained in a primitive, impoverished state relative to those societies having seen the evolution of these institutions. This latter point was highlighted above in the examination of Diamond's book *Guns, Germs, and Steel*. As noted above, nomadic tribes can survive without significant reliance of institutions of private property or monetary exchange. When depletion of the immediate environment occurs, members of the tribe commit resources to the process of moving to new locations. But people confined to a remote island would not have this option (Mises 1998, pp. 262 and 512).

notes that the smaller specie of tree, the *toromiro*, survived the larger *Jubaea* palm on Easter Island and that this smaller tree was able to serve many of the same purposes as the eventually extinct *Jubaea*. Yet even this tree eventually became extinct on Easter Island as the consequence of human use on an open-access basis. The underlying cause of these two extinctions is not without general relevance to sustainability. It is in this sense that Diamond's ecocide metaphor is apt but not in the way in which he supposed.

If the ecocide metaphor is to apply to the modern world, the Easter-Island experience must be assessed by contemporary standards even if some modern-day institutional adaptations were beyond the reach of that primitive society.[23] While such institutional adaptations may have been difficult for the people of Easter Island, there are some issues that need clarification and emphasis in applying the lessons of that society to the contemporary world. The Easter Island population used the forests as a common property resource even though, in a technical sense, the forest resources could have been privately owned. It is nearly axiomatic that common property resources are used intensively to the point of despoliation. Ocean fisheries are probably the most apparent modern-day example of this phenomenon at work. During earlier centuries of Easter Island settlement the trees were used as a free good. No pricing process was in place to ration use of resources to assure availability for their most highly valued uses. The inevitable consequence was despoliation and destruction of assets that may have been critical to the sustainability of the society.[24]

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[23]The tribal nature of society may well have been an overwhelming impediment to institutional adaptation. However, such adaptations have been accomplished in primitive societies such as are found in the Polynesian chain of islands in the Pacific Ocean (Ostrom 1990, p. 21). Ostrom also acknowledges that such adaptation is not inevitable.

[24]The issue of deforestation prompts skepticism concerning the importance of the forest to the health and well-being of the island societies. For example, an anonymous reviewer poses the question: "other cultures, such as the English, seem to have survived deforestation quite nicely, why couldn't the people of Easter Island have done so?" The example of England highlights the significance of institutional and geographic context as it applies to the maintenance of capital. With private property and monetary exchange, forest resources become not only a "capital good" but also part of the property owner's "calculatable" net worth. During England's economic development, the English people had the calculational benefits of both monetary exchange and private property. Decisions to remove or retain forest could be made on the basis of the net monetary gain associated with a decision to substitute one capital good for

Diamond leans toward the view that the most effective solution would have been found in more thoughtful collective governance. But collective governance would not have been an adequate substitute for private property and monetary exchange. First of all, one should acknowledge that there was no physical reason why the forest had to remain a common property resource during the period of human habitation on Easter Island. Second, it is very unlikely that a resource such as a forest could be *efficiently managed* as a capital asset within the context of collective governance. However, with private property and exchange of goods conducted with money, prices would have emerged. In the contemporary world, private, indirect (monetary) exchange would be absolutely critical in reckoning the "worth" of a forest or any other resource as a capital asset. Such a reckoning would not have been possible in the absence of exchange conducted in terms of money and it would not have been possible for the individual Easter-Islander to rationally reckon the return on efforts to plant new trees (investment). A commonly accepted medium of exchange would have been essential for these types of decisions. While the economic maturity of the planted trees would always have been reached well before physical maturity, this period of time could still have exceeded the life span of the average person on the island; hence, the benefits of planting new growth (return on investment) would have accrued to later generations–not to the planter.[25]

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another. Moreover, the English land owners, having depleted much of their forest in their efforts to maintain capital, have had the advantage of trade with other countries in obtaining consumer goods and capital goods. The Easter Islanders had neither private property nor monetary exchange and did not engage in significant trade because of the fact that the island was remote and isolated in the Polynesian chain. Hence, deforestation on Easter Island meant something quite different from deforestation in England.

[25]The time of economic maturity would be determined as that moment when the rate of market appreciation of the planted trees failed to exceed the rate of time preference of the property owner. At that moment, the trees would be "ripe" for harvesting. The large palm trees that grew on the island were Chilean White Palm (*Jubea Chilensis*) that grew very slowly (J. Dransfield et. al., 1984, pp. 750-52). The time required to reach a fruit-bearing maturity would be 40 to 60 years. Brander and Taylor concur the later generations would have reaped the benefits of newly planted trees (1998, p. 129). They observe that, for the people on Easter Island, the expected life expectancy of a person having attained the age of 5 would be less than 30 years. In making this statement, they employ life tables published in P.V. Kirch (1984, pp. 112-14). The point is that the absence of private property rights and monetary exchange would have prevented the individual from capturing the private benefits of the most highly valued use of the trees and, hence, would have markedly reduced any incentive to engage in the process of replanting new palms.

Without property rights, there would have been little incentive for the average islander to invest time and effort in planting new trees. But a market system employing monetary exchange would have allowed property owners and prospective property owners to appraise the capital worth of investment in new trees. Investment would have had a calculable market worth that could be transferred to others in a mutually beneficial transaction. Economic calculation would have assured the property owner choosing to plant new trees a net return on holding an appreciating and marketable asset. Of course the rate of appreciation would have been contingent upon the rate at which trees were used since use would affect scarcity and scarcity would have been reflected in prices of the trees. The monetary appreciation of the asset would have provided a return even though the trees may not have reached maturity during the owner's lifetime. By way of contrast, common property governance by a collective would not have been able to replicate this process.

But even in such a setting, private action could have had an effect on others that would not have been reflected in market prices. One can readily see that even if an individual or family were to have had secure private property rights in a portion of the forest, the private action of harvesting trees could have imposed external effects on others. For example, the forest provided a habitat for creatures that were part of the diet of the Easter Island population (creatures that disappeared once the forest was extinct). Other islanders would have had a strong vested interest in delaying the harvesting of privately owned trees. In the case of flightless birds, such a species could probably have been brought into private ownership meaning that the owner of a portion of the forest would have had to balance the relative return from harvesting trees and the return from selling the marketable meat of the bird. In this sense, the external effects would have been internalized. But with other migratory species of birds living in the forest, such private husbanding may not have been economical. In such cases, forest owners contemplating the harvesting of trees could have been bribed by individual members of the community to forestall harvesting to preserve the habitat. Bribes or payments of some kind would have been another means by which external effects could have been internalized.[26] But the general point here is that property rights and some manner of indirect or monetary exchange could have provided the Easter Islanders with means to have prevented or delayed deterioration of the resource base.

[26] Such a bribing process would be an example of the Coase Theorem.

IV. Summary and Concluding Comments

In these two books, *Guns, Germs, and Steel* and *Collapse*, Jared Diamond attempted to write the story of modern man with geography and the environment playing the central roles in human destiny. This paper has outlined ways in which Diamond has failed in this undertaking. Irrespective of geography and environmental circumstances, man has emerged as an acting force in the formation of society and designing institutions that assure long-term societal sustainability. One can note the emergence of institutions of private property and modern market exchange as critical and essential landmarks in societal ascent. Modern man has also been able to witness the tragic failure of societal experiments in which these centrally important institutions have been ignored or destroyed. Diamond has shown himself to be unable to appreciate or acknowledge this insight.

In neglecting free-market institutions, Diamond finds himself attributing technological innovation to random events that occur across continents rather than to the formation of property rights which he treats as a secondary or "proximate" consideration. His ignorance of recent twentieth-century history is made manifest in his treatment of what he refers to as "complex societies." He observes that complex societies, by which he means principally large agglomerations of people, require centralized organization and centralized management of resources. He cites several concerns in advancing this idea that bear on conflict resolution, decision making, economics, and space. Diamond clings to the view that violent conflict is inevitable within large aggregations of people finding themselves mutually dependent upon each other while experiencing increasing population density. Additionally, Diamond sees a need for centralization in achieving what he describes as an "efficient" distribution of goods. Here again Diamond fails to understand that one of the principal roles of private property in any civilization is to allay the need for conflict over scarce resources. Moreover, where property rights are secure and property owners are able to engage in mutually beneficial exchange, a distribution of goods is achieved most in accord with individual aspirations.

Diamond's views on what he refers to as complex societies betrays a level of ignorance of the way in which true societies are formed. For Diamond large agglomerations of people under one centralized government constitute a society. Yet this view is clearly erroneous. True societies need no centralized government to establish cohesion and unity; societies are formed quite independently of any sort of governmental organization. The bonds of social cohesion are nurtured and strengthened by mutual interdependence, division of labor, and cooperative

exchange between peoples. These activities and institutions have the power to transcend even ethnic differences that may exist within a society.

Diamond applies this erroneous perspective in examining the phenomenon of societal collapse. He tries to see their relevance to the experience of Easter Island and the saga of despoiling a centrally important forest resource to the point of extinction. Easter Island was an appropriate metaphor for the future of global sustainability but not for the reasons that Jared Diamond supposed. Diamond acknowledges that he chose to use Easter Island as a metaphor because he sees that collapse as a glaring example of the way in which a group may fail to make appropriate decisions in collectively managing a resource base for the common good. But if the Easter Island experience is to yield a lesson for the modern world, this is surely not it. The ecocide of Easter Island was the result of using resources on an open-access basis when, in fact, resources could have been owned by individual islanders. *There may well have been cultural (i.e., tribal) barriers to the emergence of private property rights but the modern world is not so constrained*. Resource degradation cannot be successfully arrested by stronger, more centrally-structured regulatory schemes of the type that Diamond seems to favor. Rather, as difficult as the task may be, the solution will only be found in efforts to more clearly define and enforce private rights of property. Centralized management of resources has an established history of failure; there can be no expectation of success in continuing to pursue a failed agenda.

Critics of Diamond's thesis discount the importance of deforestation in the fate of Easter Island choosing to attribute the societal collapse to the destructive actions of Europeans. But this counter thesis prompts skepticism. Deductive reflection suggests that ecocidal deterioration arising from unsustainable, open access resource use was a tragedy quite separate from the rapacious exploitation of Europeans.

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