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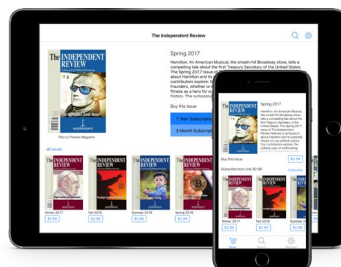
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Property Rights and Conservation

The Missing Theme of Laudato si'

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PHILIP BOOTH

The defense of private property has generally been a key principle of Catholic social teaching. In some senses, this defense reached its *zenith* in *Rerum novarum* published in 1891. Often described as the “workers’ encyclical,” this papal letter by Leo XIII also had a vigorous defense of private property grounded in natural law. In later Catholic teaching, the importance of the institution of private property has often been stressed, but it has also been qualified. Furthermore, in writing about environmental issues, not only has the importance of private property rarely been put forward as a solution to environmental problems, but it has also been hinted that private-property rights may be one of the causes of environmental problems and that limits must therefore be put on private property to prevent environmental degradation.

This line of reasoning is interesting because in modern economics it is generally thought that better definition and enforcement of property rights are an important *solution* to environmental problems.¹ Thus, despite the Catholic Church’s belief in the importance of private-property rights in general, the church seems to regard them as problematic in the very context that many modern economists see them as helpful.

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1. Coase 1960 is often thought to be an important early-modern contribution to this literature, though it is worth noting that Ronald Coase’s main point was a more specific one than the simple idea that property rights are important for environmental protection.

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This paper examines the importance of private property in Catholic teaching. It then considers the qualifications that the church has made in relation to private-property rights and their role in environmental protection. Finally, it presents some of the economic work that shows how the institution of private property is crucial for the protection of environmental resources and amenities. The paper concludes by making the case that the recent papal encyclical *Laudato si'* (Francis 2015) would have been a more rounded document if it had considered the importance of private property for the protection of the environment. In the paper—explicitly so in the later sections—private property is broadly defined to include community control of property, too. This is something that Pope Francis is likely to be sympathetic with but that the encyclical does not explore systematically.

Private Property and the Early Church Teaching

Hermann Chroust and Robert Affeldt (1951) trace the church's attitude to private property from its earliest days. They argue that early Christians were initially hostile to private property, to large degree because they believed that the Second Coming was imminent and therefore that Christians should not focus on earthly things.² As time went on, this apocalyptic view of the world changed, and Christian societies became more integrated with wider society. The result of this integration was greater acceptance of private property. However, in most cases the argument was still made that private property should be put to social—in particular charitable—use.

Despite this greater acceptance of private property, in the fourth and fifth centuries St. Athanasius and St. Basil were still very critical. The latter, for example, suggested that individuals who owned property had usurped what should be common to all (Chroust and Affeldt 1951, 166). St. Ambrose of Milan and St. Jerome also argued that before the Fall all property was held in common. Taking a similar view, St. John Chrysostom said in his eleventh homily on the Acts of the Apostles that all people should sell their possessions and deliver the receipts to the community³ and that private property was a product of the Fall.⁴

In his magisterial work on Catholic social teaching, Rodger Charles suggests, however, that the ownership of private property was widespread and that, taking the early church as a whole, the general view was favorable toward private property as long as those with riches were generous to those without (1998, esp. 42–43, 92–94).

2. Rodger Charles notes, however, that by reasserting the Ten Commandments, Christ affirmed the morality of private property (1998, 40).

3. “For at any rate this is evident, even from the facts which took place then, that by selling their possessions they did not come to be in need, but made them rich that were in need. However, let us now depict this state of things in words, and let all sell their possessions, and bring them into the common stock” (Acts IV.23, at <http://www.newadvent.org/fathers/210111.htm>).

4. As we shall see, though, the fact that private property was a product of the Fall does not mean that it is not an important and acceptable institution in a fallen world.

Thus, although views may have been divided and important figures in the church spoke out against private property (and, in particular, against riches), there was clearly some acceptance of private property in practice, even in the early church.

Beginning in the medieval period, the concept of private property became much more widely accepted among Christian thinkers, especially if it was put to good social use—an issue I return to later. As Chroust and Affeldt put it,

The ecclesiastic conception of property rights was cogently expressed by William of Auxerre, who says that the motive which induces one to acquire property is the element that determines the good or badness of the act. If a man accumulates property from the mere desire of possession, he commits a mortal sin. If, however, he does so from the practical realization that the weakness and greed of human nature demand distinct and pronounced property rights, the abolishment of which would lead to a war of all against all—then he does a good act. (1951, 176)

Furthermore, it can be reasonably argued that although private property was not necessary before the Fall, the reality of the Fall requires adaptations in sociopolitical-legal systems. Chroust and Affeldt continue: “Hence it might be said that despite the radically idealistic exhortations of the Apologists and the Church fathers, a practico-social attitude of toleration toward private property and individual wealth finally prevailed and became accepted in the social teachings of the Church” (1951, 176).

Indeed, this was an important aspect of the teaching of St. Thomas Aquinas. He developed and clarified thinking on the right to property and expressed it in a form that has, in essence, remained the mainstay of the Catholic Church’s teaching ever since. According to Chroust and Affeldt, Aquinas argues that the natural law can be used to justify the position that all property should be held in common, but this does not mean that natural law prevents persons from having possessions of their own (1951, 180). Indeed, according to Aquinas, reason and experience suggest that private property is a product of the intelligent coexistence of human persons. This was especially true in the developing urban societies. As Aquinas states in *Summa theologica* 2.2, “Community of goods is ascribed to the natural law, not that the natural law dictates that all things should be possessed in common and that nothing should be possessed as one’s own: but because the division of possessions is not according to the natural law, but rather arose from human agreement which belongs to positive law, as stated above. Hence the ownership of possessions is not contrary to the natural law, but an addition thereto devised by human reason” ([1265–74], 1969).

Aquinas and others believed that private property should be encouraged because it served important social purposes. According to Aquinas, private property has at least three important social functions (see Charles 1998, 207). First, it encourages people to work harder because they are working for what they might own—otherwise, people would shirk. Second, it ensures that affairs are conducted in a more orderly

manner—people would understand what they are responsible for rather than everything being everybody’s responsibility. And third, private property ensures peace if it is divided and its ownership understood.

The late Scholastics continued to articulate the case for private property.⁵ Indeed, Domingo de Soto (1494–1560) was explicit in defending it. He states: “[I]n a corrupted [i.e., fallen] state of nature, if men lived in common they would not live in peace, nor would the fields be fruitfully cultivated” (qtd. in Alves and Moreira 2010, 67). Here we see a relationship drawn between cultivation and caring for property and private ownership of property. As we shall see, this is something that is important in the context of the preservation of the environment.

Andre Alves and Jose Moreira elaborate on this point, noting that the position of the late Scholastics can be described in the following way: “the prime goal of material goods created by God is to allow the flourishing of human life. . . . [The late Scholastics] then followed (and significantly developed) the Thomist line of associating the justification for private property with its importance for the common good” (2010, 67). In this framework, it was generally recognized that private property led to incentives for the better use of resources.

It was argued that although private property is essential for the functioning of society, it must serve society and not be an end in itself. Thus, the extinguishing of private property through the extreme forms of socialism is not acceptable and is contrary to reason, but the existence of private property does not give human persons an untrammelled freedom not to use property for a social purpose, and the state may also own property for the good of society. The social purposes of private property can, though, be defined widely. For example, a social purpose may include housing one’s family, running a business, and so on. But wantonly destroying property would not be a social purpose, and this distinction is of relevance to debates about private ownership and the environment.

It is worth noting that there is some debate in Catholic teaching as to whether private property is a natural right or a prudent device adopted because of its social benefits. I discuss this issue briefly later. Alves and Moreira argue that the late Scholastics, like Aquinas, held the belief that “the justification for property was regarded as deriving from the promotion of the common good (and not as an absolute natural right)” (2010, 44). When it comes to the issue of the protection of the environment, it is private property’s social role that is important and that will form the basis of the subsequent discussion.

Private Property and *Rerum novarum*

In 1891, Pope Leo XIII published what can be regarded as the Catholic Church’s first modern social encyclical. In that document, *Rerum novarum*, there was a trenchant

5. For an excellent English-language introduction to the thinking of the late Scholastics, see Alves and Moreira 2010.

defense of private property. It followed many briefer and less analytical statements from the previous pontiff about the importance of property. For example, Pope Pius IX regularly mentioned the importance of private property in the context of attacks on the institution from socialism and communism.

Pope Leo came close to stating—and certainly implied—that property rights are a natural right. Such a justification would be stronger than the quasi-utilitarian argument based on the promotion of the common good in the context of the Fall generally used by theologians prior to *Rerum novarum*. Pope Leo stated, for example,

It is surely undeniable that, when a man engages in remunerative labor, the impelling reason and motive of his work is to obtain property, and thereafter to hold it as his very own. If one man hires out to another his strength or skill, he does so for the purpose of receiving in return what is necessary for the satisfaction of his needs; he therefore expressly intends to acquire a right full and real, not only to the remuneration, but also to the disposal of such remuneration, just as he pleases. Thus, if he lives sparingly, saves money, and, for greater security, invests his savings in land, the land, in such case, is only his wages under another form; and, consequently, a working man's little estate thus purchased should be as completely at his full disposal as are the wages he receives for his labor. (1891, 5)

The argument that property is a man's wages in another form is important because there has always been a very strong biblical and Catholic Church injunction against depriving a person of his justly earned wages. If justly acquired property simply amounts to wages in another form, the entitlement to property is much stronger than if such entitlement is justified on the prudential grounds of promoting the common good. Indeed, *Rerum novarum* went on to say, invoking natural rights again, "For, every man has by nature the right to possess property as his own" (6). However, it should be noted that just because all have the right to possess property, it does not mean that all property should be privately owned.

Continuing the theme of natural rights, but also linking private property, natural rights, and the human person's relationship with the environment, Pope Leo wrote:

Here, again, we have further proof that private ownership is in accordance with the law of nature. Truly, that which is required for the preservation of life, and for life's well-being, is produced in great abundance from the soil, but not until man has brought it into cultivation and expended upon it his solicitude and skill. Now, when man thus turns the activity of his mind and the strength of his body toward procuring the fruits of nature, by such act he makes his own that portion of nature's field which he cultivates—that portion on which he leaves, as it were, the impress of his

personality; and it cannot but be just that he should possess that portion as his very own, and have a right to hold it without any one being justified in violating that right. (8)

In paragraph 15, Pope Leo went further and described private-property rights as “inviolable.”

A hint of the relevance of private property for the environment comes in paragraph 47: “Men always work harder and more readily when they work on that which belongs to them; nay, they learn to love the very soil that yields in response to the labor of their hands, not only food to eat, but an abundance of good things for themselves and those that are dear to them.” The suggestion is that they may love and look after better what is owned by them.

Thus, in *Rerum novarum* we have a strong defense of private property and possibly a widening of its justification. Catholic teaching in later social encyclicals have used arguments, certainly in terms of their emphasis, that are more similar to those of Thomas Aquinas and the late Scholastics than to those in *Rerum novarum*.

Private Property and Catholic Social Teaching in the Modern Era

John Paul II took up the theme of private property in *Centesimus annus* (1991), an encyclical written to celebrate the one-hundredth anniversary of *Rerum novarum*. Referring back to *Rerum novarum*, John Paul II restated the importance of that encyclical for modern times. Then he made an important qualification when it comes to the subject of private property. He stressed that private ownership must be subordinated to the social function of property and to the principle of the universal destination of goods. In this sense, *Centesimus annus* reiterated the teaching of the early church that if private ownership does not fulfill a social function in a particular context, then it should be questioned. Or, as the same writer put it four years earlier in *Sollicitudo rei socialis* (1987), referring also to the documents of Vatican II, “Private property, in fact, is under a ‘social mortgage,’ which means that it has an intrinsically social function” (42).

Indeed, in *Centesimus annus* John Paul specifically raised what he described as the “ecological question” in relation to private property (1987, 37). He suggested that “[i]t is the task of the State to provide for the defense and preservation of common goods such as the natural and human environments, which cannot be safeguarded simply by market forces” (40). In doing so, he called into question the ability of private ownership to protect the environment. This is a key statement in Catholic thinking that has been at the root of criticism of private property in the context of protecting the environment.

In *Laudato si'* (2015), Pope Francis repeats this argument without developing the reasoning further. This is something that could be regarded as an omission in a

document that is wholly about ecological issues and was published nearly twenty-five years after *Centesimus annus*. In the intervening time, a huge amount of academic work had been undertaken on the relationship between the environment and property rights. Between the publication of *Centesimus annus* and *Laudato si'*, the Nobel Prize in Economics was awarded twice—in 1991 to Ronald Coase and in 2009 to Elinor Ostrom—at least in part for work relating to property rights, social costs, and the environment. Given the importance of the subject and the importance of private property in the church's teaching, *Laudato si'* would have made a bigger contribution to the church's social teaching if it considered property rights more fully.

The question of private property is raised in chapter 2, section 6, paragraphs 93–95, of *Laudato si'* (Francis 2015). Pope Francis says that the Christian tradition has never recognized property rights as absolute or inviolable⁶ and that they must be subordinated to a social purpose. This is merely reiterating previous teaching, though perhaps with a more negative emphasis. Then Pope Francis says, “The natural environment is a collective good, the patrimony of all humanity and the responsibility of everyone. If we make something our own, it is only to administer it for the good of all” (95).

This statement implicitly raises two very important questions, though the document simply moves on to another section and leaves them unaddressed. The first question is whether private-property rights are the best way to deal with the protection of the natural environment despite the implicit skepticism of recent Catholic social teaching in this area. The argument offered by Aquinas, the late Scholastics, and Catholic social teaching more generally is that private ownership helps deliver the social mortgage—in general, if not always. Might that be the case with the environment, too? Second, there is the question of whether there are particular forms of property rights that do not necessarily involve individualized ownership and thus might be especially effective in protecting environmental goods.

Property Rights and Environmental Protection

The “Tragedy of the Commons”

In understanding the importance of property rights for environmental protection, it is instructive first to consider the problems caused by the absence of private property. The much-cited work on this question is Garrett Hardin's essay “The Tragedy of the Commons” (1968).

Hardin referred back to a pamphlet written in 1833 by William Forster Lloyd that described a situation whereby common land was open to grazing by all. The land would be overgrazed because a person would get the benefit of putting additional

6. As it happens, Pope Leo XIII did specifically use the word *inviolable*, but it does not tend to appear in Catholic teaching elsewhere.

cattle on the land without the cost that arises from overgrazing, which would be shared by all users. This is even clearer with fish stocks. A trawler taking extra tuna from the ocean will benefit from doing so, but the—perhaps hugely greater—cost of taking the extra tuna in terms of lower levels of breeding will be shared among all trawler owners. The latter group includes not just those who own trawlers today but also those who will own them in the distant future.

As it happens, Hardin's article, which is regularly cited in relation to environmental protection and the importance of property rights, was really about another topic entirely. It proposed compulsory population control, and in this and other ways it is completely at odds with Catholic social teaching.⁷ Hardin was also not specifically proposing private ownership as a way of dealing with the tragedy of the commons; he was simply using the example of the environmental commons as an entrée into his argument for controlling what he described as "human breeding." However, it is the lesson of the tragedy of the commons that is perhaps most widely repeated.

Government Control or Private Ownership?

The point of the tragedy of the commons is that it is the nonexistence of either property rights or the regulation of the use of an environmental resource that is said to be disastrous for environmental outcomes. This point cannot be reasonably disputed. However, the commons problem can be solved several ways: by state ownership, regulation, and control; by community ownership of one form or another; or by private ownership. It would appear that recent Catholic teaching has suggested, in the rather brief treatment of the issue, that some form of government control is necessary. However, if government control is not the only approach to protecting the environment, given other aspects of Catholic social teaching on property rights, it would seem that the church should favor private ownership—or at least welcome the possibility of private ownership. Certainly, the church should prudently consider the alternatives.

Private Property and the Environment

There is, indeed, much evidence that private property can play an important part in protecting the environment, just as it has an important social function in other contexts. Indeed, the absence of private property is often disastrous for environmental outcomes.

A stark example of how the lack of private-property rights can have an impact on the environment is given by the dramatic difference between forest cover on the two

7. It is interesting that Hardin's essay seems to have become the "go to" reference on the environmental commons, especially by supporters of private property. However, Hardin did not originate the idea of the commons, which had come at least 130 years earlier, and his essay was on a subject that would be problematical not just to Catholics but to any supporters of a free economy: Hardin discussed coercive control of what he described as "human breeding" ("freedom to breed will bring ruin to all" [1968, 1248]) and the rejection of the Universal Declaration of Human Rights.

sides of the border between Haiti and the Dominican Republic. There is a distinct difference between the ecology of the two areas. As the United Nations puts it, “Environmental degradation in the worst affected parts of the Haitian border zone is almost completely irreversible, due to a near total loss of vegetation cover and productive topsoil across wide areas” (United Nations Environment Program 2013, 6). The Haitian side of the border is subject to almost complete loss of environmental resources. The same United Nations document reports that Haiti has 4 percent forest cover in contrast to 41 percent in the Dominican Republic (20, table 1).

Private ownership and the institutions that surround it provide the incentives for sustainability. Under private ownership, the value of a piece of land at any time will reflect the present value of all that can be yielded from the land in the indefinite future. The costs of damaging land in private ownership is huge because those costs can relate to all possible lost future production and not just to lost production over a year or two. Furthermore, land will not be nurtured and people will not invest in the land if they believe that it is going to be polluted or plundered by others. Private-property rights will often (though not always) need to be protected by good governance, good courts systems, and so on that can be provided by governments (see Catechism 2449, quoting from *Centesimus annus* [John Paul II 1991]). However, the absence of private-property rights properly enforced—not their presence—can be the problem when it comes to environmental protection. As Sebastien Marchand puts it, “[I]nstitutions such as property rights influence the importance of opportunity costs generated by deforestation. Therefore creating appropriate institutions allows for the reduction of uncertainty in exchange and results in reduced transaction and production costs of long-term activities such as sustainable forestry. The poor quality of institutions in developing countries may thus constitute a major impediment for forest conservation” (2016, 323).

In effect, the Haitian side of the border is a huge, ungoverned, and unowned commons. Haiti has been for much of the recent past a failed state (ranked eleventh in the *Foreign Policy* Fragile States Index [Fund for Peace 2015]) and has a terrible record of corruption (175 out of 182 in the Transparency International Corruption Perception Index [United Nations Environment Program 2013, 19, table 1]). In relation to Haiti, the 2016 Heritage Index of Economic Freedom states that “clear titles to property are virtually non-existent” (“Haiti” 2016). By no means is the Dominican Republic perfect, but it ranks about halfway up the latter index when it comes to the protection of property rights.

Haiti and the Dominican Republic are a particularly interesting contrast because of their proximity to each other. However, there is abundant evidence that the lessons from this example can be generalized. For example, Claudio Araujo and his colleagues argue that “insecure property rights in land drive deforestation in the Brazilian Amazon” (2009, 2467). The authors demonstrate a causal relationship that arises through several channels. Their results are strong and lead to the conclusion that an exogenous escalation in property-rights insecurity brings a significant increase in the rate of deforestation.

Interestingly, another paper that draws the same conclusions relates the problem of the lack of secure property rights to past imperial activity. David Novoa concludes, “[S]tronger property rights encourage less deforestation controlling for a number of variables” (2007, 1). He also argues that former British colonies have significantly better deforestation records (i.e., less deforestation) than former Spanish colonies. He believes that this result may have arisen because different colonial regimes had a different impact on the long-term security of property rights. Novoa argues that British regimes established local ownership of the forest so that local people (pioneers) had direct control over forest resources. “Thus, the British Colonial system provided incentives for joint maximization of the net present value of timber and nontimber forest products. In addition, the system promoted the internalization of external benefits that did not accrue to the owner of the land such as conservation of the soil or prevention of floods. Therefore, forest land use value tended to be comparatively higher than [in] a system of ill-defined property rights, consequently encouraging less deforestation” (3). In contrast, in Spanish colonies “[t]imber and most valuable nontimber forest products were property of the Spanish Crown by royal decree. . . . Therefore, the Spanish Colonial system intended to extract the main forest resources without building any kind of institutional framework for joint maximization of the total value of the forested land. . . . After colonial independence, government took over the ownership of the resources, however the control was in [the] hands of a powerful elite who was giving land concessions to the military” (3).

To make matters worse, because trees are often government-owned resources on private land, there is no incentive for the private owners of the land to manage them, and the owners take every opportunity possible to clear the forest so that the land can be used for private productive purposes. In this situation, the trees are utterly without value to the owners and cannot be managed sustainably.

This problem of a lack of well-defined and enforced property rights leading to environmental degradation is repeated in relation to a wide range of environmental resources in many different circumstances.⁸ It is exactly the sort of problem that ought to have been of interest to Catholic theologians and philosophers who gave these issues serious thought.

With respect to the statement in *Laudato si'* that “[t]he natural environment is a collective good, the patrimony of all humanity and the responsibility of everyone. If we make something our own, it is only to administer it for the good of all” (Francis 2015, 95), the general position held by Aquinas, the late Scholastics, and the early social encyclicals would be that by allowing people to make something their own, that something is more likely to be administered for the good of all. This principle is so crucial in relation to environmental goods and so widely discussed

8. There are many other examples of the role of property rights in conservation, some of which can be found at the Property and Environment Research Center website, <http://www.perc.org/>.

among economists examining environmental problems that it should have been an important subject of discussion in *Laudato si'*.

Wider Issues

Many other aspects of the relationship between property rights and the environment are important and, though not necessarily appropriate for discussion within an encyclical, might form a research agenda for Catholic scholars going forward. For example, where there are well-defined owners of an environmental resource in a regime characterized by good governance and juridical systems, it is less likely that individuals or corporations will damage property they do not own. In a regime of well-protected private-property rights, damage to one's neighbor's property will lead to prosecution or a requirement for compensation. This will not be the case where environmental resources are effectively unowned, as indicated by the rain forest examples given earlier.

There are broader ways, too, in which a regime of strong private rights in the context of good governance can help protect the environment. First, a country with good governance, effective rule of law, and enforcement of private property in general is more likely to be able to protect effectively those environmental goods where limits do need to be put on commercial exploitation for the purposes of environmental protection. A state that performs well the task of enforcing property rights is more likely to be able to regulate the use of private property if that is deemed necessary because such regulation requires uncorrupt and efficient legal systems, law enforcement, and administration.

The absence of these aspects of good governance is probably the biggest threat to those environmental resources that cannot be commercially exploited and that are regulated to promote conservation.⁹ For example, it has been estimated that “almost half (49 percent) of total tropical deforestation between 2000 and 2012 was due to illegal conversion for commercial agriculture” (Lawson 2014, 2). Further analysis of Brazil by Sam Lawson suggests that such illegal forest destruction included deforestation in areas where those involved did not have land title as well as the flouting of regulations designed to limit deforestation (2014, 27). This example also illustrates the difficulty of resorting to government control of property in the name of environmental protection when private ownership is deemed to have failed. If the legal systems for the protection and regulation of private property are not effective, it is highly unlikely that the state will be able to manage resources effectively free from problems caused, for example, by corruption.

It is also worth noting that economies broadly based on the principles of economic freedom and private property are more likely to prosper. And as countries

9. I am making no judgement as to whether such regulation is either a good thing or necessary. The point is that those who believe that it is a good thing or necessary would see their objectives better achieved in a political context where these aspects of good governance are present.

become more prosperous, they tend not only to adopt technologies that are less resource intensive per unit of gross domestic product (GDP) but also to value environmental goods more. When a community has a choice between eating and deforestation, eating wins. In more technical terms, a clean environment is an income elastic good.¹⁰ One example of this effect relates to the emission of pollutants. In the United States, emissions, as measured by an index of six major air pollutants, have fallen by 65 percent per head since 1980 (U.S. Environmental Protection Agency 2016). Indeed, no nation with an annual GDP per capita of more than \$4,600 per annum had net forest loss in the period 2000–2005 (see Kauppi et al. 2006). Though there is still net deforestation taking place in the world as a whole, the annual rate has more than halved to 0.08 percent in 2010–2015 from 0.18 percent in the early 1990s (United Nations Food and Agriculture Organization 2015).¹¹

Quasi-Property Rights

There may be practical reasons why it is difficult to develop property rights in environmental resources in the classical sense of an individual, group, or corporate organization having the right of exclusion in relation to the use of property. Problems can sometimes be dealt with through more informal property structures (as discussed later). However, in some cases, some of the benefits of property rights can be obtained by using structures that mimic the features of private property.

For example, quasi-property rights such as tradable quotas have been successful in marine preservation. It is not the purpose of social encyclicals to answer all problems pertaining to political economy. However, there is a clear a priori case for suggesting that the institution of private property—directly and indirectly—plays an important role in environmental protection and that there might be a role for the state in encouraging the development of quasi-property rights that are then traded in a formal framework.¹²

One field where such a tradable-property-rights approach has been used is fisheries. Christopher Costello and his colleagues (2016) suggest that various rights-based approaches to fishery management can have a substantial and rapid beneficial

10. The phenomenon of environmental outcomes first deteriorating and then improving with income is described by what is often called an “environmental Kuznets curve.” This idea posits that as incomes rise from absolute poverty levels, environmental damage is likely to increase, but after some higher-income level environmental damage will decrease. The idea does not necessarily apply to all environmental goods. For example, there isn’t a clear a priori reason why it should apply where one country is imposing external costs on another country (such as in the case of carbon emissions). However, here we are talking about environmental resources that can be related to property, such as fisheries and forests.

11. Allowing for the effect of compounding, a 0.08 percent rate of deforestation would lead to a loss of one-third of forest cover in about five hundred years.

12. *Laudato si’*³ does mention tradable quotas in the field of carbon emissions and strongly rejects them. If the drafters had looked more closely at such mechanisms, they might have noted the mechanisms’ success in conserving resources and in ensuring that environmental resources are put to their most efficient uses.

effect on fish stocks. Such systems can also reduce conflict by aligning the interests of trawler owners and those who set the fishing quotas. For example, if trawler owners are given a percentage share of the allowable catch in perpetuity, they have an incentive to maximize the long-term sustainability of the fishery in order to maximize the value of their tradable quota. Under many other systems, the trawler owners simply have an incentive to extract as many fish from the sea as soon as possible. Hannes Gissurarson, writing about the Icelandic system of fishing quotas, which effectively divides up property rights in the total fishing catch to trawler owners in perpetuity, argues: “In Iceland, owners of fishing vessels now fully support a cautious setting of TACs [total allowable catches] in different species. They have become ardent conservationists. . . . [T]he private interests of individual fishermen coincide with the public interest” (2015, 70).

Neither Government nor Market: Elinor Ostrom

Elinor Ostrom won her Nobel Prize in economics in 2009 for demonstrating “how common property can be successfully managed by user associations and that economic analysis can shed light on most forms of social organization” (“Elinor Ostrom” 2016). Given that Ostrom’s work focuses on natural resources, that the prize committee said that “[h]er research had great impact amongst political scientists and economists” (“Elinor Ostrom” 2016), and especially that there are many similarities between her way of thinking and some important strands of Catholic social teaching, it is perhaps surprising that some of her ideas are not reflected in *Laudato si’*.¹³

Despite the importance of private-property rights in dealing with environmental problems, not all such problems can be solved by the individualization of property rights.¹⁴ Property rights can be much more complex—even when privately held—than the simple freehold ownership that is often common in Western societies,¹⁵ and the regulation and enforcement of such property rights can take many forms.

Ostrom’s thesis is simple. Communities can from the bottom up develop methods of controlling the consumption of environmental resources—fish and forests in particular—methods that are remarkably stable and effective. They can develop their own systems of enforcement, and the main role of government is to support those systems and not to take them over.

13. Nathan Schneider (2015) quotes Stefano Zamagni (who was close to the process that led to the development of Pope Benedict XVI’s social encyclical *Caritas in veritate* [2009]) as reporting that Ostrom’s work is on the “reading list” of the Pontifical Academy of Social Sciences.

14. I do not have space to explain why this might not be the case. However, tradition, weak institutions, and the nature of particular environmental problems might be reasons.

15. Even in Western societies, of course, more complex ownership arrangements can develop, and they often develop specifically to deal with problems of externalities relating to local aspects of the environment—for example, restrictive covenants on housing estates or restrictions on the use of shops within shopping centers. However, these arrangements tend to be laid down in formal legal agreements, which is not the case with many of the arrangements Ostrom discusses.

Perhaps the starting point for thinking about Ostrom's work in the context of Catholic social teaching is the principle of subsidiarity. This principle was defined by Pius XI in *Quadragesimo anno* in 1931.¹⁶ That encyclical stated, "[I]t is an injustice and at the same time a grave evil and disturbance of right order to assign to a greater and higher association what lesser and subordinate organizations can do" (79). The principle of subsidiarity does not suggest that there is no role for higher organizations (such as the state), but it does propose that their role should be limited. Specifically, it proposes that the state should aid other organizations in society in their function of promoting the common good. The principle of subsidiarity is important for many reasons, not least because the socialization that comes from people cooperating together itself promotes the virtues. This process can be undermined by unnecessary top-down intervention by the government, which instead should support rather than take initiative from the family and institutions of society.¹⁷

Ostrom defines a particular type of resource as a "common-pool resource" (Ostrom and Ostrom 1977). Such a resource is reducible in consumption in the same way that a purely private good is reducible, and, as such, a common-pool resource is rivalrous in consumption (that is, if one person consumes the resource, it is not available for another person). However, as with what economists describe as a pure public good, it is difficult to exclude people from consuming a common-pool resource.¹⁸

Ostrom cites forests, fisheries, and the benefits of a clean atmosphere as common-pool resources. These are precisely the environmental resources about which Catholic social teaching has shown great concern and that are discussed in *Laudato si'*.

Ostrom found that certain design features of systems are important for the sustainability of a natural resource (discussed in Ostrom 2009, 422). Features especially relevant to Catholic social teaching are

- *There should be clear and locally understood boundaries between legitimate users and nonusers.* This feature clearly implies some kind of private-property rights (at least rights of exclusion) even if those rights are not individualized.
- *There should be congruence with local social and environmental conditions.* This feature is strongly in accord with the principle of subsidiarity.
- *The rights of local users to make their own rules are recognized by the government.* Again, this feature is a manifestation of the principle of subsidiarity. The role of the government is to facilitate users in developing and enforcing the rules rather than to take over that function from the people.

16. Though the word *subsidiarity* is not used in that encyclical.

17. See *Catechism of the Catholic Church* 1994, paragraphs 1882 and 1883.

18. Ostrom's addition of the common-pool resource to the range of forms of goods leads to four categories in the economist's lexicon: a common-pool resource is reducible but not excludable; a club good (see Buchanan 1965) is excludable but not reducible in consumption; a public good is both not reducible in consumption and nonexcludable; finally, a private good is both excludable and reducible.

- *When a common-pool resource is closely connected to a larger social-ecological system, governance activities are organized in multiple nested layers.* Ostrom calls this feature “polycentricity.” In many senses, this idea might be closer to the Calvinist principle of “sphere sovereignty,” but it is another expression of the principle of subsidiarity whereby, as Pius XI wrote,

Just as it is gravely wrong to take from individuals what they can accomplish by their own initiative and industry and give it to the community, so also it is an injustice and at the same time a grave evil and disturbance of right order to assign to a greater and higher association what lesser and subordinate organizations can do. For every social activity ought of its very nature to furnish help to the members of the body social, and never destroy and absorb them. . . . Thereby the State will more freely, powerfully, and effectively do all those things that belong to it alone because it alone can do them. . . . Therefore, those in power should be sure that the more perfectly a graduated order is kept among the various associations, in observance of the principle of “subsidiary function,” the stronger social authority and effectiveness will be the happier and more prosperous the condition of the State. (1931, 78–80)

In other words, if we think of the main role of the state in Ostrom’s framework as being to aid the community in managing the resource, this role is a very clear aspect of the principle of subsidiarity.

Ostrom gives examples of how such stratified systems work (2012, 80–81). She points out that textbook solutions to overfishing normally propose individual transferable quotas. These quotas might work in some circumstances (see the earlier discussion). But in other circumstances enforcement can be difficult. In the community-managed systems proposed by Ostrom, methods of exclusion from the resource are developed within the community itself. These methods might include limitations on the time boats can fish or limitations on the equipment they can use. These mechanisms are developed by the community itself so that “ownership” of the resource is, in effect, a qualified and shared right to fish, but monitoring and enforcement might be undertaken at a different level.¹⁹ Also, information about the sustainability of the resource might be provided by a different body to help the community make decisions about the use of the resource. Higher levels of government can also provide mechanisms for dispute resolution (for example, through court systems).

Wai-Fung Lam (1998) describes how such polycentric systems might work in practice in the case of water use. He found that irrigation systems governed by the

19. However, methods of enforcement can often be quite informal—for instance, the general membership may shun a member of the community who has transgressed.

farmers themselves perform significantly better in terms of both agricultural productivity and environmental outcomes. In the farmer-governed systems, farmers communicate with one another at annual meetings and informally on a regular basis, develop their own agreements, establish the positions of monitors, and sanction those who do not conform to their own rules. He found that although farmer-governed systems do vary in performance, few perform as poorly as government systems. The farmers have a common interest in promoting conservation of water resources and are arguably in the best position to manage the water resource. If the water were an unowned and unmanaged resource, it would be overused. If it were managed by the government, there would be no strong incentive for the government to manage it sustainably, or the government may simply lack the capacity to manage it even if it has the will to do so.

As has been noted, the support within Catholic social teaching for the principle of private property has generally been based on prudence. Given our human nature, private property is the best way to ensure economic harmony and prosperity. Researchers have provided much evidence to suggest that the form of community control proposed by Ostrom is successful at maintaining environmental resources in a range of situations—especially in poor countries. One example she provides is that of forests, which are especially important in both the promotion of biodiversity and as carbon sinks. They should therefore have been especially interesting to those involved in drafting *Laudato si'*.

Ostrom cites a great deal of evidence that local monitoring of forests tends to lead to better outcomes. Furthermore, the centralization of the control of forests within government can lead to the deforestation of stable forests. Ostrom concludes: “[I]t is not the general type of forest governance that is crucial in explaining forest conditions; rather, it is how a particular governance arrangement fits the local ecology, how specific rules are developed and adapted over time, and whether users consider the system to be legitimate and equitable” (2009, 429). This, again, is an important expression of the principle of subsidiarity: the key principle is not the absence of or presence of government but the fact that the government is operating in a way that supports the community’s initiative rather than supplanting it.

Ostrom is clear that the social context in which environmental resources are managed must run with the grain of self-interest. As such, a system will be more successful where individuals know that their actions are likely to make a difference to the outcome, from which they will benefit along with the wider community. Certainly, there is nothing in Catholic social teaching against social institutions running with the grain of benign forms of self-interest, and, indeed, Ostrom here seems to echo *Centesimus annus*, which states: “The social order will be all the more stable, the more it takes this fact into account and does not place in opposition personal interest and the interests of society as a whole, but rather seeks ways to bring them into fruitful harmony. In fact, where self-interest is violently suppressed, it is replaced by a burdensome system of bureaucratic control which dries up the well-springs of initiative and creativity” (John Paul II 1991, 25).

Ostrom ends her Nobel lecture by saying: “Extensive empirical research leads me to argue that instead [of designing institutions that force individuals to achieve better outcomes], a core goal of public policy should be to facilitate the development of institutions that bring out the best in humans” (2009, 435–36). In many ways, this summary of Elinor Ostrom’s thinking accords with the principle of subsidiarity and with the thinking of Thomas Aquinas. Not only should action take place at the lowest level possible, but action by higher levels of government should also *support* rather than displace action by lower levels in society. Pope Benedict XVI expressed this point especially well in *Deus caritas est*: “We do not need a State which regulates and controls everything, but a State which, in accordance with the principle of subsidiarity, generously acknowledges and supports initiatives arising from the different social forces and combines spontaneity with closeness to those in need” (2005, 28). Pope Benedict was specifically referring to action in the field of welfare here, but the principle applies with equal weight to community action to develop structures to preserve natural resources.

Conclusion

The Catholic Church has generally promoted the principle of private property. Private property has sometimes been regarded as a natural right, and the church’s attacks on socialism’s undermining of property in the nineteenth century were particularly strong. At the very least, the church has regarded private property as socially useful in a fallen world, though recent social encyclicals have suggested that it might be reasonable to put constraints on private ownership to promote environmental aims.

Pope Francis’s recent encyclical on environmental matters, *Laudato si’*, repeats such qualifications of the church’s support for private property. However, between the publication of *Sollicitudo rei socialis* in 1987, which *Laudato si’* quotes on private property and the environment, and the publication of *Laudato si’* itself in 2015, a huge amount of work has demonstrated the importance of private property for the environment.

Private property can promote environmental conservation in a number of direct and indirect ways. The environmental record of countries without a good record of protecting the institution of private property is lamentable, and this relationship applies across a wide range of ecologies.

It may sometimes be the case that some kind of government regulation is important for environmental conservation. However, even this is easier to achieve in a country that has good governance combined with well-defined and well-protected property rights.

Pope Francis could have used *Laudato si’* to update and develop the church’s teaching on private property and, in particular, to explain that the institution in various forms can be important for environmental conservation.

The work of Nobel laureate Elinor Ostrom is especially pertinent. In many respects, it rests on similar premises to Catholic social teaching. Essentially empirical, her work shows indirectly that the basic pillars of Catholic social teaching lead to effective results in practice and empower communities in a way consistent with a Catholic view of integral human development. *Laudato si'* would have been greatly enriched by including Ostrom's ideas. The absence of these ideas and the lack of a considered and positive discussion of the role that private property plays in the protection of our natural ecology are regrettable omissions. The church has missed an opportunity to enable its faithful to contribute in a positive way to a debate with long-term consequences for the environment and for social policy. Because of its long tradition of concern for the environment and for poor communities and its interest in the right to private property, the church should contribute to that debate in the future.

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