

RENEWABILITY AND LAND-ETHIC: THE PROTO-ECOLOGICAL ETHICS OF *RERUM NOVARUM*

Edmund Lazzari ♦

Abstract

Pope Leo XIII's encyclical *Rerum Novarum* speaks at length about capital and labor, but also contains a rich theology of human interaction with the land. Leo's theology goes far beyond a mere justification of private property; its reading of the order of nature as Providentially-instituted to satisfy perpetual human need imposes obligations of sustainable use of natural resources incoherently present in the very constitution of humanity. This paper expounds Leo's balance of natural resources, divine Providence, human needs, human vocations, and the moral imperative of renewable land use in *Rerum Novarum*. It periodically suggests how Leo's principles, while anthropocentric and theonomic, can be applied by contemporary theologians grappling with contemporary ecological crises. This exposition of Leo's thought shows that a proto-ecological theology is present in the very earliest intervention in the commonly-accepted canon of Catholic Social Teaching documents. As such, *Rerum Novarum* can be read as an ecological resource for Catholic moral theologians, not merely an economic resource. Leo's account also shows that human interaction with the earth was an integral aspect of Catholic Social Teaching from the very beginning.

♦ **Edmund Lazzari**, is currently a PhD student in systematic theology and ethics at Marquette University. A former Basselin Fellow, he holds bachelor and licentiate degrees in philosophy from the Catholic University of America, a bachelor's degree in music from St Bonaventure University, and a master's in theology with a concentration in Old Testament studies from St Joseph's Seminary (Dunwoodie). He has taught philosophy at Prince George's Community College, Mount Saint Mary's University, and the Massachusetts Institute of Technology. His publications in the Catholic ethical tradition, liturgical theology, medieval theology, and speculative theology have appeared in journals such as *Antiphon* and *New Blackfriars*. He is the author of *Why Nature Matters* (New Priory Press, forthcoming). Email: edmund.lazzari@marquette.edu

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Pope Leo XIII's *Rerum Novarum* is classically held as the first encyclical in the tradition of Catholic Social Teaching, of which *Laudato Si'* is a celebrated member.¹ While some have remarked upon Leo's call for widespread land ownership and Leo's natural law argument justifying private property, Leo's deliberate connection of human existence and the land itself has largely escaped scholarly notice. Though brief, Leo articulates a philosophical and theological anthropology which provides a theological foundation for later magisterial statements on the environment, including *Laudato Si'*. Leo's proto-ecological theology establishes a view of natural resources that is at once anthropocentric and still includes a rich network of interrelation between human beings, the land, and divine Providence. This balance of factors and Leo's rich anthropology provide a fruitful framework from which contemporary theologians can reflect upon the abuse of natural resources which lead to human-induced climate change. Through an exploration of Leo's philosophical and theological statements and presuppositions, this paper will outline some fundamental principles in Leo's proto-ecological ethics, in particular, the anthropological and theological foundations of Leo's principles of land use.

Animals and the Human Difference

Leo's philosophy of animals begins his treatment on human-environmental relations. Focusing mainly on the psychology of non-human animals, Leo states that it is purely instinct which motivates animals, keeps them on alert, and keeps them developing in manners suitable to their species.² Two of these instincts in particular are of major importance for all animal action: self-preservation and the propagation of the species. These instincts set the goals for all animal action and, because of the Aristotelian dictum that "what is first in intention is last in execution," play a formative role in any understanding of animal action. Because animals are motivated solely by instinct, Leo teaches that the psychology of non-human animals is limited to considering what is immediately in the scope of animal sensations and the immediate activity at hand.³ These

¹Pope Leo XII, *On Capital and Labor (Rerum Novarum)*, Papal Archive, The Holy See. 15 May 1891. http://www.vatican.va/content/leo-xiii/en/encyclicals/documents/hf_l-xiii_enc_15051891_rerum-novarum.html. Henceforth, RN.

²RN, 6.

³RN, 6.

activities are all driven by the instincts of self- and species preservation. The limitation of the psychological scope of animal life is such that anything which reaches the psychological awareness of an animal will be put to immediate use in the animal's quest either for self-preservation, reproduction, or the rearing of offspring.

This evaluation of animal psychology has its foundation in the philosophy of St Thomas Aquinas. St Thomas stated that there were two major sets of inclinations shared between human beings and non-rational animal life, corresponding to Leo's overview of animal instincts. In fact, St Thomas states that the inclination for self-preservation is shared even with nonhuman animals.⁴ The propagation and education of offspring is the other inclination St Thomas states is shared by animals and humans. Obviously, Leo and Thomas Aquinas would hold that the way in which human beings pursue the good of procreation and fostering of offspring would be very different than the way in which animals pursue it, but the commonality is an important aspect of the embodied and animal aspect of human nature. *Rerum Novarum's* emphasis on the instinctual nature of both animal and human life implies a reliance on the nature of animals and the nature of human beings to keep balance with each other and with natural resources points to a proto-ecology.

Agriculture and the Land as Resource

The difference that human reason makes to animal life is decisive and of much longer-ranging consequences for the distribution of resources, especially natural resources. The first anthropological distinction Leo makes is that reason allows human beings to work beyond the immediate scope of their senses or their contemporary environment to make decisions about the future. Crucially, this ability to see farther than the immediate present has given rise to the ability of human beings (unique among the animals) to develop reliable agriculture. Being able to tell, not just that the seasons change, but applying reason to the observations of seeds and crops to plant those which will bear fruit at different times of the year is something that seems to be not only unique to human beings, but also the foundation of all human civilization. Astronomical observations and historical records are only preserved in writing from human civilizations which had developed agriculture.

This ability to plan for the future and to organize one's own actions for it is coupled with another key anthropological observation.

⁴ST I-II Q. 94 art. 2c.

Human beings can plan for their future needs because, “Man’s needs do not die out, but forever recur; although satisfied today, they demand fresh supplies for tomorrow.”⁵ This observation has wide-ranging circumstances in Leo’s overview, affecting property rights, vocational structure, and humanity’s relationship to nature. Since the world is governed by divine Providence (which humanity is able to partially discern), for every natural need, there must be a natural solution.⁶ This medieval principle is also quite a statement of confidence in the ability of an ecosystem to maintain a natural balance, interestingly consonant with principles of modern ecology.⁷ Since humanity has the natural need for more food, at the very least, nature, then, must have already provided a means by which humanity is to be fed. What nature has provided for the other animals, nature must provide for this distinctive animal: humanity.

This context of nature providing because of divine Providence leads Leo to conclude that nature must have provided for human beings. What has nature provided? Leo states that the sole resource from which human beings could draw renewable provision for their never ending needs “he finds solely in the earth and its fruits.”⁸ This source is “is stable and remaining always with him, from which he might look to draw continual supplies.”⁹ The renewable resources of the land, particularly in agriculture (as Leo will further elaborate), are the response to the needs of human nature which Providence has provided. As there is a balance between the provisions given to the animals in an immediate way, so there is a natural balance between the enormous and (to Leo) inexhaustible resources of the land and that of the continually-recurring human need. This balance, however, takes into account the kind of animal that a human being is: a rational one who can plan ahead.

Echoing the Lockean sentiment about the use of the land, Leo states that it is the labour of the farmers that make the land most fruitful. “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.”¹⁰ While intended as a statement about the

⁵RN, 7.

⁶RN, 7.

⁷See Simon Levin and Stephen Carpenter, *The Princeton Guide to Ecology*, Princeton, NJ: Princeton University Press, 2012, 790.

⁸RN, 7.

⁹RN, 7.

¹⁰RN, 9.

foundation of property, this way of proceeding resolves a possible tension and has an ethical application. Nature does not provide for human beings in the same way that it does for other animals, though the correspondence to needs is the same. Providence, respecting human nature's rationality, planned such that the land will yield appropriate fruit for humanity precisely in response to its rational planning and tilling of it.

A Metaethical Question

Does this mean that humanity has an absolute right to dispose of the land however it sees fit? Or does it mean that Leo believes that there is no possibility of human beings overusing natural resources beyond the point at which they are renewable? These considerations bring us to a central metaethical question in ecological theology. Celia Deane-Drummond finds intellectual difficulties with a similar "land-ethic," which can serve to illuminate Leo's moral analysis.

The most important difficulty Deane-Drummond points out is that an ethic based on the land can succumb to the naturalistic fallacy of Hume and G. E. Moore in deriving a moral "ought" from a non-normative, descriptive "is." In attempting to derive moral meaning from the current state of any ecosystem, Deane-Drummond states that land-ethics like Aldo Leopold's commit this error in logic and thereby fail to provide a foundation upon which ecological ethics can build.¹¹

How would Leo respond to this philosophical question? Leo avoids the naturalistic fallacy because his picture of the natural world already involves a normative element. The eternal law of divine Providence is intrinsic to the created universe and able to be known by human beings through the workings of reason. For Leo, it is evident to human reason that rational faculties created by a provident God are to be used in accord with their natural inclinations, as stated earlier in the letter. Since nature has an order created by God, human beings are in fact able to derive norms from the facts of natural observation, *coupled with human reason's understanding of the created world as willed by God*. The normative principles already inherent to creation; every "is" is already an "ought."

Moreover, human beings obedient to divine Providence will subordinate their uses of the land to their legitimate ends. Inasmuch as the use of the land contradicts the dictates of the natural law (i.e.

¹¹Celia Deane-Drummond, *Eco-Theology*, London: Dartman, Longman, and Todd, 2008, 32-33.

human participation in the eternal law), then such uses are illegitimate. Given that the purpose of human interaction with the land is aimed at producing enough fruit to meet the ever-renewing human need, any use of the land by human beings must respect the renewable nature of the land. If the use of the land is short-sighted and aims to fulfil even a legitimate human need only for a single generation or for a few generations, leaving the land unfruitful after that, this use of the land would contradict the principle of renewable use of the land. The very justification for use of the land at all is that the land is a renewable resource corresponding to the renewing need of humanity. This justification for using the land has an inherent requirement that it be worked in such a way that its fruits (made possible through human labour) will be able to be produced for as many succeeding generations as can possibly be envisioned. Use of resources which are not renewable at all would be to strip the land of its possibility of sustaining the needs of future generations, contradicting the very foundations of the right to land use at all.

From the following, a consequence of Leo's renewable resource argumentation is that any claim to property of land and any use thereof must be subordinated to ensuring the land's perpetual use for all of humanity.

For God has granted the earth to mankind in general, not in the sense that all without distinction can deal with it as they like, but rather that no part of it was assigned to any one in particular, and that the limits of private possession have been left to be fixed by man's own industry, and by the laws of individual races. Moreover, the earth, even though apportioned among private owners, ceases not thereby to minister to the needs of all, inasmuch as there is not one who does not sustain life from what the land produces.¹²

The division of the land into private portions does not cease to require all to obey the eternal and natural law requirements that human use of the land always ensure that the land continues to produce that which gives life to human beings. Labour, as is clear from the previous quotation, is absolutely essential to the rational character of human interaction with the land; without human labour, the land would not produce sufficient fruit for humanity. Thus, it is even possible to speak of a human "intervention" in the course of nature, not as though human beings are foreign to the order of nature nor that human interaction was not intended by Providence, but that the labour of human beings makes the course of nature different than

¹²RN, 8.

it would have been without human labour. The particular staple crops which are so productive and valuable to human life are largely not in their current forms without generations of human breeding for fecundity.¹³ The ground is more fertile by being tilled and fertilized by agriculture cooperating with animal husbandry. Human interaction with the land is something that other animals could not replicate, yet this intervention is a part of the order of nature as intended by divine Providence. Such a labour must always keep in mind the end of its work and the means necessary to attain it: provision for all of humanity through the renewable use of the land's resources.

Moreover, not only does the land provide for human needs, but, thanks to human action being deliberate and rational, the mark of the worker's ownership of the land is clear:

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.¹⁴

For Leo, the work of the rational being on the non-rational land, by which it is produced the fruits of nature, leaves the imprint of the rational creature. It is again to be stressed that the rational character humanity thus imparts to nature is itself a part of a creation determined by God. Well before genetically-modified organisms, the tending and breeding of animals led to a transformation of the kinds of animals and plants available on the earth. As dogs are different from wolves and corn is different from the grains that came before it, so the mark of human cultivation is seen in the natural order. Each human being has the possibility of imparting forms to the natural world and generally needs to do so in order to survive. When the artisan cuts wood into the shape needed for a house, he imparts a rational form onto it and thereby marks it as a creation of a human intelligence. Human beings have a need to impart such forms onto nature for such elementary needs as shelter, warmth, and making food sanitary to eat. Leo's point is that the individual who imparts such forms shows by his very handiwork that it is primarily his. The value for human survival of most things found in nature, as Leo

¹³See Bell G.D.H., "The History of Wheat Cultivation," in *Wheat Breeding: Its Scientific Basis*, ed. F.G.H. Lupton, Doedrecht: Springer, 1987, 31-49.

¹⁴RN, 9.

continually states, comes from the human imposition of rational forms upon them.¹⁵

By this imposition, it is clear that the land can be taken up into the rationality of humanity. This entry into the human world is a natural one, as stated above, preordained by divine Providence. This is indeed an intervention from the rational order, which nature does not have on its own, but it is not alien to nature because human beings are also a part of nature. By entering the human world, Leo wants to underline that the thing that has been worked upon is clearly the property of the one who worked upon it. Nothing could be more clear for Leo that the worker who has left the mark of rationality upon something from the natural world by his work does in fact truly own it and is owed the respect of ownership through his labour. Ownership, however, does not justify the over taxation of resources nor the waste of what has been acquired through labour. Again, because the natural law governs the ethics of human interaction with the natural world, that which is taken from the natural world and which has rational form imposed upon it must be used in accordance with the dictate which sanctioned it being so taken. The purpose of human intervention in the natural order is to establish and supplement human existence. If the use of natural resources becomes destructive of the end of renewable resources for humanity, then that kind of use must cease. Moreover, if that which is taken and imposed from nature is serving no purpose toward human existence, then it is undermining the very sanction by which it was taken. Things that are absolutely useless to human existence, even if they are able to be renewably taken from the land, lack the sanction to be taken from their environment. The sanction of the natural law is that which human beings need, which is the only justification Leo provides for taking natural resources in this encyclical. The burden of proof is on those things that are not clearly relevant to human life. If something does not serve to advance the final cause of the natural law for human interaction with the natural world, then it cannot be justified by an appeal to it.

Renewability, Human Flourishing, and Vocation

This correspondence of renewing human need with renewable natural resources, however, is not limited merely to the bare necessity for survival. Leo is clear that this balanced and ecologically-responsible human interaction with the land must serve an end that both allows human beings to flourish and provides further concrete

¹⁵RN, 10.

implications of land ownership and use. That further end is the vocation to which human beings are called.¹⁶ The provision made possible by human labour and the renewability of the land does not come about in isolation. The two state-of-life vocations to which human beings are generally called are consecrated life and marriage. If the first, the Christian is generally supported and provided for by the charitable donations of Christians to the Church. For those called to marriage, with the presumption that marriage is intrinsically ordered to the procreation and education of children, it is necessary that the family receive the fruits of the land to feed and nourish parents and children. As Leo pointed out, this can be done either directly by engaging in agriculture themselves or indirectly by labouring in some way to earn a wage with which to purchase the fruits of the earth.¹⁷ Subordinated to the purpose of providing for humanity's constantly recurring needs, the family does have the right to strive for a dignified existence on earth. This existence is one that strives not just for survival, but to flourish in body and soul, or as Leo puts it, to be "provided with all that is needful to enable them to keep themselves decently from want and misery amid the uncertainties of this mortal life."¹⁸ So long as it is subordinate to the needs of all humanity, both present and future, this sanctions individual families to accrue excess resources so as to suit their future need, protecting them against possible future misfortune. To be consistent, however, this excess could neither be acquired in a way that hinders the renewability of the land from which it was acquired, nor could it be accrued in excess of what a family could conceivably need to flourish in its vocation.

This explicit appeal to the vocation of humanity can be used to see a way of interacting with the land that goes beyond the bare needs of human survival in other ways as well. Human beings, like almost all other beings, have a difference between what they need to exist and what they need to thrive. Sick trees and animals can continue to exist for years, but they are not thriving or flourishing; they are not actualizing the potentialities that are native to them by their structure. When sufficient nutrients are given or when the cause of an illness is eradicated, then the plants or animals can thrive.

The same principles can be applied to human beings. Taking the example of the vocation to family life, one can say that there is enough when there is enough food to feed all of the members of the

¹⁶RN 12-13.

¹⁷RN 8.

¹⁸RN 13.

family and there is shelter that protects them. This, however, is not close to sufficient for the flourishing of a family. The stability of work Leo stresses is to ensure that there is not only enough food and shelter for one night, but the security of food and shelter for the foreseeable future. An adequate income is not used only for this, however, because the education of children is a crucial part of human development. Many different aspects of human life, from language, to personal maintenance skills, to a moral formation, to vocational skills and more are required for the minimum healthy upbringing of a human child. A family not provided with the means to pursue this minimum may have enough for survival, but not close to enough to flourish. What is more, human flourishing for children and adults requires a well-rounded lifestyle of physical, mental, moral, and spiritual health. The family and the societies of which the family is a part must be able to support a well-rounded life of virtue, cultivating the intellectual, moral and bodily virtues of the people in their care. The human being is a creature of immense potentialities and human actualization of these are a large part of ethical reflection. Human flourishing is a legitimate goal for human life and thus the use of natural resources to support it is legitimate as well.

This significantly changes the picture of how human beings use the natural world. If the natural world can be used for flourishing as well as for bare survival, then there are many products that can be developed from the natural world that are not strictly necessary for human survival. Among the highest exercises of human life is contemplation and the arts, for instance, can be a pivotal instantiation of this contemplation. In order to perform a rendition of Anton Bruckner's *Missa Solemnis*, there must not only be the paper on which the music is written, but horns, trumpets, trombones, bassoons, flutes, and the rest of an orchestra. Each instrument requires a great deal of natural resources to produce. This piece calls for an organ as well, an instrument which requires a staggering amount of resources, even compared to an entire orchestra. The Mass setting is entirely extraneous to human survival, yet the very contingency of the work is a cause for awe before the rational creature's ability to praise God. Artistic contemplation itself, though superfluous to human survival, is integral to human flourishing. The best things human beings strive for are those that are good in themselves, not those sought for a further end, as the Aristotelian principle teaches.¹⁹ Yet in Bruckner's *Missa Solemnis* it is not even the lofty and legitimate goal of artistic contemplation that is the highest goal, but the praise given to God.

¹⁹See Aristotle, *Nicomachean Ethics*, Book 1, Chapter 2.

Both the inspiration it provides the audience/congregation and the glory given to God by the performers themselves are profoundly human aspirations and constitutive of human flourishing. Though the natural resources devoted to making the instruments (and the concert hall) are immense, and though the activity is not absolutely necessary to human survival, any use of natural resources that go to supporting human flourishing have at least a *prima facie* claim on being legitimate uses thereof.

Limits on Land Use

With the broad possibilities of using natural resources for human flourishing, are there limits on the kind or extent of natural resource use that can be placed given Leo's defence of property and use of natural resources? As stated above, the balance of natural resources available for future generations is itself a powerful limit on human use. An attempt to preserve the diversity of species for future generations would alone put a halt to many development and harvesting projects pursued for profit. Use of resources that would create permanent damage (like improper disposal of nuclear waste or overdrawing water resources like the Aral Sea catastrophe) would clearly be removing natural resources from future generations.

Consumerist projects can conceivably be prohibited given the natural law morality of Leo. Production for the sake of profit, using natural resources for things having no connection to human flourishing, designed to be thrown away without regard for the waste produced, seem to be something that could be banned given the subordination of the use of natural resources to human need. The wanton disregard from waste created through the production of plastics (something perhaps inconceivable to Leo in 1891) has created massive collections of microplastics in each of the five oceanic gyres of the planet, including the "Great Pacific Garbage Patch." Because of the degradation, but ultimate impossibility of complete biodegradation of the plastics, these gyres are extraordinarily difficult to clean, while wildlife that feeds on plankton suffers from ingesting the similarly-sized plastic.²⁰ The inability for plastics to be recycled and the fact that plastics dumped into rivers make their way to the oceans are direct human actions which cause these permanent environmental disasters. Permanence, at least, is a criterion limiting human environmental action.

²⁰ "Ocean Gyres," *National Geographic Resource Library*
<https://www.nationalgeographic.org/encyclopedia/ocean-gyre/>

There is conceivably space, however, for renewable commercial interventions in the environment, so long as natural resources are not overtaxed. Continental United States groundwater availability seems to be exactly the kind of resource Leo envisioned as providing a constant provision for human needs. In the continental United States, human beings pumped 83 billion gallons of freshwater per day in the year 2000.²¹ While this may seem like an enormous amount, as a whole, the United States's hydrological budget recharges an estimated 1 *trillion* gallons of groundwater per day, making the human usage 8% of the whole.²² Many areas, such as the lower Mississippi Valley, the Appalachian Mountains, and the Atlantic Coast, receive plentiful precipitation, which provides significant recharge of groundwater reserves.²³ But even in these regions, there is significant overdrawing of resources in either industrially-farmed areas or in new urban development.²⁴ Groundwater is an astoundingly-renewable resource, which could provide a model for human interaction with the environment, but use of it must take place with use of that very faculty which sets human beings apart from animals in Leo's account: the faculty of planning ahead.

Today, this faculty can be productively used by supporting environmental and other scientific studies on the resources likely to be changed by farming or real estate developments. Those who have responsibility for public distribution of resources have a responsibility to all of those in their communities to alert public authorities about resource management imbalances and all have the responsibility to use natural resources renewably. While scientific investigators most likely do not have the expertise on their own to implement politically- and economically-feasible solutions to natural resource overdrawing, scientific investigation is the first and most obvious exercise of the human ability to plan ahead when considering large-scale farming or real estate changes. Given the great availability of groundwater resources across the United States as a whole, there is no reason why there cannot be a responsible and equitable use of groundwater resources. This would mean, however, that drastic changes must be undertaken in several areas of the country. Because of Leo's principle of preserving natural resources

²¹ Thomas E. Reilly, Kevin F. Dennehy, William M. Alley, and William L. Cunningham, *Groundwater Availability in the United States*, Reston, VA: United States Geological Survey, 2008, 5. Henceforth, "United States" shall be used to refer only to the 48 continental United States.

²² Reilly et al, *Groundwater Availability*, 5.

²³ Reilly et al, *Groundwater Availability*, 20-21.

²⁴ Reilly et al, *Groundwater Availability*, 15, 33.

for future generations, the moral imperative to change behaviour arising from this principle is operative long before societies would desire to confront the problem. Human beings must take care of the land for future generations rather than waiting for natural resources to be depleted in this generation. Societies that wait for resources to be depleted or that delay change because depletion would occur in future generations violate the very principle which sanctions their using natural resources in the first place.

Though it is only one approach, and clearly an anthropocentric principle, Leo's anthropological and natural law approaches to human interaction with the land constitutes an early and powerful contribution to moral theological analyses of natural resource use. Consistent in itself, never sacrificing human beings to the environment nor allowing human beings to use the environment for their own arbitrary and wasteful whims, Leo's subordination of human use of natural resources to the requirements of the eternal law provides a philosophical and theological basis upon which further moralists can build. The connection Leo understood human beings to have with the land has been significantly lost and considered a rather marginal approach to the everyday life of contemporary people. Leo's reflection, however, highlights all of the myriad ways in which even the most urban people are reliant upon constant supply from the fruits of the land to continue their existence and thrive. Calling human beings to engage with the natural world in a human way, Leo's anthropocentric view is deeply embedded in the network of relations human beings have both with the land and with the overall plan of the universe in God's eternal law. Though his picture of ecological ethics can be expanded, the principles he espouses in *Rerum Novarum* show a deep respect for the land and for the full flourishing of humanity in harmony with the land. As moral theology grapples with contemporary ecological problems, Leo's agricultural picture of human harmony with the eternal law has much to contribute.