

## **Integral ecology, connection, and prevention: Moving forward together after Covid-19**

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### **Abstract**

In 2015, Pope Francis issued the encyclical *Laudato Si'*, in which he discussed “integral ecology,” a thesis that all of nature and all of human life is interconnected. When broken, the connection to nature in particular has deleterious results for human beings, effects which reach beyond the natural world to social, cultural, and economic realms. The emergence of SARS-COV-19, a zoonotic illness which spilled from animals to human beings and has had economic, social, political, and cultural effects in addition to health effects, seems to have confirmed many of the points made by Pope Francis in his encyclical. Francis could have been writing specifically about COVID-19 when he wrote: “we are not faced with two separate crises, one environmental and the other social, but rather one complex crisis which is both social and environmental.” (LS 139) This paper examines the major environmental issues moving forward after COVID-19, with an emphasis on recovering from the current crisis in a way that is sustainable and will help to prevent future pandemics. Moving forward will require unprecedented levels of cooperation that begin with an acceptance of the reality that all people globally are connected and interdependent.

**Keywords:** *Laudato Si'*, integral ecology, Covid-19, pandemic, Pope Francis

### **Introduction**

We are living through a very challenging and dangerous time. On the day I submitted this chapter, the novel coronavirus SARS-COV-2 (commonly known as the virus or the coronavirus) had infected about 43 million people worldwide, causing at least 1 million deaths around the world. More than 8.6 million of those infections and at least 225,000 deaths were in my own country, the United States. (Johns Hopkins) Each infection and death brings with it human suffering, a suffering that reverberates from that person’s immediate social circle to all others.

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At this point, ameliorating the illness caused by this virus, Covid-19, seems an insurmountable task given the lethality of the virus and its ease of transmission. Even as we face this reality, we must also begin to look forward to the time when the virus has been brought under control and life returns to the patterns and interactions that characterized life before the virus. As we emerge from the current epidemiological crisis, we will have opportunities to renegotiate how we conduct our lives and how we live together, which will create new paths to human flourishing as well as new ways to prevent future pandemics.

Chief among the opportunities that we will have after the virus is brought under control is the opportunity to create a more integral vision of ecology, one that acknowledges that true flourishing for all human beings depends upon a true respect for the planet and the species with which human beings share it. Negotiating a better relationship between humanity, other animal species, and the earth itself is of paramount importance in preventing a future pandemic with its own versions of human suffering and death. The emergence of SARS-COV-2 seems to have confirmed many of the points made by Pope Francis in his 2015 encyclical *Laudato Si'*. Francis could have been speaking specifically about our current crisis when he wrote: “we are not faced with two separate crises, one environmental and the other social, but rather one complex crisis which is both social and environmental.” (LS 139)

This chapter examines some major environmental issues inherent in moving forward after Covid-19, with an emphasis on recovering from the current crisis in a way that is sustainable and will help to prevent future pandemics. Moving forward in a way that sees all aspects of nature and human life as connected and integrated will require addressing not just the human relationship to nature, but also complex social issues such as poverty, infrastructure, and corporate and industrial practices. These are local, national, and international problems that must be solved on many different levels, with no one-size-fits-all solutions. Moving forward will require unprecedented levels of cooperation that begin with an acceptance of the reality that all people globally are connected and interdependent, and are further connected to and dependent upon other creatures and the earth itself.

### **The present crisis**

The causes of our present crisis involving the novel coronavirus are at the same time completely clear and deeply murky. It is clear that Covid-19, a severe respiratory illness that causes a type of severe pneumonia and a constellation of

other symptoms, is caused by a virus designated SARS-COV-2. SARS-COV-2 is the most recent zoonotic virus to emerge and present a threat to human beings. A zoonotic illness, or zoonosis, is a disease that begins in an animal population and crosses the species barrier to infect and sicken human beings, a leap that is generally called “spillover.” (Quammen, 2013) There are many zoonotic illnesses, involving both bacteria and viruses as transmission vectors. Rabies, Lyme disease, and West Nile virus are a few zoonotic illnesses that are familiar to many people, but new, or “novel,” zoonotic illnesses emerge from time to time, and several have emerged in just the last two decades. These novel viruses or bacteria present a serious threat to the human population as most people have no immunity to these organisms and are thus easily sickened. Although most zoonotic illnesses are transmitted from animals to human beings, the viruses may also mutate once in a human host and become transmissible from person to person without animal involvement, making them more dangerously infectious. (Mummah, R., et al., 2020) As an example, HIV has its origins in a similar virus found in great apes (SIV), but adapted to human hosts and became an illness that is transmitted from person to person.

Though many human illnesses have animal origins, several novel zoonotic illnesses have emerged since 2000, linked especially to deadly respiratory illnesses. In 2002, Severe Acute Respiratory Syndrome (SARS) emerged in the Guangdong region of China, caused by a novel coronavirus eventually named SARS-COV, the precursor to the virus that caused the current pandemic. Though it was transmissible to human beings, SARS caused fewer than 1000 deaths, all in the Guangdong area. A similar novel coronavirus caused a similar respiratory illness, Middle East Respiratory Syndrome (MERS), in 2012. (Contini, 2020) This virus was also contained to fewer than 1000 deaths.

While we know that the cause of Covid-19 is a zoonotic virus, what is less clear is the exact origin of the virus and why it made such a significant leap into human beings, which allowed it to spread rapidly from its point of origin to infect people in most of the world’s nations. The virus itself is thought to have emerged in the Wuhan area of China, most likely through some mutation of a virus that occurs naturally in bats, a mammal with unique features and behaviors that make it an especially good host for pathogens. (Beena & Saikumar, 2019). This virus then crossed the species barrier and infected human beings, perhaps through food contaminated with the virus. The earliest reports traced the virus to the wet markets of Wuhan, places where live animals and fresh produce are sold, with animals sometimes slaughtered and cleaned just adjacent to fresh produce. (Woo, et. al, 2006).

Regardless of the exact point at which the virus made the leap to human beings, we know that zoonotic illnesses are encouraged by human behavior. (Quammen, 2013) Industrialization, deforestation, contamination of animal habitats, including water sources, and human encroachment on and destruction of animal habitats all contribute to the development of new illnesses and their transmission from animals to human beings. The global food system, in which meat and fresh produce as well as highly processed food is sold and shipped globally, also contributes to the development and spread of novel viruses and the spread of contamination and illness-causing bacteria from nation to nation.

The development of the virus and its various causes has brought us to the point we now occupy, where a severe respiratory illness that began with an animal virus is now easily transmissible from person to person. Along with physical illness and death, the virus has also brought social and economic consequences to many areas, plunging some into poverty while allowing others to profit from new economic opportunities. Widespread unemployment and the subsequent loss of income has affected the poor much more than the wealthy worldwide, and the economic effects of the virus have also torn open many weak areas in our societies. Social shutdowns and the requirements of physical distancing have also ruptured many of our bonds with one another, bringing isolation and despair to many. Additionally, the established structures of our societies are strained, and some institutions have failed completely. The failure of institutions is especially glaring in my own country, a highly developed nation with a strong health care infrastructure that was nevertheless overwhelmed by the infection and often unable to treat the large numbers of people who became ill.

Given the rapid spread of the virus, its unpredictable effects on individuals and groups, and the demands that treating Covid-19 has imposed on societies, recovery in any one of these arenas will present many further challenges, along with opportunities to rebuild stronger and better institutions and societies that serve human needs. One area that must be considered in a new way post pandemic is the current relationship between human beings and the natural world. A reconsideration of how people interact with, use, and respect animals, the earth, and those things which we eat from the earth is vital to the recovery of our societies from the pandemic, and also to the prevention of future pandemics.

In terms of understanding the current status of our reaction to Covid-19, and with our eyes on moving forward soon, it helps to understand the virus itself as an ecological event, a crisis for human beings brought about by ecological conditions. As described above, human behavior made such a crisis possible, but it was also facilitated by ecological factors that were the result of many decades

of choices in terms of the natural world, as well as systems involving nature that were built up over those same decades. If we view the current pandemic as an ecological event, the prior insights of various sectors in regard to other ecological crises can guide us as we move forward after Covid-19. One invaluable place to which we can turn for guidance about the relationship between human beings and nature is the concept of integral ecology, to which we now turn.

### **Integral ecology as a way forward**

In 2015, Pope Francis issued the encyclical *Laudato Si*, on “care for our common home.” In this encyclical, he discussed what he called the “global deterioration” of the natural world and the elements of an ecological crisis leading humanity toward disaster if we continue to allow ecological harm to come to the earth, the common home to all people as well as a diverse family of animals, plants, fish, and other creatures. His response to the ecological crisis was to offer a path forward to a better relationship between people and the natural world, an outlook that he calls “integral ecology.” Integral ecology is Francis’s recognition that all of nature and all of human life is interconnected and dependent, and no person can truly flourish in the face of ecological corruption. (LS 137) When broken, the connection to nature in particular has deleterious results for human beings, effects which reach beyond the natural world to the social, cultural, and economic realms.

Integral ecology is a concept derived from integral humanism, which has its beginnings in the work of French philosopher Jacques Maritain. The concept of integral humanism and its associated demands for human flourishing have been incorporated into Catholic social teaching through the work of several popes, especially Paul VI in his 1967 encyclical *Populorum Progressio*. In the encyclical traditions and teachings subsequent to *Populorum Progressio*, the idea of “integral human development” (PP 16) has been incorporated to the extent that it is now a foundational principle, used as a platform to build and support other principles, especially those which contribute deeply to the common good and to individual flourishing. Integral ecology rests on this foundation as well, as it insists that fully understanding human beings means understanding their individual and collective connection to the earth and to all living things. To deny this connection is not just to ignore significant connections, but is also to deny a significant aspect of being human.

As Maritain argued that understanding the spiritual dimension of human life was essential for fully understanding human beings and thus the ways that human beings can cooperate with each other to build societies oriented to the good

of all (Maritain, 1936), understanding and protecting the natural world is essential to creating a common good for all people. Care for creation is a part of our very nature as human beings, and we cannot be fully human without understanding the connections between people, non-human animals, and the earth itself. Ecology thus becomes not just a way to care for objects or creatures, but a way to care for ourselves and to appreciate and worship the Creator.

Though Francis's encyclical relies on the concept of integral ecology, the definition of this concept is hazy at best. Extrapolating from the document as a starting point, and incorporating the insights of others who have since commented on the concept, integral ecology can be defined as a way of understanding human life as embedded in the natural world and connected primarily to the world as creatures whose existence and flourishing are deeply connected to and dependent upon the rhythms and demands of the earth and its non-human creatures. A deeper theological vision of human life emerges from this concept, one where human beings are envisioned not only as children of God, but encouraged to see themselves also as creatures of the earth. This vision emphasizes human life as a part of other lives, many of them non-human, and as drawing from and adding to the life of the planet itself. As the most powerful of earth's creatures, human beings, then, have the obligation to be stewards of the earth, of the creatures of the earth, and of the other people who share the earth. Dominion over the earth becomes less a matter of power and more a matter of responsibility and care for the resources of the earth and the non-human lives which inhabit it.

Envisioning human beings in this way, as an integral part of nature and inseparable from it, reveals the co-dependence of all living things. Viewing human beings as a part of creation, not as its culmination, makes space for the other creatures with whom people share the earth. These creatures are then seen as important in themselves, not as resources for human beings to exploit or as inconveniences whose removal has no effect on human populations or human flourishing. This vision also emphasizes the profound importance of the natural world and its effects on human life and development. Ignoring the needs of the earth and/or the other creatures of the earth does not contribute to human goods but often destroys the possibility or likelihood of the good that is sought.

Since it is integrated into all aspects of human life, integral ecology also has effects that are social and communal, especially as related to the poor, the ill, and those who are on the margins of society. Crises within the natural world affect the poor most heavily, and inhibit the full development and flourishing of many of the earth's people. The costs of ecological crises and disasters, including natural disasters such as earthquakes and cyclones, along with the current global

pandemic, disproportionately affect those who have the least opportunity to address the effects of these disasters. As such, then, integral ecology is truly integral, permeating all of human life, relationships, social interactions, and societies.

Ignoring the inter-connectedness of all living things, including the earth itself, has negative effects for all beings of the earth, including human beings. We are seeing this now as we battle a newly-emergent disease. In terms of integral ecology, the current pandemic is the result of human choices over time which have created an ecological situation which is ripe for the development and spread of new diseases. Anthropocentrism, the idea that human beings are more important than any of the other creatures of the earth and are entitled to use all of the goods of the earth for their own benefit, regardless of the effect of human actions on the natural world, has created a situation where human beings and animals cannot live side by side without contaminating each other's habitats, food sources, and water supplies. Perhaps most applicable to the current pandemic, failing to see the value of nature except as it may contribute to our own individual good, and at the same time failing to see that we are also vulnerable to the same conditions that other creatures are susceptible to, we open humanity to the possibility of disease simply by failing to pay attention to the natural world in which we are embedded. The arrogance of failing to pay attention to nature means that we are taken by surprise when nature exerts its power over us, whether through natural disasters such as hurricanes and forest fires, or through natural occurrences such as the emergence of new diseases and their adaptation to human populations.

Embracing integral ecology as a foundational principle will have many benefits for all beings, but will require a major reframing of the place of human beings in the natural order and a new understanding of what it means to be an embodied person subject to and a constitutive part of the natural world. It will also require that we understand and experience the natural world in a different way than we currently do. Integral ecology begins with the understanding that nature is not a set of plants and animals separate from human beings, but rather groups of beings and natural features that live in concrete relationships with people and with one another. Understanding nature as relationship makes the roots of ecological crises easier to see, and the solutions to those crises easier to see as well. This is important to our approach to preventing future pandemics, especially if we can understand zoonotic illness as a form of ecological crisis, the result of an imbalance in the relationship between human beings and nature. The same imbalances in relationship that give us contaminated water, the extinction of species, and industrial processes that lead to climate change can also generate the conditions under which new illnesses emerge and strengthen. Similarly, a more

balanced relationship with nature which recognizes the importance of non-humans and the remainder of the natural world can also help to mitigate the conditions for the emergence of these illnesses and give us other tools which prevent their spread should they develop.

This central understanding of integral ecology, the relationship that should exist between human beings and nature, along with the realization that all of nature and all human beings are connected and interdependent, is the firmest point from which to proceed post-pandemic, with the dual objectives of rebuilding for human flourishing and for preventing further—and possibly more dangerous—pandemics. If we take the renegotiation of the human relationship to nature as a priority, we can establish some structures or institutions which will both contribute to human flourishing and protect the natural world in which we are embedded, thus alleviating both currently pressing environmental problems and the possibility of newly-emergent ecological dangers.

### **Moving forward together post-pandemic**

How can we take the insights of integral ecology and translate them into a plan for moving forward post-pandemic? The prescriptions that Francis offers in *Laudato Si'* focus mainly on dialogue aimed at ecological conversion, and human renewal based in Christian spirituality grounded in the faith. This leads to the awakening of the human spirit to the realities of life as a part of the larger whole of nature, which in turn leads to dialogue aimed at restoring the balance between human beings and the natural world. Coupled with this is the more socially-oriented understanding that all people are connected through nature, and all human beings bear both the blessings and burdens of the responsibility for nature. Social and political structures which reflect that all people have a right to the goods of the earth and to a safe and harmonious relationship with the natural world are also of prime importance, since these structures and institutions address conditions that particularly affect the poor and dispossessed. Francis also prescribes education, both in the faith and in the realities of the human connection to the natural world, as critical for moving forward to address existing ecological crises.

The particular ecological crisis that has led to the prevalence of Covid-19 certainly requires dialogue and education, but the concept of integral ecology offers us several concrete actions that must take place as a part of the recovery from the pandemic. Many of these actions have already been suggested (or more forcefully insisted upon) by scientists and scientific bodies around the world, but the current pandemic has shone a stronger light on them, and the demands of an

integral ecology make them even more imperative. None of these actions will be easy, and all will demand a level of international cooperation that has been very rare. The level of cooperation required will likely approach that which eradicated smallpox from the world over the course of several decades, but the return on such cooperation will benefit all of humankind. There are three areas that will be of particular concern: the reform of the global food system, deforestation and the loss of animal habitat, and transnational cooperation and support for existing or new institutions that monitor for emerging diseases and take steps to mitigate them before they spread. Much else needs to be done, and these three are not the only areas in which progress can be made, but addressing many of the issues within these three areas will be necessary if we are to move forward from this pandemic.

The reform of the global food system in light of integral ecology is of paramount importance if we are to recover from the current pandemic and prevent others. As noted previously, SARS-COV-2 likely spilled over (Quannam, 2013) from an animal host to human beings through a food source in the Hubei region of China. Other illnesses, some of them as serious as Covid-19 and others far less serious, are also spread to human beings through food and can occur at any point in the system which moves food from one area to another. Where previous generations worried about producing enough food to feed a burgeoning population, we now need to worry about producing, transporting, selling, and preparing food in a manner that significantly lessens the likelihood of spreading illness through viruses, bacteria, or other contaminants.

What would a food system based in integral ecology look like, and how would it operate to the good of all people and the earth? The first concrete aspect of a reformed food system would likely involve producing and eating less meat, especially in industrialized countries. At the very least, the processes for raising and slaughtering animals that are to be consumed by human beings will need to be de-industrialized to a large extent, and brought back closer to a more balanced and nature-centered system. Other aspects include the improvement of farming and transportation practices for produce, and massive global education about the causes of food-borne illness.

By definition, meat is an animal product, and the rise in the availability of meat and meat products worldwide has contributed to better human health and longevity by providing needed protein to many who would otherwise be unable to meet their protein needs. Recognizing the human place in nature does not mean that we need to ban eating animals entirely, nor should we necessarily want to do so, which could mean a return to illness and death for many. Rather, integral ecology would call us to recognize the harm in the processes that produce meat

worldwide and reform those practices to reduce the possibility of transmitting disease, which would have the added benefit of reducing ecological strain on the earth in other ways.

While there remain places, even in highly developed nations, where people raise and slaughter their own animals for food, most meat production worldwide is the result of industrial-level farming, where animals are raised and slaughtered by large multinational corporations in what can only be described as factory conditions. The meat produced is then shipped far from the place where the animals were raised and slaughtered, and consumed by people in a wide geographic area. The literature on industrial meat production is voluminous, and the conditions described for animals in these industrial operations can be horrific. (Alsaffar, 2016) Scientifically speaking, these operations can themselves become vectors for disease as it spreads from animal to animal, or is introduced into the human food supply through fecal contamination or contamination by another pathogen. These industrial-level facilities also develop new diseases in themselves, and contaminate water supplies and land for both human beings and other animals.

Integral ecology provides us with a significant insight that, if recognized and taught worldwide, will not only aid in reducing the amount of meat consumed (especially in industrial societies), but will also ameliorate the conditions that give rise to disease in industrial meat operations. That insight is simply this: animals are not commodities, but are a part of our own natural world and thus what is good for them is also good for us, as they are connected to us. This reframing will be a major challenge in a world where animals, their parts, and the goods produced from the processing of meat and meat products are bought and traded internationally and are a major source of profit. It will require resisting the marketing of animals and a firm rethinking of our own complicity in creating the conditions that give rise to emergent zoonotic illnesses. When we reframe the vision of animals away from commodities that are bought and sold in neat packages in supermarkets toward a vision of animals as a part of the same environment as we inhabit, it becomes easier to limit the harm that is done to the animals that we eat. (Camosy, 2013) A new way of thinking about the animals we consume, a reduction in the consumption of meat, and a betterment of conditions for animals meant for food will result in the reduction of possibilities for contamination and disease.

Similar arguments can be made for improvements in farming and transportation of produce. This sector of food production offers us many illustrative examples of how contaminated food can spread disease, and can also

carry pathogens across wide areas of the world. Infections of produce with salmonella, listeria, or other common pathogens are somewhat frequent, and most industrial nations have experienced outbreaks of such diseases connected to contaminated water used to irrigate crops or other farming practices. Again, integral ecology offers us the example of connectedness to all living things as a way to understand how farming can cause harm as well as good. And again, the embrace of reform is likely to be hindered by profit motives, as most of the world's food, like most of the world's meat, is produced by large transnational corporations which profit from understanding food as a commodity and not as a way to sustain human or animal life. As with the reform of industrial meat systems, industrial farming system reform will require a great deal of education and cooperation across national lines, as well as an economic cost that is undetermined but is likely to be very high.

Like the global food system, the problem of the loss of animal habitat, particularly deforestation, presents both a problem and an opportunity going forward. There is a large volume of literature specifically on the problems wrought by the lack of concern for preserving natural habitats for wild animals of all types (Simmonds, et al, 2019), and the problems which spring from the loss of these areas. As human beings encroach on animal habitats, so too do animals encroach on human habitats, bringing with them viruses and bacteria which are specific to the animal and can contaminate human living areas, thus making the likelihood of passing pathogens to human beings more likely. Consider this question: if SARS-COV-2 did come from a bat virus that contaminated human food, why was the bat anywhere near food meant for humans? The obvious answer is that the habitats of both the contaminated bat and human beings overlapped, living in too close a proximity for the safety of either, a condition that gave rise to the opportunity for contamination.

Much of the discussion of the destruction of animal habitats focuses on a few areas of the world where such destruction is especially alarming, such as the rainforests of the Amazon basin, but the destruction of animal habitat is a problem worldwide. Integral ecology can also offer us some guidance here, although like much of what such an outlook requires it does ask us to reframe the argument for preserving animal habitats away from the ways that it benefits human beings and towards the way that it benefits animals themselves as important beings with whom we share the earth. An emphasis on the need for all animals to live healthfully, just as humans have a need to live healthfully, could help to justify the setting aside of major portions of the earth as places for animals to live and flourish. Additionally, there is the issue of the health of the earth itself, which

would benefit from more areas where nature itself is allowed to rule. A few large areas set aside are not enough—every nation on every continent would need to commit to leaving large natural areas undeveloped as refuges for animals and places where the earth can renew and sustain itself.

Though setting aside and protecting areas of animal habitat around the world would benefit human beings, animals, and the earth itself, the challenges are many and again require major international cooperation. A major obstacle to preventing the destruction of animal habitats is the profit motive, which drives a great deal of demand for land and resources. Removing the profit motive, or otherwise developing ways to profit from the land that do not require destruction of habitat, could be a large step forward to reaching agreements that preserve and protect animal habitats. This would have major environmental implications beyond the prevention of zoonotic illness and would benefit humankind, the earth itself, and animals themselves. Different solutions will make sense in different areas of the planet, and the movement towards the preservation of habitat and natural areas will require international agreements that have the force of treaties and allow for transnational enforcement. The development of these agreements presents a large barrier to implementation, perhaps larger than the profit motive itself.

There are many other ways that we will be informed by integral ecology as we move forward after Covid-19, but the final area that we will address in this paper is the need for the strong international support of existing health and global monitoring organizations, and the creation of a better structure to combat the future emergence of zoonotic illnesses. As noted earlier, many of the institutions meant to prevent harm to populations from the same types of illnesses as Covid-19 failed when the pandemic arrived. Many of these organizations were long-established and located in highly-developed nations, but were simply overwhelmed by the events that came with the arrival of the virus. Nations responded differently to the containment of the virus, with some moving swiftly to protect public health and risking economic effects by shutting down public spaces so that the virus could not pass between people, while others offered a less uniform or proactive approach. (Sadly, my own country, the United States, stands as an example of how not to operate in the face of a pandemic, as the actions of our leaders have brought needless death and suffering to too many Americans.) Global agreement on the best way to proceed in the face of a rapidly-spreading illness simply does not exist, and is impossible to create in the face of an emergency, as we have seen in our own handling of the virus.

There already exist many organizations for tracking and responding to emergent diseases, whether zoonotic in origin or not. The problem is that these organizations have little power beyond the provision of data and the power of persuasion when new threats are identified. Inclusion in these organizations is voluntary and can bring costs that cannot be borne by each individual nation. Tracking emergent illnesses also requires access to areas where these diseases emerge and the ability to move freely throughout sometimes dangerous areas of the world. Data collection and thus knowledge of diseases is subject to the whims of political parties and the risks inherent in defying authorities. In some places in the world such actions would be seen as brave, in others, foolish. However, we characterize them, investigative actions are necessary to identify and hope to contain new outbreaks.

It is apparent that existing organizations are not enough to protect the world from emergent diseases, not even those organizations that are long established and well respected, such as the WHO or other divisions within the United Nations and other international health organizations. What is needed is a truly cooperative, transnational structure that is apolitical and is dedicated to collecting and analyzing data in order to contribute to the health of all people on the planet. Integral ecology would argue for such surveillance of disease as a way to protect the whole of the earth and its creatures, and also as a way for all people to cooperate with each other in the work of protecting creation. Such an organization could also unite plans for pandemic responses throughout all nations, distilling the best possible answers to the many questions about how to address a pandemic. Such an organization will be difficult to establish given historical mistrust among nations, and will need to have transparency at its center. Such a task is not impossible, however, as many previously-negotiated treaties involving nuclear weapons and other arms have shown, and have contributed to the common good of the whole world.

The ideas described above are only a few of the many ideas that can bring us together and make everyone safer in a post-pandemic world. Integral ecology offers us many other suggestions for the way forward, including harnessing the power of technology to enhance ecological goals, addressing social and economic inequities that are brought about by ecological events, and worldwide education for ecological justice. All of these initiatives are rooted in the Catholic Christian tradition, and deeply related to other religious traditions, and are ultimately an outgrowth of our own understandings of ourselves as human beings and as occupants of the earth. The understanding of human life and relationships with the natural world offered by integral ecology form the foundation for new ways

forward that affirm the goodness of nature and its contributions to human life, and offer a path to a more balanced and reciprocal relationship that protects both the earth and its people.

### **Conclusion**

As we have seen in this short chapter, as we move forward from the Covid-19 pandemic and hope to recover, it is imperative that we re-establish a relationship between human beings and nature that is healthier than we have allowed it to be in a very long time. An integral ecology that sees human beings as embedded in nature and an important part of the entire earth can help us to clarify what our relationship to nature should be and how the health of that relationship can affect not just the cleanliness of the world outside our windows but also our health and the flourishing or failure of our societies and social structures. This relationship has deteriorated to the point that we now face several ecological crises, but renewing this relationship will not only allow us to create a better and cleaner environment, but also to recover a constitutive part of our humanity.

Integral ecology itself does not prevent disease, but it can help all of humanity to create structures and societies that value nature and the natural world, which in turn will curb the opportunities for zoonotic illnesses to develop. The conversations and international cooperation required to create these structures, to do things like restructure the global food system or protect natural animal habitats and set aside protected natural areas, will not be easy nor are they likely to be immediately productive. The realization that all of nature is connected, and thus all people are connected, can do much to move these conversations and agreements forward. If there is anything that the rapid and cruel spread of Covid-19 has shown us, it is that new diseases do not respect national borders or international political agreements. Viruses, bacteria, and other disease vectors spread in their own ways and on their own timetables, and unless we can cooperate with one another in the interest of protecting all people, all human beings are in danger. (As a side note, perhaps this will also demonstrate the folly of all kinds of biological weaponry, as we have powerfully seen that once unleashed, biology cannot be contained.)

The alternative to understanding the human place in the natural world is not just further ecological crises, but further ecological crises of the same type that we have now experienced. The spread of the novel coronavirus that causes Covid-19 had an ecological cause rooted in a food system that was open to contamination, and was further compounded by other ecological factors. Failing to recognize this

and other emerging zoonotic illnesses as the ecological crises they are means greater human suffering and loss, and are further evidence of the imbalance of the human approach to nature. There is much that we can do together to recover from this pandemic and prevent the next one, but the first step forward is to understand our own place in nature and embrace that position with its attendant responsibilities.

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