Week 4 Readings

Pope Francis, *Laudato Si*

It is my hope that this Encyclical Letter, which is now added to the body of the Church's social teaching, can help us to acknowledge the appeal, immensity and urgency of the challenge we face. I will begin by briefly reviewing several aspects of the present ecological crisis, with the aim of drawing on the results of the best scientific research available today, letting them touch us deeply and provide a concrete foundation for the ethical and spiritual itinerary that follows. I will then consider some principles drawn from the Judaeo-Christian tradition which can render our commitment to the environment more coherent. I will then attempt to get to the roots of the present situation, so as to consider not only its symptoms but also its deepest causes. This will help to provide an approach to ecology which respects our unique place as human beings in this world and our relationship to our surroundings. In light of this reflection, I will advance some broader proposals for dialogue and action which would involve each of us as individuals, and also affect international policy. Finally, convinced as I am that change is impossible without motivation and a process of education, I will offer some inspired guidelines for human development to be found in the treasure of Christian spiritual experience.

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The climate is a common good, belonging to all and meant for all. At the global level, it is a complex system linked to many of the essential conditions for human life. A very solid scientific consensus indicates that we are presently witnessing a disturbing warming of the climatic system. In recent decades this warming has been accompanied by a constant rise in the sea level and, it would appear, by an increase of extreme weather events, even if a scientifically determinable cause cannot be assigned to each particular phenomenon. Humanity is called to recognize the need for changes of lifestyle, production and consumption, in order to combat this warming or at least the human causes which produce or aggravate it. It is true that there are other factors (such as volcanic activity, variations in the earth's orbit and axis, the solar cycle), yet a number of scientific studies indicate that most global warming in recent decades is due to the great concentration of greenhouse gases (carbon dioxide, methane, nitrogen oxides and others) released mainly as a result of human activity. As these gases build up in the atmosphere, they hamper the escape of heat produced by sunlight at the earth's surface. The problem is aggravated by a model of development based on the intensive use of fossil fuels, which is at the heart of the worldwide energy system. Another determining factor has been an increase in changed uses of the soil, principally deforestation for agricultural purposes. Warming has effects on the carbon cycle. It creates a vicious circle which aggravates the situation even more, affecting the availability of essential resources like drinking water, energy and agricultural production in warmer regions, and leading to the extinction of part of the planet's biodiversity. The melting in the polar ice caps and in high altitude plains can lead to the dangerous release of methane gas, while the decomposition of frozen organic material can further increase the emission of carbon dioxide. Things are made worse by the loss of tropical forests which would otherwise help to mitigate climate change. Carbon dioxide pollution increases the acidification of the oceans and compromises the marine food chain. If present trends continue, this century may well witness extraordinary climate change and an unprecedented destruction of ecosystems, with serious consequences for all of us. A rise in

the sea level, for example, can create extremely serious situations, if we consider that a quarter of the world's population lives on the coast or nearby, and that the majority of our megacities are situated in coastal areas.

Robert Sirico, *Senate Committee on Environment and Public Works*.

We know that the whole magisterium is comprised of the bishops and derivatively from them, bishops' conferences, who teach in union with the pope when reflecting on faith, morals, the authentic interpretation of Scripture and the tradition of the Church. This privileged status is predicated on the enduring gift of the Holy Spirit given by the Lord to the apostles which ensures that the message of the Christ entrusted to the Church is free of doctrinal error or indefectible. This magisterial authority has always admitted to its limitations and boundaries. The pope and bishops cannot infallibly predict the weather or call the winning numbers of a lottery. It is also the case that the boundaries may be obscure or may touch up against certain matters outside the magisterium's immediate mission. This, of course, makes the task of properly interpreting these documents a more challenging and exciting endeavour, yet it does not weaken the Church's claim to competently and authoritatively proclaim the truth of morals and faith. The Church simply does not claim to speak with the same authority on matters of economic and science as it does when pronouncing on matters of faith and morals. These are of course distinctions, not separations. The two realms come close to one another at times because some means and ends can interpenetrate one another. Yet to simply collapse theology into science is unnecessary, unhelpful and even, at times, perilous. The modes under which the Church has proposed her teaching are various. One finds extraordinary and ordinary teaching of the popes by way of encyclicals, apostolic letters, allocutions and homilies. Various documents of Vatican dicasteries, secretariats and commissions, the teachings of bishops as well as the teaching of pastors to their parishioners. Encyclicals are authoritative teaching documents that command due respect and consideration from the faithful. The subject matter of *Laudato Si* - climate science, economics and history - do not fall into the areas of Church expertise except to the extent to which it addresses the normative dimensions and implications of these disciplines.

Pope Francis, *Laudato Si*

Ongoing research should also give us a better understanding of how different creatures relate to one another in making up the larger units which today we term "ecosystems". We take these systems into account not only to determine how best to use them, but also because they have an intrinsic value independent of their usefulness. Each organism, as a creature of God, is good and admirable in itself; the same is true of the harmonious ensemble of organisms existing in a defined space and functioning as a system. Although we are often not aware of it, we depend on these larger systems for our own existence. We need only recall how ecosystems interact in dispersing carbon dioxide, purifying water, controlling illnesses and epidemics, forming soil, breaking down waste, and in many other ways which we overlook or simply do not know about. Once they become conscious of this, many people realize that we live and act on the basis of a reality which has previously been given to us, which precedes our existence and our abilities. So, when we speak of

"sustainable use", consideration must always be given to each ecosystem's regenerative ability in its different areas and aspects.
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A sense of deep communion with the rest of nature cannot be real if our hearts lack tenderness, compassion and concern for our fellow human beings. It is clearly inconsistent to combat trafficking in endangered species while remaining completely indifferent to human trafficking, unconcerned about the poor, or undertaking to destroy another human being deemed unwanted. This compromises the very meaning of our struggle for the sake of the environment. It is no coincidence that, in the canticle in which Saint Francis praises God for his creatures, he goes on to say: "Praised be you my Lord, through those who give pardon for your love". Everything is connected. Concern for the environment thus needs to be joined to a sincere love for our fellow human beings and an unwavering commitment to resolving the problems of society. Moreover, when our hearts are authentically open to universal communion, this sense of fraternity excludes nothing and no one. It follows that our indifference or cruelty towards fellow creatures of this world sooner or later affects the treatment we mete out to other human beings. We have only one heart, and the same wretchedness which leads us to mistreat an animal will not be long in showing itself in our relationships with other people. Every act of cruelty towards any creature is "contrary to human dignity." We can hardly consider ourselves to be fully loving if we disregard any aspect of reality: "Peace, justice and the preservation of creation are three absolutely interconnected themes, which cannot be separated and treated individually without once again falling into reductionism." Everything is related, and we human beings are united as brothers and sisters on a wonderful pilgrimage, woven together by the love God has for each of his creatures and which also unites us in fond affection with brother sun, sister moon, brother river and mother earth.

Celia Deane-Drummond, *Laudato Si' and the Natural Sciences: An Assessment of Possibilities and Limits*

There are some predictable elements that put stress on a theology of creation, such as the affirmation of the goodness of different living things as creatures of God. But, rather more contemporary, in the same paragraph, is his insistence on the worth and goodness of "the harmonious ensemble of organisms existing in a defined space and functioning as a system." The clear message of the encyclical that the earth is our common home and a gift of God is certainly not new for ecotheologians. It is, nonetheless, an important message that has a critical significance both in the public sphere and in the Church. Yet, his interpretation of ecological relations as harmonious relations, which seems to emerge from his particular theological commitment to the value of peace, reflects a specific understanding of ecology in terms of stable relationships that is no longer in vogue among ecological scientists. The ideal of 'wild' nature, fixed in a stable but dynamic equilibrium, is the view used as foundational for much environmental ethics, as I discussed above. As Sam Berry has pointed out, 'In the early years of professional ecology, most ecologists took it for granted that communities of animals and plants existed as natural, repeated, internally organised units with a considerable degree of integration.' However, data have gradually accumulated that make this assumption highly questionable. Ecosystem boundaries were discovered to be much more fluid than had been previously anticipated. Longer-term dynamics started to challenge the idea of self-regulation in ecosystems, so that it was impossible to arrive at any

realistic predictions. Rather than any fixed form of equilibrium, the most that we can anticipate is 'an equilibrium distribution of patch types or some other attribute, rather than a persistent point equilibrium'. The new paradigm that has replaced the old one of stable ordering is *non-equilibrium*. In this case, 'ecological systems can be thought to be open, to be regulated by factors internal and external to them, to lack a stable point equilibrium, to be non-deterministic and to incorporate disturbance and to admit human influence'.

The replacement of the equilibrium view with the non-equilibrium position has been gradual, and even non-equilibrium advocates recognize that systems can be in an equilibrium state at certain times. None the less, not all ecosystems are capable of being in an equilibrium state. Hence the cultural idea of the 'balance of nature' bolstered the equilibrium view, so that it took many years for it to be challenged. The persistence of this myth is evident in contemporary philosophical writing on environmental ethics, especially where it claims to gain support from ecological science. The hypotheses of science are tested in the context of the scientific community, so that the idea of balance has proved wanting and in its place is the idea of continual flux and change. According to this model ecological systems:

- are in a continual state of flux;
- may at times be in an equilibrium state;
- are characterized by openness to external influences;
- are subject to a multiplicity of controls in a complex way;
- are subject to disturbance from different internal and external factors;
- are open to human influences.

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It may well disturb us to learn of the extinction of mammals or birds, since they are more visible. But the good functioning of ecosystems also requires fungi, algae, worms, insects, reptiles and an innumerable variety of microorganisms. Some less numerous species, although generally unseen, nonetheless play a critical role in maintaining the equilibrium of a particular place. Human beings must intervene when a geosystem reaches a critical state. But nowadays, such intervention in nature has become more and more frequent. As a consequence, serious problems arise, leading to further interventions; human activity becomes ubiquitous, with all the risks which this entails. Often a vicious circle results, as human intervention to resolve a problem further aggravates the situation. For example, many birds and insects which disappear due to synthetic agrotoxins are helpful for agriculture: their disappearance will have to be compensated for by yet other techniques which may well prove harmful. We must be grateful for the praiseworthy efforts being made by scientists and engineers dedicated to finding solutions to man-made problems. But a sober look at our world shows that the degree of human intervention, often in the service of business interests and consumerism, is actually making our earth less rich and beautiful, ever more limited and grey, even as technological advances and consumer goods continue to abound limitlessly. We seem to think that we can substitute an irreplaceable and irretrievable beauty with something which we have created ourselves. In assessing the environmental impact of any project, concern is usually shown for its effects on soil, water

and air, yet few careful studies are made of its impact on biodiversity, as if the loss of species or animals and plant groups were of little importance. Highways, new plantations, the fencing-off of certain areas, the damming of water sources, and similar developments, crowd out natural habitats and, at times, break them up in such a way that animal populations can no longer migrate or roam freely. As a result, some species face extinction. Alternatives exist which at least lessen the impact of these projects, like the creation of biological corridors, but few countries demonstrate such concern and foresight. Frequently, when certain species are exploited commercially, little attention is paid to studying their reproductive patterns in order to prevent their depletion and the consequent imbalance of the ecosystem. Caring for ecosystems demands far-sightedness, since no one looking for quick and easy profit is truly interested in their preservation. But the cost of the damage caused by such selfish lack of concern is much greater than the economic benefits to be obtained. Where certain species are destroyed or seriously harmed, the values involved are incalculable. We can be silent witnesses to terrible injustices if we think that we can obtain significant benefits by making the rest of humanity, present and future, pay the extremely high costs of environmental deterioration.

Maarten Boudry

At the root of our climate problem, writes Pope Francis in his ecological encyclical Laudato Si, lies our human pride and arrogance: “The misuse of creation begins when we no longer recognize any higher instance than ourselves, when we see nothing else but ourselves.” Coming from a Catholic Pope, such sentiments are hardly surprising. For centuries, Christian thinkers have railed against pride as the first and worst among the seven deadly sins. But Francis is far from alone in his view. Many climate activists today, even though they don’t necessarily believe in a personal deity, share Francis’ diagnosis of our environmental worries. They too believe that our climate crisis is the result of human overreach and arrogance, of overstepping natural boundaries. Indeed, this secular environmentalist worldview comes with its own account of the fall of man from an original state of harmony with Nature. Once upon a time, humans lived as an animal alongside other animals, keenly aware of our proper place within a larger ecosystem. We enjoyed nature’s bountiful resources, but we were respectful of her limits. But then along came the scientific revolution and, soon after that, the industrial revolution. By unravelling Nature’s mysteries we gained mastery over her, and we began to treat her as an object to be mercilessly exploited. We turned, as a species, into planetary plunderers. It’s a compelling narrative but, much like the Genesis story of original sin, it’s hogwash. When we were still living as hunter-gatherers, our ecological footprint was substantially higher, per capita, than today. Our ancestors laid a larger claim on the ecosystem, in return for a much lower standard of living. With a population of no more than a few million, humans managed to wipe out all of the large land animals almost everywhere they set foot. It was the same story with deforestation: relatively small human populations brought about large-scale destruction. Today our planet hosts 7.7 billion people, and our lives are wealthier and healthier than ever before, but if we all lived like our hunter-gatherer forebears, the planet could support about 100 million of us at most. The main reason why our ancestors didn’t wreak even more ecological havoc is that they numbered too few and died too young. The right way to look at anthropogenic climate change is as an unexpected side-effect of something that, by and large, proved an immense blessing to humanity. Sure, if we had left all those fossilized

remains of ancient animals and plants under the ground, we would not now be stuck with rising global temperatures. But then our lives would also have remained solitary, poor, nasty, brutish and short, as they had been for the better part of world history until around 1800. Eventually, the Industrial Revolution even turned out to be good news for Nature. Once humans had gained access to an abundant source of high-density energy such as coal, they no longer had to cut down forests to cook food or to keep warm, and they stopped hunting whales to fill their oil lamps. Historical research shows that pollution in Europe was much worse in the Middle Ages, and that three quarters of global deforestation occurred before 1800, not after. According to WWF's Living Planet Index, nature is starting to flourish again in wealthy, industrialized countries. Forests are being restored, rivers are teeming with life again, and wildlife that had disappeared for decades or even centuries is making a steady comeback.