

*Pope Francis on the Environment II*

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## Is Pope Francis Anti-Modern?

*M. Anthony Mills*

One of the controversies attending the publication of *Laudato Si'* is about the claim that the encyclical is “anti-modern,” a description that has been alternatively a point of cautious praise and a barbed criticism. Matthew Schmitz and R. R. Reno of *First Things* magazine provide good examples of the two interpretations. Both argue in different ways that, for better or for worse—for Schmitz better, for Reno worse—the encyclical attacks the heart of modern social, political, and economic life, namely, the techno-economic nexus that draws science, technology, and capitalism together in a system of efficient economic production and material consumption. In so doing, the pontiff is said to break with his more conciliatory predecessors, allying himself with an older strain of Catholic orthodoxy that never came to terms with modernity.

This strain, exemplified by Pope Pius IX’s 1864 *Syllabus of Errors*, holds that the economic self-interest and scientific rationalism characteristic of modernity are incompatible with the truths of the Gospel, which are rooted in spiritual poverty and *caritas*. Pope Francis allegedly casts his lot with the anti-moderns, while adding, in a nod to his namesake—and to the ecologists who look up to Saint Francis—that environmental degradation is among the important sins of the modern era. A return to Christian virtue, then, entails a return to pre-modern forms of economic production and social organization, whereby nature is tilled for the common good, not exploited for the few.

Descriptions of *Laudato Si'* as “anti-science” or “anti-progress” are particularly striking, since so many self-described progressives, representatives of the scientific community, and environmentalists have warmly welcomed the recent encyclical in the hope that it would motivate action on climate change. True, like others who have written on the environment, Pope Francis’s rhetoric in the encyclical does at times invite accusations of being anti-technology or anti-progress. Nevertheless, before advising that we “slow down and look at reality in a different way” and “recover the values and the great goals swept away by our unrestrained delusions

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*M. Anthony Mills* is an associate editor of *The New Atlantis*.

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of grandeur,” the Pope reassures his readers that “nobody is suggesting a return to the Stone Age.” (Those who feel that the Pope’s criticisms of technology and consumerism make him anti-modern might well wonder whether, in offering this reassurance, the Pope means to leave open the idea of returning to the Bronze or Iron Age.)

However, what the pontiff truly rejects in this encyclical is not modernity (much less science) but a particular modern philosophy about the relationship between modernity, science, and technology—what Pope Francis calls the “technocratic paradigm.” Indeed, the import of the papal encyclical is not to cast Christianity as anti-modern but to provide new—though, in fact, ancient—moral guidance for addressing our modern challenges.

### Modernity or Modernism

To better understand Pope Francis’s message in *Laudato Si’* and the controversy over whether it is “anti-modern,” we would do well to distinguish between “modernity” and “modernism.” Modernity is a descriptive label. It describes a historical period that begins in Europe sometime after the Middle Ages and continues—if one does not distinguish modernity from “postmodernity”—into the present. The chronology, characteristics, and causes of this period remain in dispute among scholars, but beyond dispute is that modernity coincides with some or all of the following: the Renaissance, the Reformation, and the Enlightenment, as well as the emergence of nation-states and constitutional governments, market economies, experimental science, industrial technologies, and mass production.

Clearly, *Laudato Si’* is not anti-modern if by “modern” we mean “modernity.” This is underscored by its few but significant paeans to modern technology and “technoscience.” As Pope Francis points out, technological progress and scientific expertise have brought material subsistence, reliable energy, basic infrastructure, and even beauty to large swaths of humanity, contributing to the alleviation of human suffering.

We are the beneficiaries of two centuries of enormous waves of change: steam engines, railways, the telegraph, electricity, automobiles, aeroplanes, chemical industries, modern medicine, information technology and, more recently, the digital revolution, robotics, biotechnologies and nanotechnologies. It is right to rejoice in these advances and to be excited by the immense possibilities which they continue to open up before us, for “science and technology are wonderful products of a God-given human creativity.” [Here Pope Francis is quoting a 1981 address by Pope John Paul II.]...

Technology has remedied countless evils which used to harm and limit human beings. How can we not feel gratitude and appreciation for this progress, especially in the fields of medicine, engineering and communications? How could we not acknowledge the work of many scientists and engineers who have provided alternatives to make development sustainable?

Technoscience, when well directed, can produce important means of improving the quality of human life, from useful domestic appliances to great transportation systems, bridges, buildings and public spaces. It can also produce art and enable men and women immersed in the material world to “leap” into the world of beauty.

From passages like these, we can see that Pope Francis recognizes that the forces of modernity, including technology and science, have resulted in many genuine goods and are here to stay.

What would it mean to be anti-*modernity*? It would mean rejecting the historical forces and trends that have given rise to and that define modernity. It could mean seeking a return to ways of life that are thought to characterize some past golden age. It could mean calling for radically different forms of economic production, social organization, knowledge production, or systems of government. Some fascist movements are, in this sense, anti-modern. So too are certain more radical strains of environmentalism, which yearn for an Edenic age of purity and simplicity before mankind began to use technology to exploit nature. Christians sometimes express themselves in anti-modern terms, as, for example, Pius IX did in his *Syllabus of Errors*. But Christianity can be quite modern too, as in the case of American evangelicalism, which has long embraced new communications technologies, from radio and television to the Internet and social media, for its teaching and preaching.

Modernism, by contrast, is an ideology or group of ideologies that give expression to and interpret the forces of modernity in a particular way. The term has a special meaning in Christian intellectual history, referring to a group of theological movements, such as rationalist and historicist interpretations of the Bible, that were denounced by the Roman Catholic Church in Pius X's 1907 *Pascendi Dominici Gregis*. But the debates over Pope Francis's recent encyclical concern modernism in the broader sense—the philosophies and ideologies that flowered alongside modernity, and that sought to advance certain political, social, and moral ends, against older traditions. Progressivism, individualism, and liberalism can be considered forms of political modernism. Subjectivism, positivism, and scientism can be considered forms of philosophical modernism; they are

examples of the belief that modernity demands a radical break with or repudiation of earlier forms of thought and practice.

To the extent that Pope Francis voices skepticism or outright rejection of these philosophical attitudes, he could be called “anti-modern.” In this he follows his predecessor, Benedict XVI, who wrote that “A self-critique of modernity is needed in dialogue with Christianity and its concept of hope.” Benedict’s idea was to call into question some of the assumptions about reason and autonomy underlying the concept of progress in the modern age, so as to enrich or even to transcend that modernist concept on the basis of the Church’s ancient understanding of “man’s ethical formation” and the theological virtue of hope.

As some commentators have pointed out, the true target of Pope Francis’s encyclical is one particular modern philosophy: the idea that modern science aims to conquer nature “for the relief of man’s estate,” in the famous words of another Francis: Francis Bacon. In the Baconian view, nature is simply the raw material for scientific and technological manipulation. To this conception of nature, Pope Francis opposes another, ancient conception, given through Scripture and propounded by the Christian and other monotheistic traditions. As Benedict XVI wrote in his encyclical *Caritas in Veritate*, the Christian tradition does not view nature as mere matter to be exploited for our ends, but as an end in itself, a gratuitous gift that expresses the love of a divine creator. Nature here is “prior” to humankind as a *cosmos*, a metaphysical whole that evinces an “inbuilt order” and is the “setting” for human life. Nature is to be tilled by man, of course; but its utility must not be the only criterion for how we understand and treat it.

This rejection of the Baconian understanding of science and nature is what critics and apologists alike have in mind when they characterize *Laudato Si’* as being opposed to modern science.

It is true, and unsurprising, that Pope Francis appeals to an ancient conception of nature that antedates the scientific revolution. As Robert Barron, a Catholic bishop and popular evangelist, has argued, Pope Francis’s picture of nature is indebted to Genesis, the Biblical prophets, and the writings of Irenaeus, Aquinas, and Francis of Assisi—and, arguably, Plato and Aristotle—as well as to the twentieth-century theologian Romano Guardini (whose book *The End of the Modern World* is cited a number of times in the encyclical). But it is *not* true that doing so puts Pope Francis at odds with modern science. It does pit him against a particular understanding of modern science, bequeathed to us by Francis Bacon and, perhaps more importantly, by the Enlightenment *philosophes* such as Voltaire who claimed Bacon as the “father of experimental philosophy.”

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This view of science continues today in the cult of technological progress, which sees every problem as amenable to technocratic solution, no matter the environmental, social, cultural, or spiritual cost. This is what Pope Francis refers to and criticizes as the “technocratic paradigm.”

### The Technocratic Myth

Opposition to science would indeed set one against modernity. But it is striking that the word “science” is used infrequently in Pope Francis’s lengthy encyclical. When it is used, and particularly when it is used in a critical way, it tends to appear together with “technology.” This is because Pope Francis does not aim to criticize science *per se*—or even technology *per se*—but the Baconian technocratic paradigm, which understands science and technology together as instruments for controlling and exploiting all of creation. Singled out by the pontiff in this connection are “nuclear energy, biotechnology, information technology” and “knowledge of our DNA,” which give some people “tremendous power” over humanity and nature.

The technocratic paradigm that Pope Francis criticizes so sharply makes “the method and aims of science and technology an epistemological paradigm which shapes the lives of individuals and the workings of society.” It takes for granted that modern scientific methods are the only valid way of knowing and adds that all human problems have technoscientific solutions. In this way of thinking, we can only know nature and ourselves through science; moreover, both nature and ourselves become just so much raw material for technological manipulation.

Pope Francis’s rejection of the technocratic paradigm can be described as anti-scientific—and thus anti-modern—only if one already accepts the myth implicit in that paradigm, that modern scientific rationality is merely a tool for man’s technological mastery of the natural world. This myth is implicit in the rosy visions of progress from medieval poverty and darkness to the Enlightenment and industrial plenty, and also in the mournful narratives of decline from the scientific method to our disenchanting and materialistic modern world.

But this myth crumbles upon historical scrutiny. Exploitation of nature through technology is much older than modern science, and even in the modern era is not neatly bound to science. And if the notion that the technocratic paradigm is inextricably connected with modern science and technology turns out to be false, then it is also false to say that *Laudato Si’*, by rejecting this paradigm, is anti-science or anti-technology.

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The idea that modern scientific rationality is uniquely oriented toward the systematic exploitation of nature through technology ignores the mechanical revolution of twelfth-century Europe—known by some historians as the Medieval Industrial Revolution—which saw the development of technologies for subduing and harnessing nature’s hydraulic power to transform the economic organization of Medieval Europe. And of course there was the considerable technological domination unleashed by the classical Romans, who deforested vast swaths of the Mediterranean. And consider the ancient cedar forests of Lebanon, documented in early Greek and Hebraic texts, which were reduced to desert through aggressive plundering for lumber and fuel. Perhaps it was more than metaphor when in the *Aeneid* Virgil described the “black bloody drops” that dripped from the “rooted fibers” of a plant pulled from the “sylvan scenes.” Much later, Dante would echo that image in the *Inferno*. Exploitation of nature, and moral concern about it, are indeed ancient.

Of course, there are many forms of technological mastery that are distinctively modern. But is the credit (or blame) for these due simply to modern natural science? If so, why did Francis Bacon himself call for reforming the natural sciences along the model of the achievements of the technology in his own day? According to Bacon, the scholastic philosophy dominant in the universities during the sixteenth and seventeenth centuries was stagnant and sterile when compared to what were then called the mechanical arts. As Bacon put it:

All the tradition and succession of schools is still a succession of masters and scholars, not of inventors and those who bring to further perfection the things invented. In the mechanical arts we do not find it so; they, on the contrary, as having in them some breath of life, are continually growing and becoming more perfect. . . . Philosophy and the intellectual sciences, on the contrary, stand like statues, worshipped and celebrated, but not moved or advanced.

Scholastic natural scientists were beholden to an Aristotelian method of inquiry, which sought knowledge for its own sake, what the Greeks called wisdom. But for Bacon, this kind of purely contemplative reasoning led to “vain speculations,” treating knowledge as a mistress for “pleasure and vanity only,” and not “as a spouse, for generation, fruit, and comfort”—that is, the useful results that come from man’s technological mastery over nature. Thus Bacon proposed a new method of inquiry, rooted in experiment, whose fruits would be the practical applications of the craftsman. By contrast, the theoretical knowledge sought by classical philosophy “is but

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like the boyhood of knowledge,” Bacon wrote, never shying from a sexual metaphor, “and has the characteristic property of boys: it can talk, but it cannot generate; for it is fruitful of controversies but barren of works.”

In this way, the proposition that scientific knowledge yields technological domination was born of the wish to secure for natural science (or “natural philosophy,” as it was then called) the fecundity and power that the mechanical arts had already exhibited for centuries. Even Voltaire in his influential little essay on Francis Bacon was compelled to admit that “the ages of scholastic barbarity” before the rise of Baconian science could claim many wonderful inventions.

Not only did technological mastery precede the rise of modern science, even modern technological developments are not always directly tied to scientific knowledge. As historian of science Peter Dear points out, we are all the beneficiaries of technologies that were developed using James Clerk Maxwell’s theory of electromagnetism. While we continue to use electrical technologies made possible by this theory, we have long since discarded some of its closely related suppositions, particularly the idea that the entire universe is permeated by an undetectable material medium known as the luminiferous ether. That we can use electricity today without accepting all of Maxwell’s scientific ideas suggests that the tight connection Bacon sought between scientific knowledge and mechanical art is in fact loose, even meandering.

### **Science, Ancient and Modern**

There is, of course, something genuinely novel, indeed revolutionary, in modern scientists’ approach to nature. This is doubtless owing to the centrality of experiment, for which Bacon must be given his due, but also to modern innovations in mathematics and its applications, for which Galileo, Descartes, Leibniz, and Newton must be given theirs. But even some of these great modern scientists followed the ancient natural philosophers in taking nature to be an object of contemplation rather than of manipulation, which further dismantles the notion that technological mastery is the essential concern of modern science, and that in criticizing one Pope Francis also criticizes the other.

In fact, the argument could be made that modern science itself emerged from the old desire to understand nature, rather than from the hope of mastering it. The contemplative attitude toward nature is found already in Greece during the sixth century B.C., when Thales, traditionally considered the first philosopher, began asking after the causes of natural phenomena.

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The presupposition of this endeavor is that there is such a thing as nature, distinct from both men and gods. Nature in this sense is not raw material shaped by a capricious divine will—any more than it is the raw material for capricious human will—but a cosmos, a harmonious whole that contains an intrinsic order discoverable through rational inquiry. Accordingly, the early Greek “physicists,” as Aristotle called them, sought an understanding of nature (*physis*) for its own sake; and physics—or *physio-logia*, the study of nature—was distinct both from craft (*techne*) and myth (*mythos*).

It was this conception of nature, along with the type of rational inquiry that endeavored to understand it, that enabled astronomy to become distinct from astrology, geometry from surveying, cosmology from cosmogony, and theology from theogony. And it was this conception of nature that was taken up into the Jewish, Christian, and Islamic traditions, which read scripture through the philosophical traditions they inherited from Plato and Aristotle. Some historians of science, notably Pierre Duhem, have gone so far as to argue that modern science began, not with Copernicus and Galileo, but with the writings of medieval natural philosophers—those purveyors of “scholastic barbarity” as Voltaire thought—such as Roger Bacon, Nicole Oresme, and Nicholas of Cusa, who first blended this ancient wisdom with systematic empiricism.

Without going quite so far, we could say that modern science was not simply born of a new impulse to master nature, but that it shares with ancient science an impulse to understand nature for its own sake, supplemented by the novel tools of mathematics and experiment.

Now, it is true, as some commentators have noted, that Pope Francis reserves some criticism in his encyclical for the “scientific and experimental method.” He goes so far as to call it “a technique of possession, mastery and transformation.” But at issue here is not science *per se* so much as that instrumental rationality to which Bacon gave canonical expression, which fastens onto one aspect of modern science and generalizes it into an entire worldview. And such a worldview, Pope Francis rightly points out, cannot provide “a complete explanation of life, the interplay of all creatures and the whole of reality.” Indeed, science itself cannot offer such a worldview, because “this would be to breach the limits imposed by its own methodology.” Here, as the pontiff himself notes, he only elaborates on the views of the relationship between science and religion that he articulated in his first encyclical, *Lumen Fidei*. In that 2013 document, he argued that

The gaze of science... benefits from faith: faith encourages the scientist to remain constantly open to reality in all its inexhaustible richness.



Faith awakens the critical sense by preventing research from being satisfied with its own formulae and helps it to realize that nature is always greater. By stimulating wonder before the profound mystery of creation, faith broadens the horizons of reason to shed greater light on the world which discloses itself to scientific investigation.

This, surely, is neither anti-science nor anti-modern, even if it would cause Voltaire to bristle.

### **A Moral Philosophy for Our Times**

While Pope Francis does not reject science or technology or modernity, his critique is nevertheless new—even radical—in a different sense, calling for “lifestyles” rooted in the virtues of prudence and temperance, not the vices of technological exuberance and greed, and guided by the principles of solidarity and the common good, not individualism or self-interest. New, however, are not the principles themselves but his emphasis on what they mean for our relationship to the natural and material world.

The call to a life of Christian virtue, which eschews material abundance and technological progress—not in themselves but when pursued for their own sakes—is, as the Gospel message has always been, in tension with the ways of the world. In urging readers to turn against them, Pope Francis proposes what G. K. Chesterton called an “eternal revolution,” whereby “at any instant you may strike a blow for the perfection which no man has seen since Adam.” In *Laudato Si'*, Pope Francis is as radical as Saint Benedict, as revolutionary as Saint Francis.

But Pope Francis’s radicalism is of a peculiar sort. To criticize certain modern trends, even to advocate lifestyles that resist them in various ways, is not the same as seeking a radical transformation of social and political structures. This is why Pope Francis calls for a “cultural” and not a political “revolution.” A cultural revolution is not without political implications; what makes it radical, however, is not the call for a different political or economic order but for a different moral order. Communists and fascists in the twentieth century pursued political revolutions, while today, certain monastic orders, organic farmers, and even urban hipsters, however inchoately, are pursuing a cultural revolution away from consumerism, materialism, and the technocratic paradigm that dominates much of contemporary culture.

Nor does criticizing modern ideologies amount to recommending a reversal of historical time, a return to an earlier era. This would be both impossible and contrary to the Christian vision of history, which is irreversible and providential, culminating in the eschatological movement

out of secular time into the eternal. This vision reflects the openness to the transcendent characteristic of Christianity in general. And here is where Pope Francis locates the difference between the Christian life of virtue and contemporary environmentalism. The latter boasts an ethic of sustainability that takes the natural, not the supernatural, as the source of all meaning. And this, he argues, is “nothing more than romantic individualism dressed up in ecological garb, locking us into a stifling immanence.” For Christianity, there is more to life than what is immanent in nature—the physical universe and our human history. Existence has a transcendent dimension that is the source of all meaning and in this sense is incompatible with any simply naturalistic ecological movement.

Of course, to the extent that they share common ideological foes, Pope Francis and contemporary environmentalism are allied. But this is an alliance of convenience. What *Laudato Si'* offers us is not a blueprint for political revolution to transport us out of modernity into a utopian future or past, but a moral philosophy for addressing the forces characteristic of modernity. Pope Francis does not expound a philosophical vision incompatible with our times but a rival philosophy *for* our times—one that appeals to a cultural memory longer than that of the amnesiac modernist. And he does so using a moral language understandable by (and in a letter directed to) the general public.

This philosophy is significant for at least two reasons. First, it provides moral guidance for engaging some of the most contentious political problems of our time while rejecting the false dichotomy in which purported solutions to these problems are too often proposed. The dichotomy is between the amoral language of libertarian technocracy, which sees in humankind the solution to all problems, and the morally infused and often pantheistic language of environmentalism, which sees in humankind the root of all problems. By contrast to both these visions, Pope Francis enjoins us to address the problems characteristic of modernity while admitting that genuine progress can never be strictly natural, technological, or material:

There is a growing awareness that scientific and technological progress cannot be equated with the progress of humanity and history, a growing sense that the way to a better future lies elsewhere. This is not to reject the possibilities which technology continues to offer us. But humanity has changed profoundly, and the accumulation of constant novelties exalts a superficiality which pulls us in one direction. It becomes difficult to pause and recover depth in life.

Pope Francis notes that modern science needs to be a part of addressing our technical challenges. But this would not be a science of the technocratic paradigm that tries to be value-neutral, but one that would “take into account the data generated by other fields of knowledge, including philosophy and social ethics.” This is why Pope Francis calls for “an intense dialogue” between science and religion, “with their distinctive approaches to understanding reality,” so that our knowledge about nature may be complemented with moral guidance on how to use it.

Second, the moral philosophy in *Laudato Si'* is significant for critiquing the technocratic paradigm while rejecting that “romantic individualism dressed up in ecological garb” so fashionable among those who join in that critique. The result is an “integral ecology,” centered on the human person, which means that it takes seriously the Christian teaching about the interconnectedness of people with each other and with the natural world. For “if we are truly concerned to develop an ecology” adequate to our times, then “no branch of the sciences and no form of wisdom can be left out, and that includes religion and the language particular to it.” Thus the Franciscan vision casts modern life, and its relation with the natural world, in a meaningful and purposive narrative in which mankind is central; but it insists that such meaning and purpose lie beyond both man and nature.