

In Episode 4, John and Ellen explore how shifting ideas about humanity's relationship with nature connect to the development of capitalism.

John interviews Australian scholar Kate Rigby, who argues that influential Scientific Revolution thinkers like Descartes, Bacon, and Locke described humans as separate from the natural world. She suggests that this marked a departure from earlier ways of thinking in Western Europe and helped justify emerging capitalist projects: "You can't have any taboos or limitations on how you treat the land if your economy depends upon the exploitation of what, hey, we're going to call 'resources.'"

John summarizes the idea this way: "These thinkers...provided people...the go-ahead for their exploitative, wealth-building projects. A green light that would have been harder to find in the prevailing values of European culture a few centuries before."

Think about John and Kate's discussion. (It may be helpful to listen to [Episode 4, 10:46-16:56](#), or skim the [Episode 4 transcript, pp. 10-14](#), to refresh your memory.)

Then, examine sources to consider how European views of nature shifted during the Scientific Revolution, analyze how these shifts may have served as a "green light" for capitalist projects, and consider whether different views of nature might inspire different relationships with nature today.

| Part                                      | Guiding Questions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
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| <b>Part 1</b><br>Shifting Views of Nature | <ul style="list-style-type: none"><li>What do different sources suggest about how European views of nature changed during the Scientific Revolution?</li><li>To what extent do these sources support the idea that Scientific Revolution thinkers provided a "green light" to use land and natural resources in new ways to build wealth?</li></ul>                                                                                                                                               |
| <b>Part 2</b><br>Nature as Kin            | <ul style="list-style-type: none"><li>According to Robin Wall Kimmerer (member of the Citizen Potawatomi Nation and a professor at the State University of New York's College of Environmental Science and Forestry), how does language shape people's relationships with the natural world?</li><li>If language and ideas have helped people justify extraction and exploitation in the past, could different ideas help inspire different relationships with the natural world today?</li></ul> |

## Part 1 Shifting Views of Nature

These sources illustrate different ways European thinkers understood humanity's relationship with nature before and during the Scientific Revolution.

### Source

**Excerpt from *Natural History, Book II, Chapter 63, "Nature of the Earth,"* by Pliny the Elder** (adapted by William C. Michael from Henry T. Riley and John Bostock's translation, first published 1855)

Pliny the Elder (23 AD-79 AD) was a Roman writer whose 37-volume *Natural History* is remembered as, according to [History.com](https://www.history.com), "the first encyclopedia – a compilation of alleged facts about astronomy, geography, zoology, botany, mineralogy and anthropology."

Next comes the earth, on which alone of all parts of nature we have bestowed the name that implies maternal veneration. It is appropriated to man as the heavens are to God. She receives us at our birth, nourishes us when born, and ever afterwards supports us; lastly, embracing us in her bosom when we are rejected by the nest of nature, she then covers us with especial tenderness; rendered sacred to us, inasmuch as she renders us sacred, bearing our monuments and titles, continuing our names, and extending our memory, in opposition to the shortness of life. In our anger we imprecate her on those who are now no more, as if we were ignorant that she is the only being who can never be angry with man. The water passes into showers, is concreted into hail, swells into rivers, is precipitated in torrents; the air is condensed into clouds, rages in squalls; but the earth, kind, mild, and indulgent as she is, and always ministering to the wants of mortals, how many things do we compel her to produce spontaneously! What odours and flowers, nutritive juices, forms, and colours! With what good faith does she render back all that has been entrusted to her!

[...]

How many luxuries and how many insults does she not bear for us! She is cast into the sea, and, in order that we may introduce seas into her bosom, she is washed away by the waves. She is continually tortured for her iron, her timber, stone, fire, corn, and is even much more subservient to our luxuries than to our mere support. What indeed she endures on her surface might be tolerated, but we penetrate also into her bowels, digging out the veins of gold and silver, and the ores of copper and lead; we also search for gems and certain small pebbles, driving our trenches to a great depth. We tear out her entrails in order to extract the gems with which we may load our fingers.

**From *The Notebooks of Leonardo Da Vinci*, Vol. ii, pp. 179, 220-221** (translated by Jean Paul Richter, 1883)

Leonardo da Vinci (1452–1519) was an Italian Renaissance architect, musician, inventor, engineer, sculptor, and painter. Leonardo seems to have begun recording writing, diagrams, illustrations, and notes in the mid-1480s, a practice that he continued until his death.

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By the ancients man has been called the world in miniature; and certainly this name is well bestowed, because, inasmuch as man is composed of earth, water, air and fire, his body resembles that of the earth; and as a man has in him bones the supports and framework of his flesh, the world has its rocks the supports of the earth; as man has in him a pool of blood in which the lungs rise and fall in breathing, so the body of the earth has its ocean tide which likewise rises and falls every six hours, as if the world breathed; as in that pool of blood veins have their origin, which ramify all over the human body, so likewise the ocean sea fills the body of the earth with infinite springs of water.

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So that we might say that the earth has a spirit of growth; that its flesh is the soil, its bones the arrangement and connection of the rocks of which the mountains are composed, its cartilage the tufa, and its blood the springs of water. The pool of blood which lies round the heart is the ocean, and its breathing, and the increase and decrease of the blood in the pulses, is represented in the earth by the flow and ebb of the sea; and the heat of the spirit of the world is the fire which pervades the earth, and the seat of the vegetative soul is in the fires...

## Source

### Excerpt from *Discourse on the Method for Reasoning Well and for Seeking Truth in the Sciences* by René Descartes (translated by Ian Johnston, 2010)

René Descartes (1596-1650) was a French mathematician, scientist, and philosopher who, according to [Britannica](#), “promoted the development of a new science grounded in observation and experiment.” He is frequently referred to as the father of modern philosophy and is remembered as a pivotal figure in the Scientific Revolution.

Instead of the speculative philosophy which is taught in the schools, we can find a practical philosophy by which, through understanding the force and actions of fire, water, air, stars, heavens, and all other bodies which surround us...we could use them in the same way for all applications for which they are appropriate and thus make ourselves, as it were, the masters and possessors of nature.

## Source

### Excerpt from *“Prefaces and Prologues”* by Francis Bacon in *Famous Prefaces: The Harvard Classics*, Vol. 36 (edited by Charles W. Eliot, 1909)

Francis Bacon (1561–1626) was an English philosopher and government official whose approach to scientific inquiry emphasized systematic observation and experimentation. Bacon is sometimes referred to as the founder of the scientific method.

I mean it to be a history not only of nature free and at large (when she is left to her own course and does her work her own way)—such as that of the heavenly bodies, meteors, earth and sea, minerals, plants, animals,—but much more of nature under constraint and vexed; that is to say, when by art and the hand of man she is forced out of her natural state, and squeezed and moulded...the nature of things betrays itself more readily under the vexations of art than in its natural freedom.

**Excerpt from Second Treatise of Government, Chapter V, Sections 26 and 37 (1689)**

John Locke (1632–1704) was an English philosopher whose writing inspired the Enlightenment and the founding documents of the United States (including the Declaration of Independence and the Constitution).

God, who hath given the World to Men in common, hath also given them reason to make use of it to the best advantage of Life, and convenience. The Earth, and all that is therein, is given to Men for the Support and Comfort of their being. And though all the Fruits it naturally produces, and Beasts it feeds, belong to Mankind in common, as they are produced by the spontaneous hand of Nature; and no body has originally a private Dominion, exclusive of the rest of Mankind, in any of them, as they are thus in their natural state: yet being given for the use of Men, there must of necessity be a means to appropriate them some way or other before they can be of any use, or at all beneficial to any particular Man.

[...]

To which let me add, that he who appropriates land to himself by his labour, does not lessen but increase the common stock of mankind. For the provisions serving to the support of humane life, produced by one acre of inclosed and cultivated land, are (to speak much within compasse) ten times more, than those, which are yeilded by an acre of Land, of an equal richnesse, lyeing wast in common. And therefor he, that incloses Land and has a greater plenty of the conveniencys of life from ten acres, than he could have from an hundred left to Nature...

## Part 2 Nature as Kin

This source prompts readers to consider whether different views of nature might inspire different relationships with nature today.

### Source

**"Nature Needs a New Pronoun: To Stop the Age of Extinction, Let's Start by Ditching 'It'"**  
**by Robin Wall Kimmerer for Yes! Magazine (March 30, 2015)**

Robin Wall Kimmerer is a member of the Citizen Potawatomi Nation and a professor at the State University of New York's College of Environmental Science and Forestry. Kimmerer is the author of *Gathering Moss: A Natural and Cultural History of Mosses*, *Braiding Sweetgrass: Indigenous Wisdom, Scientific Knowledge and the Teachings of Plants*, and *The Serviceberry: Abundance and Reciprocity in the Natural World*. Yes! Magazine's bio of Kimmerer explains that her interests in restoration include "not only restoration of ecological communities, but restoration of our relationships to land."