

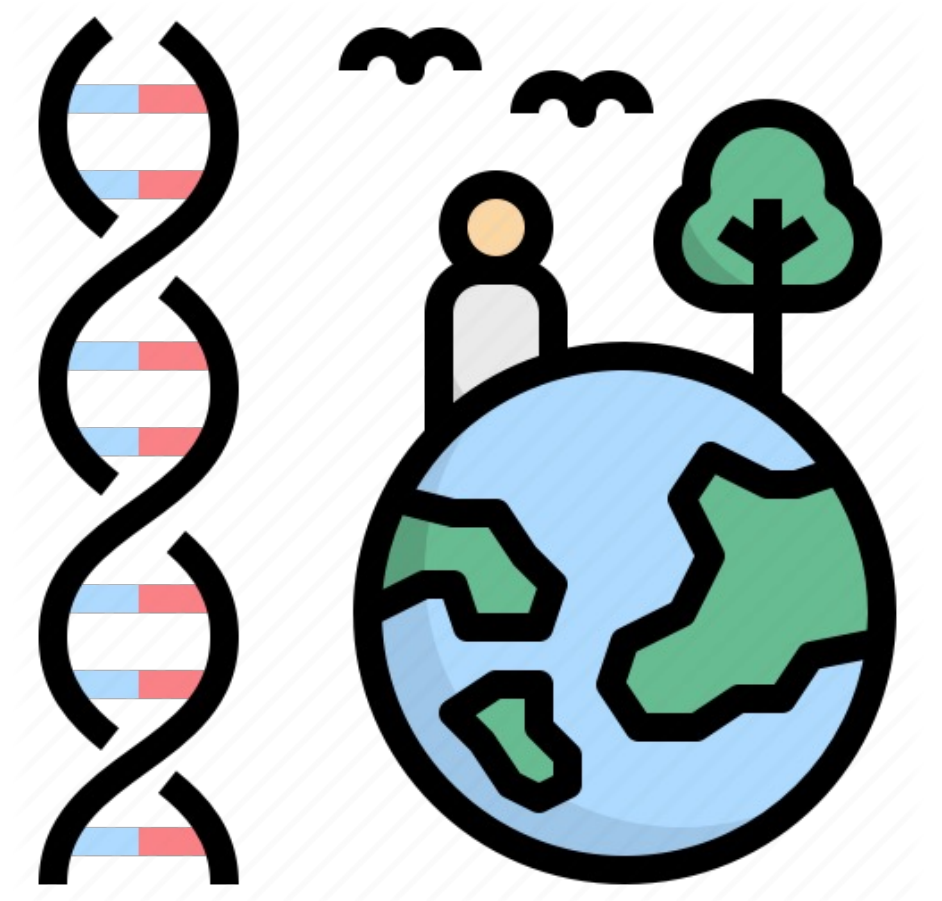
Lecture 7

Carson

GFN1000 In Dialogue with Nature

Part II: Human Exploration of the World of Life

- On The Origin of Species / Charles Darwin
- DNA: The Secret of Life / James D. Watson
- Silent Spring / Rachel Carson



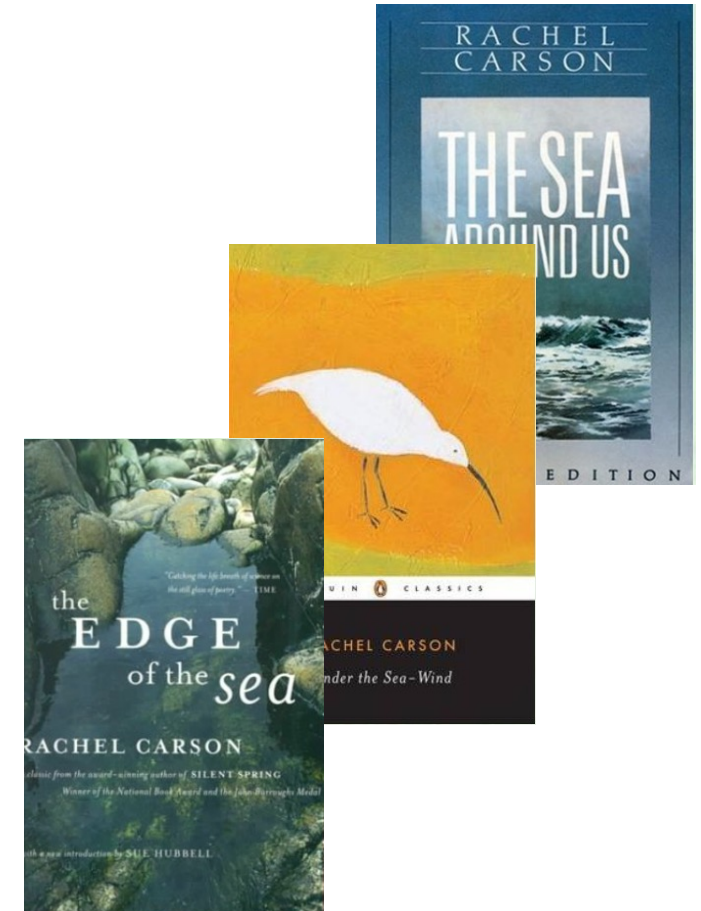
Content

- Rachel Carson and Silent Spring
 - Rachel Carson
 - Silent Spring
 - Criticisms
 - Legacies
- Environmentalism
 - Environmental Philosophy
 - Anthropocentrism
 - Climate Change



Rachel Carson (1907-1964)

- Bachelor: English, switched to biology at Pennsylvania College for Women (1925-29)
- Master's degree in zoology from Johns Hopkins University (1929-32)
- Joined the U.S. Bureau of Fisheries as a junior marine biologist in 1936
 - A fifteen-year career in the federal service as a scientist and editor
 - Editor-in-Chief of all publications for the U. S. Fish and Wildlife Service (FWS)



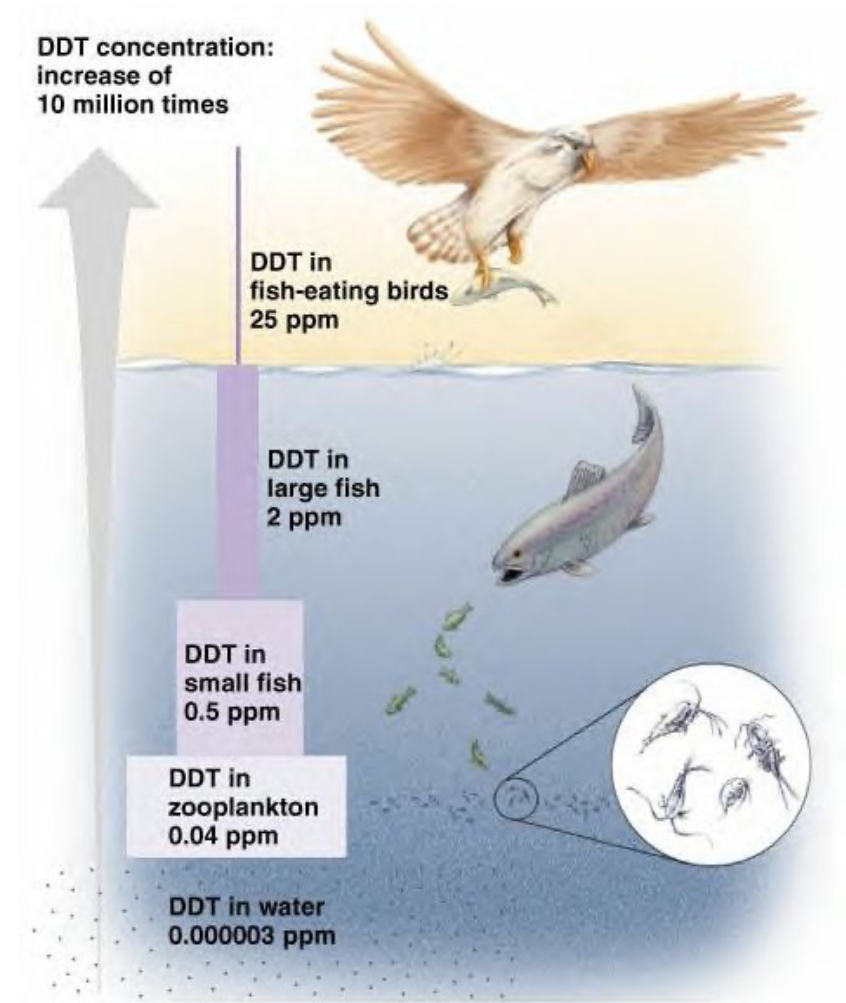
Silent Spring

- Initially serialized in *The New Yorker* during the summer of 1962
- The title suggests a spring without birdsong and a future with impoverished biodiversity.
- The book triggered popular environmental awareness in the West.



Bio-magnification

- DDT was effective in preventing the spread of insect-borne diseases
 - Paul Hermann Müller, Nobel Prize in Physiology or Medicine 1948
- Highly stable chemical structure → bioaccumulation
- Bio-magnification: Concentration of poison along the food chain to lethal levels



Propaganda

- The chemical industry has played down the environmental impacts of pesticides
 - "20% more milk..."
 - "Bigger apples, juicier fruits..."
 - "Healthier, more comfortable homes ..."



Power Into Play

- "If man were to follow the teachings of **Miss Carson**, we would return to the Dark Ages, and the insects and diseases and vermin would once again inherit the earth." - Dr. Robert White-Stevens, biochemist, a spokesman for the chemical industry
- "**Rachel, Rachel**, we've been hearing, All the dread words that you've said. Were they true and Spring was silent, Then I'm sure we'll soon be dead." - National Pest Control Association
- "Justice Douglas tells of attending a meeting of federal field men who were discussing protests by citizens against plans for the spraying of sagebrush...These men considered it hilariously funny that an **old lady** has opposed the plan because the wildflowers would be destroyed." (Carson)

Criticisms

- Scientific accuracy and rigor: anecdotal and selective data
- Exaggeration of environmental and health risks of pesticides, particularly DDT
- Lack of balance: one-sided arguments and omission of progress; worsening malaria as people stop using DDT

NO LONGER ENDANGERED



BALD EAGLE

DUE TO BANNING OF DDT

STILL ENDANGERED



MALARIA VICTIMS

DUE TO BANNING OF DDT

Personal Attacks

Carson got much credit as well as much blame after the publication of *Silent Spring*.

- A ‘hysterical’, ‘emotional’ woman unqualified to write such a book
- “Why a spinster with no children was so concerned about genetics?”
- A ‘communist sympathizer’; an ‘agricultural propagandist’ employed by the Soviet Union

‘Silent Spring’ Is Now Noisy Summer

*Pesticides Industry
Up in Arms Over
a New Book*

By JOHN M. LEE

The \$300,000,000 pesticides industry has been highly irritated by a quiet woman author whose previous works on science have been praised for the beauty and precision of the writing.

The author is Rachel Carson, whose “The Sea Around Us” and “The Edge of the Sea” were best sellers in 1951 and 1955. Miss Carson, trained as a marine biologist, wrote gracefully of sea and shore life.

In her latest work, however, Miss Carson is not so gentle,



*Rachel Carson Stirs
Conflict—Producers
Are Crying ‘Foul’*

fending the use of their products. Meetings have been held in Washington and New York. Statements are being drafted and counter-attacks plotted.

A drowsy midsummer has suddenly been enlivened by the greatest uproar in the pesticides industry since the cranberry scare of 1959.

Miss Carson's new book is entitled “*Silent Spring*.” The title is derived from an idealized situation in which Miss Carson envisions an imaginary town where chemical pollution has silenced “the voices of spring.”

Legacies

The Person Popularized Modern Ecology

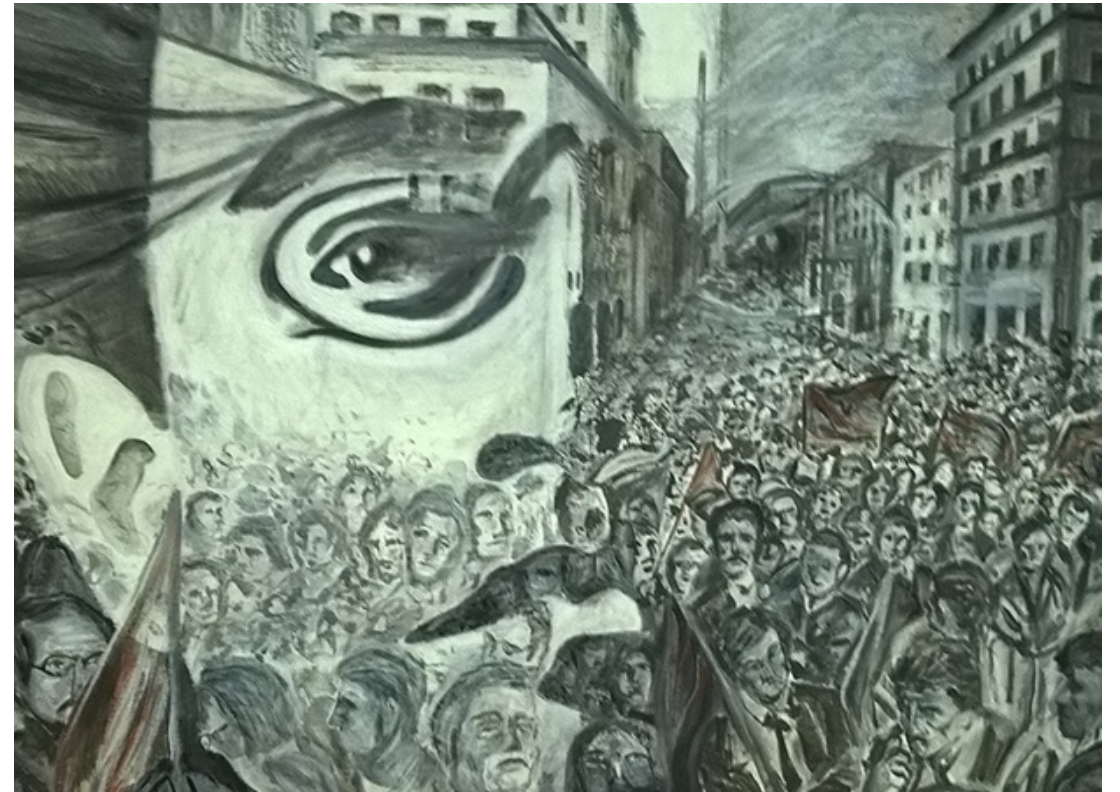
- Triggered public awareness of environmental issues
- Established a citizen's right to live in a clean environment
- Called for new policies to protect health and the environment.
- Doris Lessing: "Carson was the originator of ecological concerns."

The Book Birthed Modern Environmentalism

- The National Environmental Policy Act (NEPA) (1970)
 - The Clean Air Act (1963) and The Clean Water Act (1972)
- The establishment of the US Environmental Protection Agency (EPA) in 1970
- DDT was banned for use in 1973.

Science Communication

- Trust and accountability issues in science: communication of science is too top-down
- The public is impressed by science but suspicious of its motives
- Scientists need to listen to and engage with the public
- knowledge-creating and knowledge-sharing



Environmentalism

- Before the 1960s, environmentalism focused on preservation and conservation, e.g., national parks.
- The 1960s: post-war period, economic growth, civil rights movement, anti-war sentiment, anti-capitalism.
 - Rachel Carson's *Silent Spring* (1962) U.S. bestseller
 - "The Population Bomb" by Paul Ehrlich (1968)
 - Many environmental organizations were founded.
- After the 1960s, environmentalism started to focus on anti-pollution.
 - The US Environmental Protection Agency (EPA) established in 1970

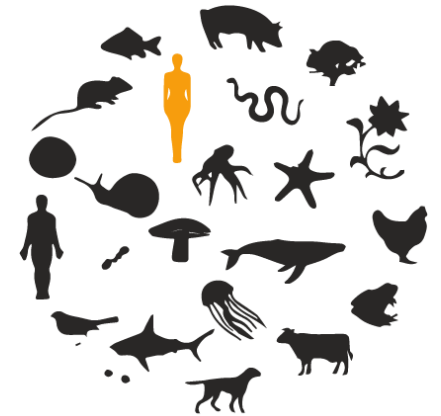
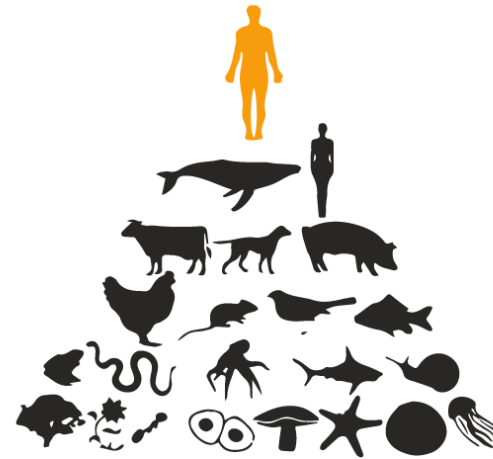
The Human-Nature Dichotomy

- Nature as adversary, something that had to be subordinated.
- Attitudes towards unrestrained exploitation of natural resources.
- Gendered narrative: Nature seen as the embodiment of all the characteristics that women possess
 - “Mother Earth”
- The case of Westward Movement



Environmental Value

- Anthro-centrism: A way of thinking that regards humans as the source of all value and is predominantly concerned with human interests
- Eco-centrism: A mode of thought that considers humans as subject to ecological laws and as of equal value to plants, animals, and the environment



Anthropocene

Singing in a silent spring: Birds respond to a half-century soundscape reversion during the COVID-19 shutdown

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Article

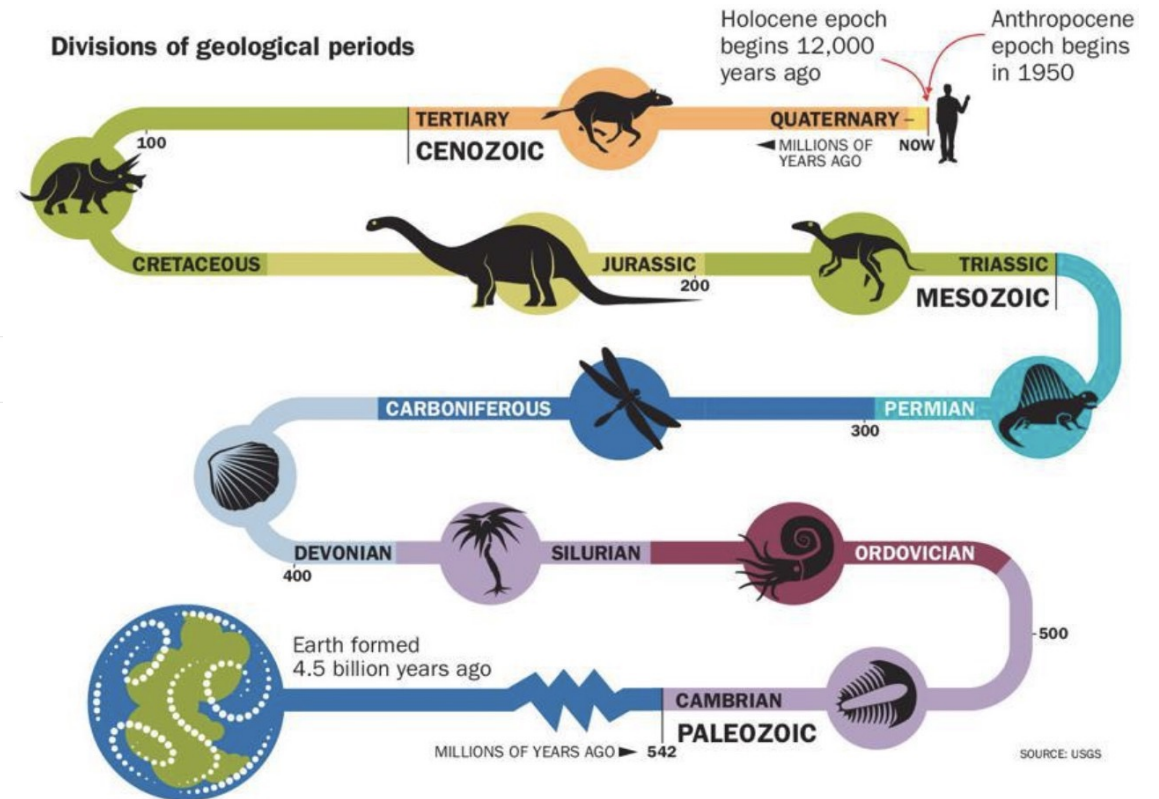
Figures & Data

Info & Metrics

eLetters

China's tree-planting drive could falter in a warming world

Researchers warn that the country's push to hold back its deserts could strain water resources.



Climate Change

- Long-term shifts in temperatures and weather patterns: severe, pervasive, and irreversible impacts
- Melting polar ice, rising sea levels, storms, droughts, water scarcity, fires, flooding, and declining biodiversity.
- Food, housing, safety, health, and poverty

