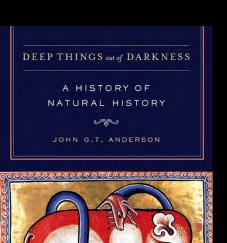
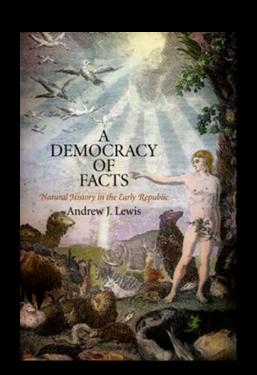
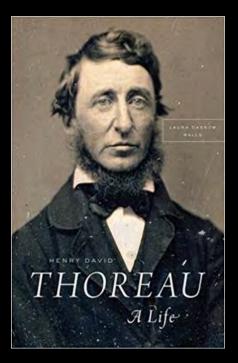


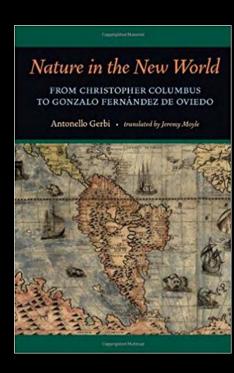
Center for Environmental Research at Hornsby Bend

American Natural History: Thoreau and New World Nature







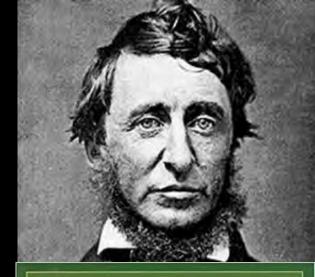


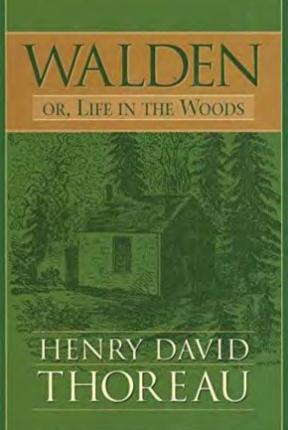
Kevin M. Anderson, Ph.D. Austin Water – Center for Environmental Research Thoreau the Literary Naturalist Henry David Thoreau (July 12, 1817 – May 6, 1862)

"Sic Vita" or "Such is Life" (1837)

I am a parcel of vain strivings tied
By a chance bond together,
Dangling this way and that, their links
Were made so loose and wide,
Methinks,
For milder weather.

A bunch of violets without their roots,
And sorrel intermixed,
Encircled by a wisp of straw
Once coiled about their shoots,
The law
By which I'm fixed.

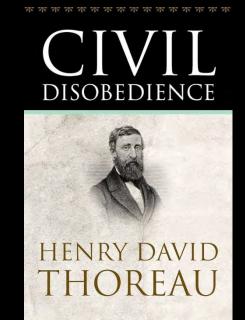


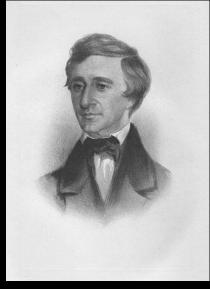


Henry David Thoreau July 12, 1817 – May 6, 1862

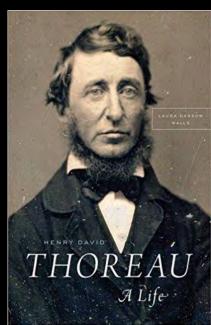
- Henry David Thoreau was born David Henry Thoreau in Concord
- In 1828, after a few years in Concord's grammar school, Thoreau began attending the Concord Academy, and from 1833 to 1837 he attended Harvard College.
- Pencils Thoreau worked in his family pencil factory and designed machines for making pencils.
- Abolitionist Family His mother and sisters are leading abolitionists and draw Henry along. Spends night in jail then publishes "On Civil Disobedience" in 1849.

Death of Brother - Henry and his older brother John, opened a Grammar School in Concord in 1838, teaching there until John became fatally ill from tetanus and dying as Henry held him in 1841. His death profoundly impacted Henry.



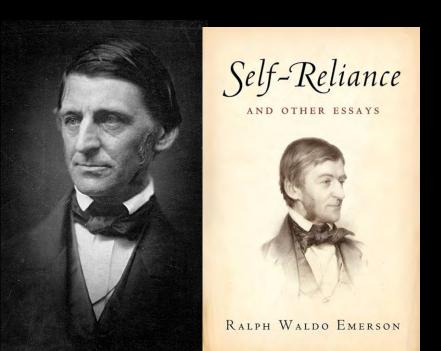


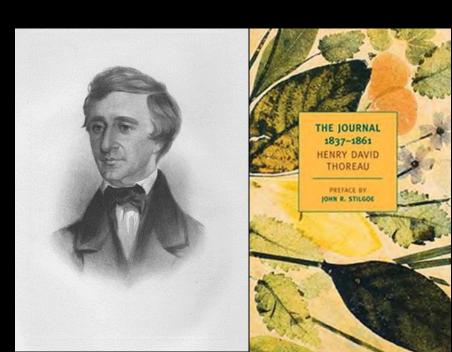
1854



Thoreau and Emerson

- Emerson Meets Emerson in 1837 (14 years older). In 1841 he was invited to live in the Emerson household, where he lived sporadically until 1844 working as an allaround handyman, gardener, and assistant to Emerson.
- The Journal Thoreau began keeping a journal at Emerson's suggestion. The first
 journal entry, on October 22, 1837, reads, "'What are you doing now?' he asked.
 'Do you keep a journal?' So I make my first entry today." His journal becomes a twomillion word document he kept for 24 years.
- First Publication 1840 first essay in the Transcendentalist journal *Dial* at Emerson's urging





Transcendentalism – The American Concept of Nature

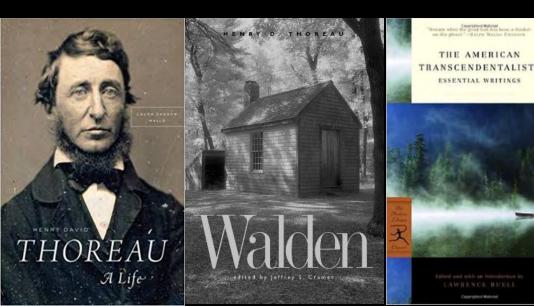
The Romantic idea of Nature transformed into the American Transcendentalist idea of Nature in Ralph Waldo Emerson's essay, "Nature" (1844).

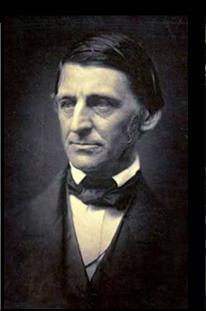
Nature contact as therapy for a diseased, over-civilized heart.

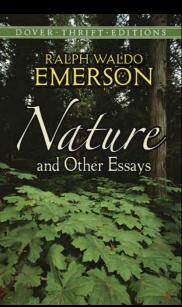
- Nature is a source of sensations--healthy feelings.
- Humans can discover emotional health in nature.
- Such health leads to moral and spiritual clarity.

Thoreau's Walden (1854)

Nature is a refuge from the artificial constructs of civilization – the Town and City.





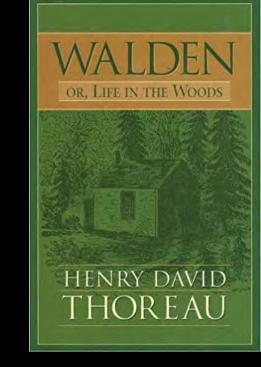


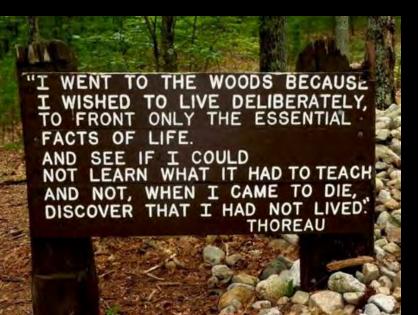
Walden 1854

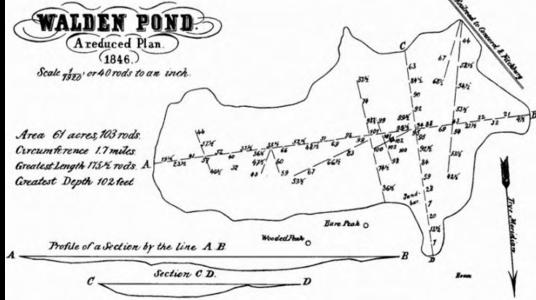
When he was 28, Henry moved to the woods. From 1845 to 1847, Thoreau lived in a small house that he built himself on the shore of Walden Pond, a mile and a half south of Concord amidst woodland owned by Emerson.

First published in 1854, Walden or, Life in the Woods details Thoreau's experiences over the course of two years, two months, and two day compressed into a single calendar year for the book.

The book was not published until he was 37.

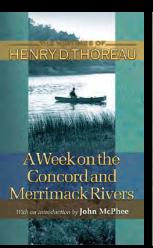


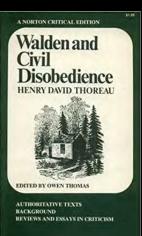


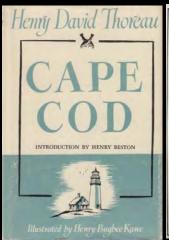


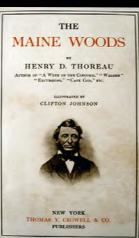
Work, Writing, Death

- Surveying Thoreau taught himself surveying which was his main profession besides writing.
- Books Published during Thoreau's Lifetime
 - A Week on the Concord and Merrimack Rivers. 1849.
 - Walden or, Life in the Woods. 1854.
- Posthumously Published Books
 - The Maine Woods. 1864.
 - Cape Cod. 1865.
- Death Thoreau first contracted tuberculosis in 1835 and suffered from it sporadically over his life. He died May 6, 1862 and is buried in Concord.

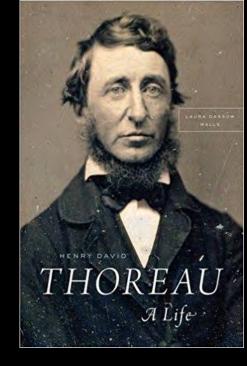










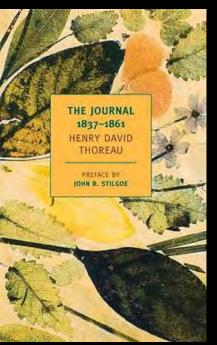


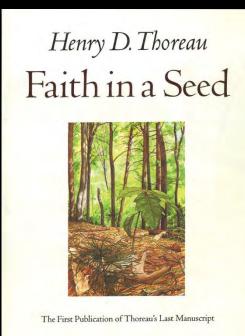
Thoreau and Observation of Nature

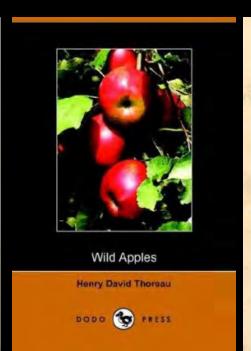
His journal contains detailed observation of the natural history of Concord, and these observations became the source for Thoreau's writings, such as *Autumnal Tints, The Succession of Trees*, and *Wild Apples*, an essay lamenting the destruction of wild apple species.

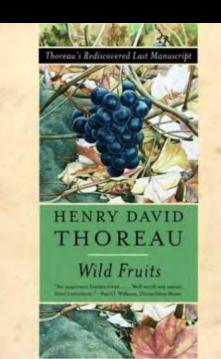
Until the 1970s, literary critics dismissed Thoreau's late pursuits as amateur science.

With the rise of environmental history and ecological literary criticism a new perception emerged, showing Thoreau to be both a writer of literature and an analyst of ecological patterns in Concord's fields and woods – a scientific naturalist.









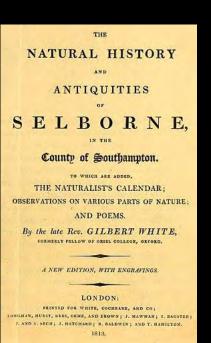
Thoreau and Natural History

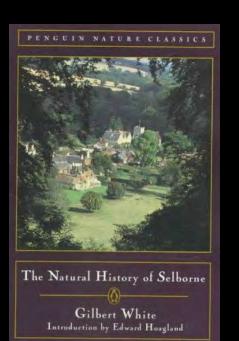
Thoreau replies to the American Association for the Advancement of Science offer of membership in 1853 -

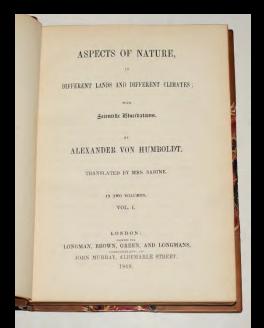
"I am an observer of nature generally, and the character of my observations, so far as they are scientific, may be inferred from the fact that I am especially attracted by such books of science as White's *Selborne* and Humboldt's *Aspects of Nature*."

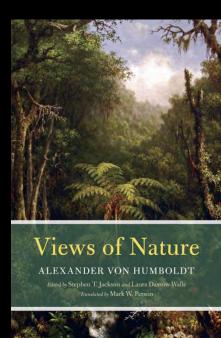










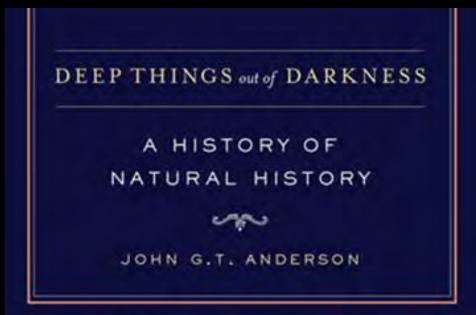


A Brief History of Natural History

- Scientific Natural History
- Literary Natural History









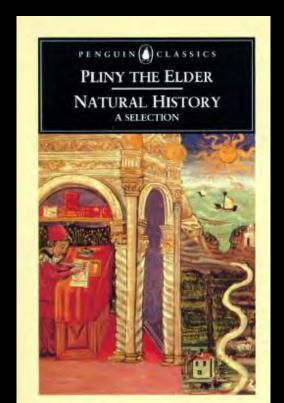
Natural History and the Study of Nature – Western Origins

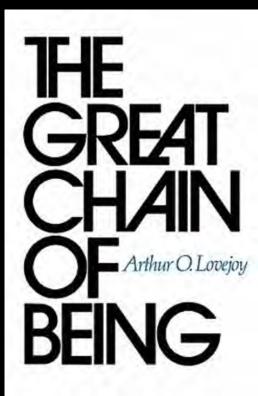
The Greeks and Romans

- The originators of natural history were not scientists.
- They were philosophers and writers who studied nature and wrote historia
- This Greek word historia is closer to investigation or research rather than "history"
- But the books of their nature research were titled "Natural History" in English
- ...and the rest, as they say, is history.

Aristotle Generation of Animals Animals Translated With Introduction and Notes

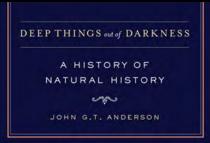
C. D. C. Reeve





The History of Natural History – Science and Art

- Observation
- Description
- Collecting
- Encyclopedias
- Artist Naturalists
- Classification
- Taxonomy

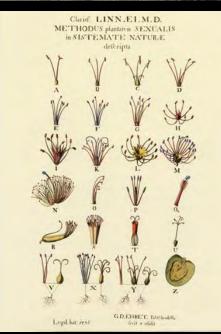










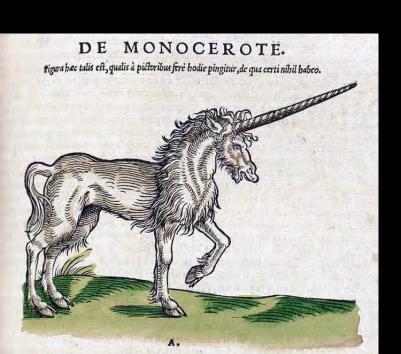


Renaissance 14th – 16th Centuries Konrad Gessner (1516-1565)

His five-volume *Historiae animalium* (1551–1558)

The first zoological work that attempts to describe <u>all the animals known</u>, and the <u>first bibliography of natural history writings</u>. He showed the animals' places in history, literature and art.

Fantastical creatures and newly discovered creatures not in Aristotle











Albrecht Dürer (1471–1528) Description and Realism













Scientific Natural History - The Order of Things? Classification and Identification - Taxonomy

Carl Linnaeus 1707 – 1778 Swedish botanist, physician, and zoologist

- The first edition of Systema Naturae was printed in 1735.
 Professor of botany at Uppsala in 1741.
- Linnaeus laid the foundations for the modern scheme of binomial nomenclature (Genus species).

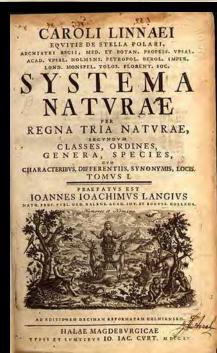
The System of Nature

His "sexual system" of taxonomy used the flower and its reproductive parts to structure the taxonomy, and it focused on "essential" diagnostic characteristics.

It was remarkably useful for the practical purposes of identification but inconsistent for animal classification.







The Order of Things?
Classification and Natural Diversity - Biogeography
Comte de Buffon 1707–1788

French naturalist, mathematician, cosmologist, and encyclopedist.

• Buffon published thirty-six quarto volumes of his *Histoire* naturelle from 1749-88.

The System of Nature

- **Biogeography** Buffon noted that despite similar environments, different regions have distinct plants and animals, a concept later known as *Buffon's Law* the first principle of biogeography.
- **Total Morphology** Buffon criticized Linnaeus's taxonomical approach to natural history. He insisted we "must make use of all parts of the object" for classification, including internal anatomy, behavior, and distribution (not just sexual organs)
- **Biodiversity** In contrast to Linnaeus, Buffon was less concerned with identification and more interested in vividly illustrating plenitude, diversity, and continuity of animal species.







THE

NATURAL HISTORY

OF

SELBORNE,

WITH ITS

ANTIQUITIES; NATURALIST'S CALENDAR, &c.,

BY

THE REV. GILBERT WHITE, A. M.

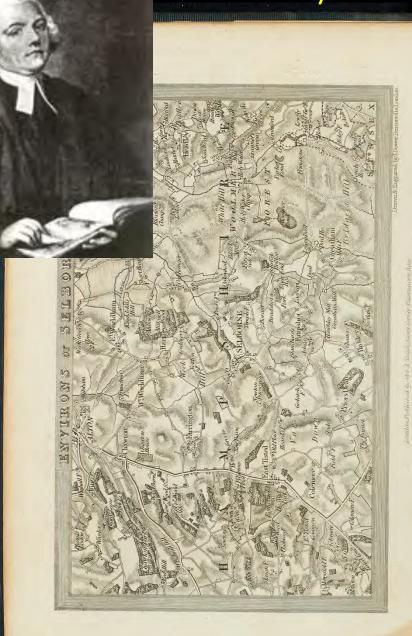
A New Edition,
WITH NOTES BY EDWARD BLYTH.



LONDON:

PUBLISHED BY ORR & SMITH, PATERNOSTER ROW.

MDCCCXXXVI.



The Natural History and Antiquities of Selborne
Gilbert White 1720 – 1793

English clergyman and "Naturalist"

Born in his grandfather's vicarage at Selborne in Hampshire. Educated at Oxford. After the death of his father in 1758, White moved back into the family home at The Wakes in Selborne



THE

NATURAL HISTORY

AN

ANTIQUITIES

OF

SELBORNE,

IN THE

County of Southampton.

TO WHICH ARE ADDED.

THE NATURALIST'S CALENDAR;
OBSERVATIONS ON VARIOUS PARTS OF NATURE;
AND POEMS.

By the late Rev. GILBERT WHITE,

A NEW EDITION, WITH ENGRAPINGS.

LONDON:

PRINTED FOR WRITE, COCHEARS, AND CO; LONGMAN, HURST, REES, GRME, AND BROWN; J. MAWMAN; S. BAGSTER; J. AND A. ARCH; J. HATCHARD; B. BALDWIN; AND T. HANILTON. 1813.



The Natural History and Antiquities of Selborne

First "Ecological" study and includes human impacts "antiquities" organized in three parts:

- Around 1767, he got into correspondence, first with Thomas Pennant, a prominent zoologist, and then with Daines Barrington, another important British naturalist. Their letters form the basis for the book.
- Phenology A year long 'Naturalist's Calendar' comparing observations made by White of the first appearances in the year of different animals and plants

 Observations of natural history organized more or less systematically by species and group



GILBERT WHITE
The Natural History of Selborne







White's Natural History - Observation and Description

- He was the first person to identify the chiffchaff, willow warbler and woodwarbler as three distinct species based on their songs. He was also the first to describe the harvest mouse and noctule bat.
- "Earthworms, though in appearance a small and despicable link in the chain of nature, yet, if lost, would make a lamentable chasm...worms seem to be the great promoters of vegetation, which would proceed but lamely without them..."



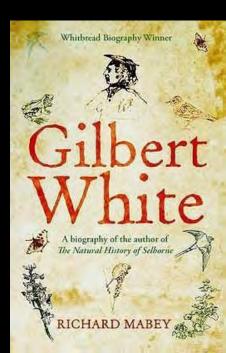
GILBERT WHITE

The Natural History of Selborne

Explanation and Science

Swallows migration vs hibernation

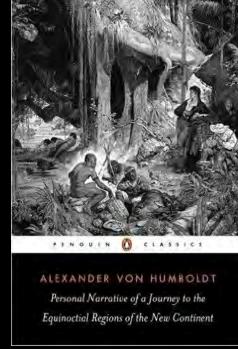
"I acquiesce entirely in your opinion—that, though most of the swallow kind may migrate, yet that some do stay behind and hide with us during the winter."

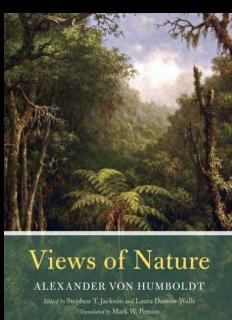




Natural History Synthesis Scientific and Literary Alexander von Humboldt (1769-1859)









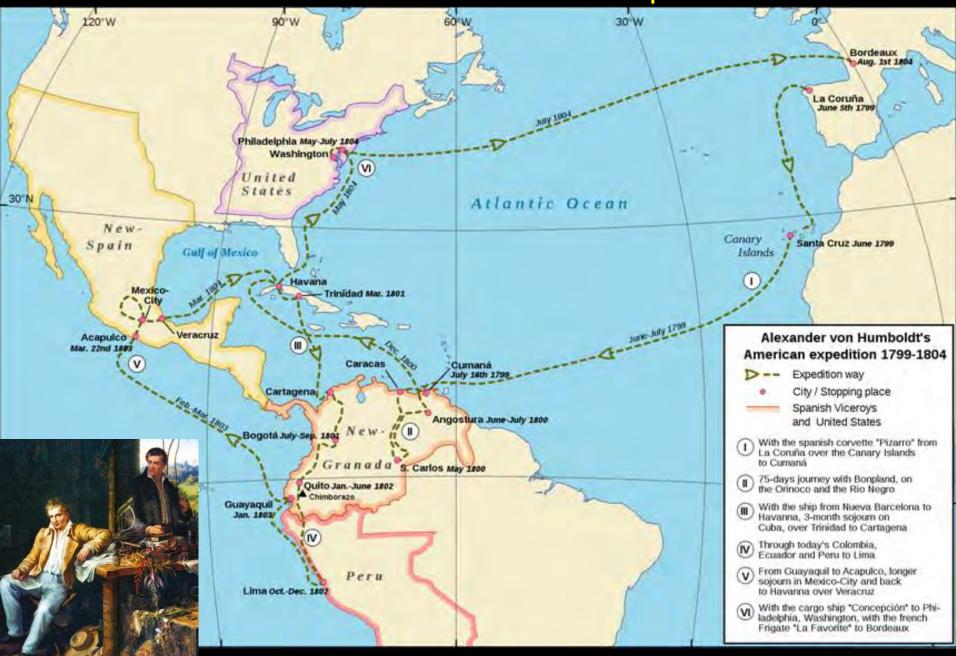


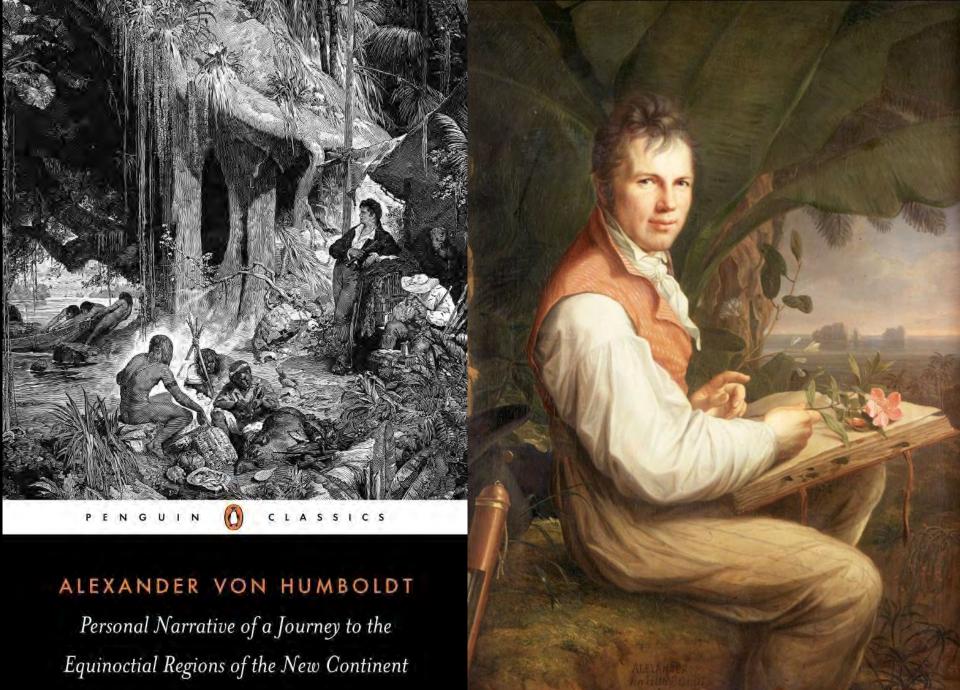
The Order of Things – From Description and Classification to Explanation

Alexander von Humboldt

"I shall try to find out how the forces of nature interact upon one another and how the geographic environment influences plant and animal life. In other words, I must find out about the unity of nature."

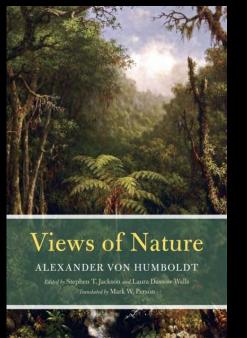
Alexander von Humboldt and Aimé Bonpland 1799-1804

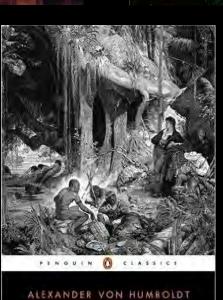






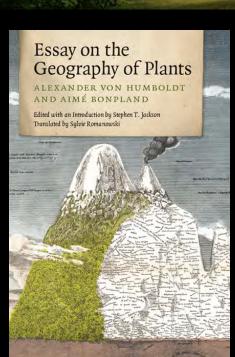


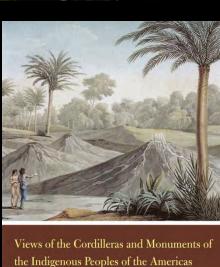




Personal Narrative of a Journey to the

Equinoctial Regions of the New Continent



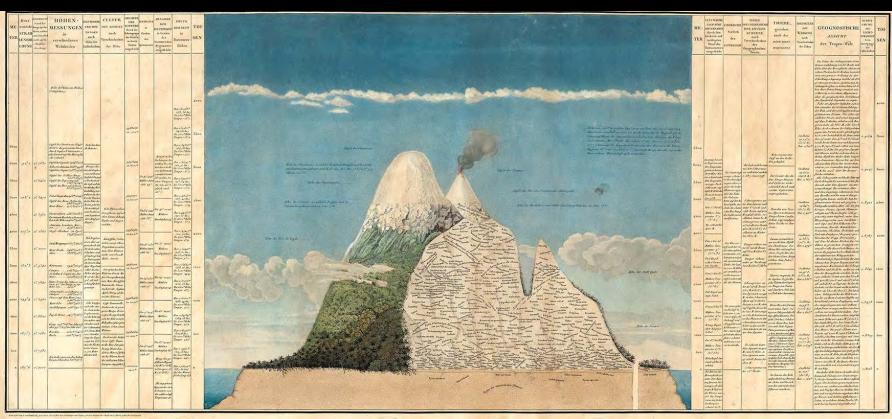


ALEXANDER VON HUMBOLDT

The Order of Nature

A New Vision of Nature – Unity in Variety

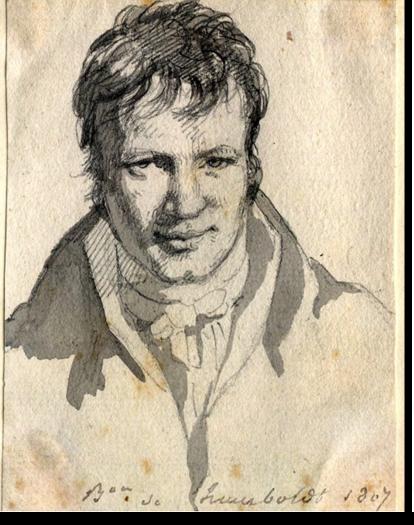


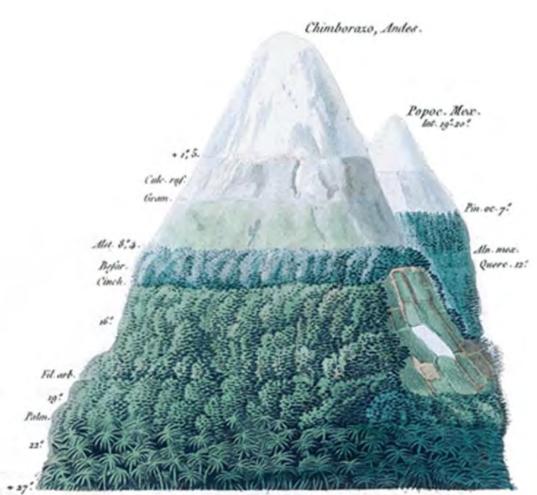


Geographie der Planzen in den Tropen-Ländern;

gegründet auf Beckachtungen und Messungen, welche vom w." Grade nördlicher bis zum 10." Grade südlicher Breite angestellt worden sind, in den Jahren 1799 bis 1865.

ven ALEXANDER VON HUMBOLDT und A.G. BONPLAND.



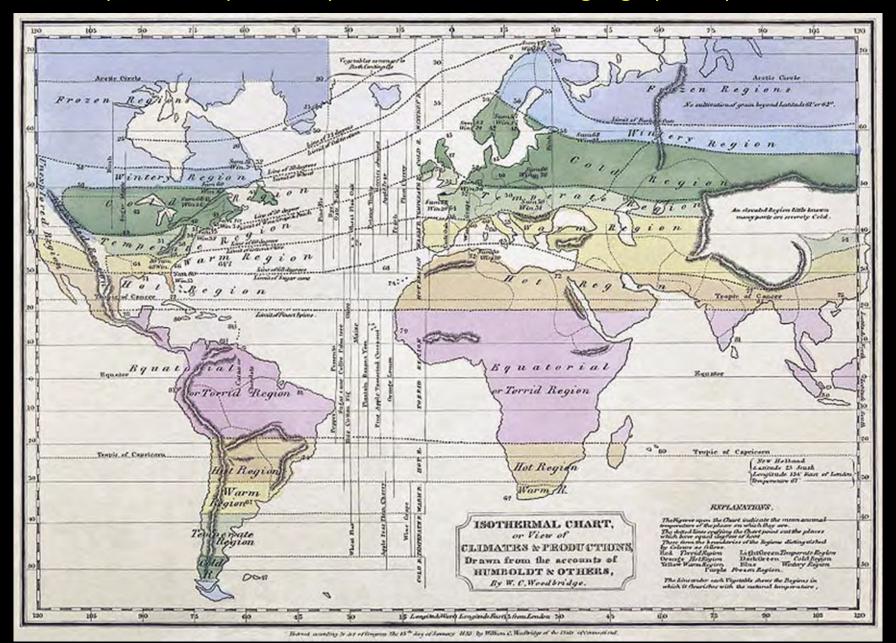


Humboldtian Science

"the accurate measured study of widespread but interconnected real phenomena in order to find a definite law and a dynamic cause"

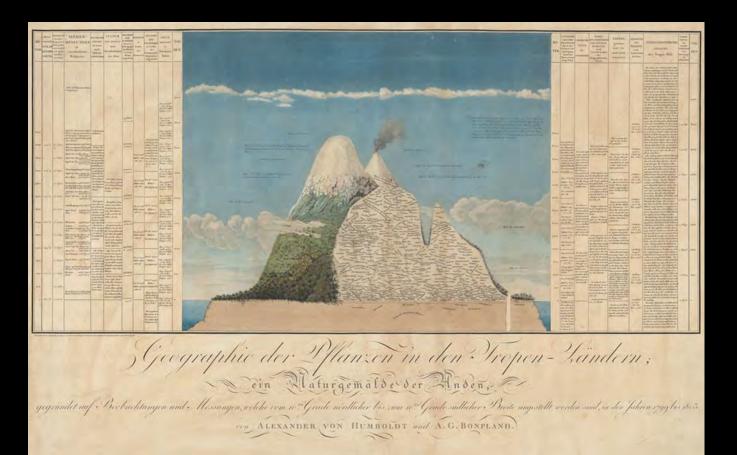
Biogeography – The Unity of Nature

To map and to explain the patterns of variation in geographical phenomena



Humboldtian Science – Earth Science To Explain Order and Change in the Cosmos

- 1. Explore "Nature speaks and the scientist must go out and listen"
- 2. Collect gather data for or against an idea/theory
- 3. Measure widespread, accurate, collaborative
- 4. Connect detect patterns that point to underlying laws
- 5. Cosmopolitan science international collaboration



The Passage to Cosmos

ALEXANDER VON HUMBOLDT and the Shaping of America



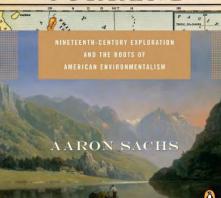
LAURA DASSOW WALLS

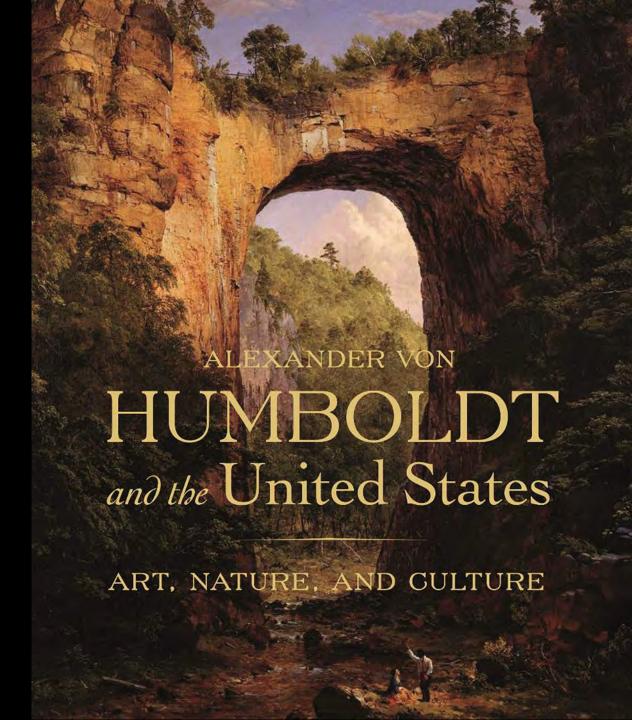
"An exhilarating carouse across dreamscapes and down mind shafts from Napoleon to Antarctica, from Chimborazo to Mount Shasta, from Walden Pond to Rachel Carson." —JOHN LEONARD, Harper's Magazine

THE

HUMBOLDT

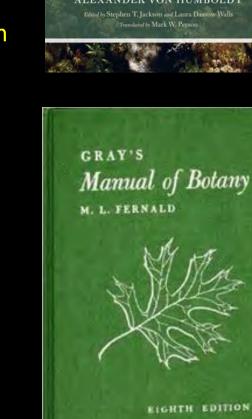
CURRENT

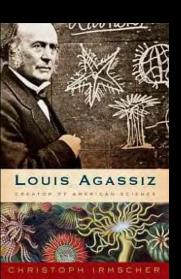


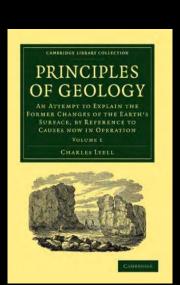


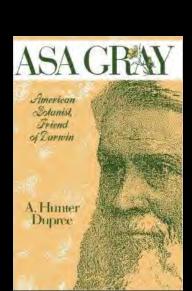
Thoreau the Scientific Naturalist

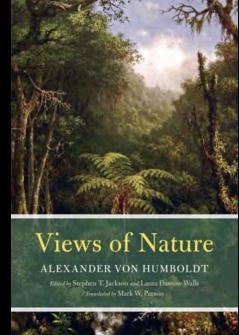
- When Thoreau attended Harvard (1833-37) botany was not offered as a course in itself, but was included under natural history taught by the entomologist Thaddeus W. Harris.
- Reads Lyell's Principles of Geology in 1840.
- Harvard botanist Asa Gray in 1842, biologist Louis Agassiz in 1847, and the publication in 1848 Gray's Manual of Botany.
- In 1849 reads Humboldt begins a systematic daily regimen
- In 1850 Thoreau joins the Boston Natural History Society.











EIGHTH EDITION

Thoreau and Humboldtian Science Explore, Collect, Measure, Connect

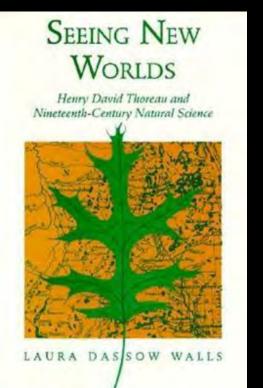
Phenology 1851 - He begins compiling long lists of leafing-out and flowering times.

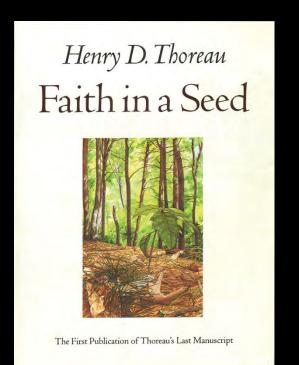
Contributes 820 plant specimens to Asa Gray's Harvard Herbarium

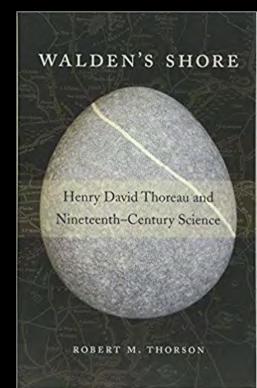
Gather data for or against an idea/theory Evolution vs Spontaneous Generation

"Though I do not believe that a plant will spring up where no seed has been, I have great faith in a seed. Convince me that you have a seed there, and I am prepared to

expect wonders."

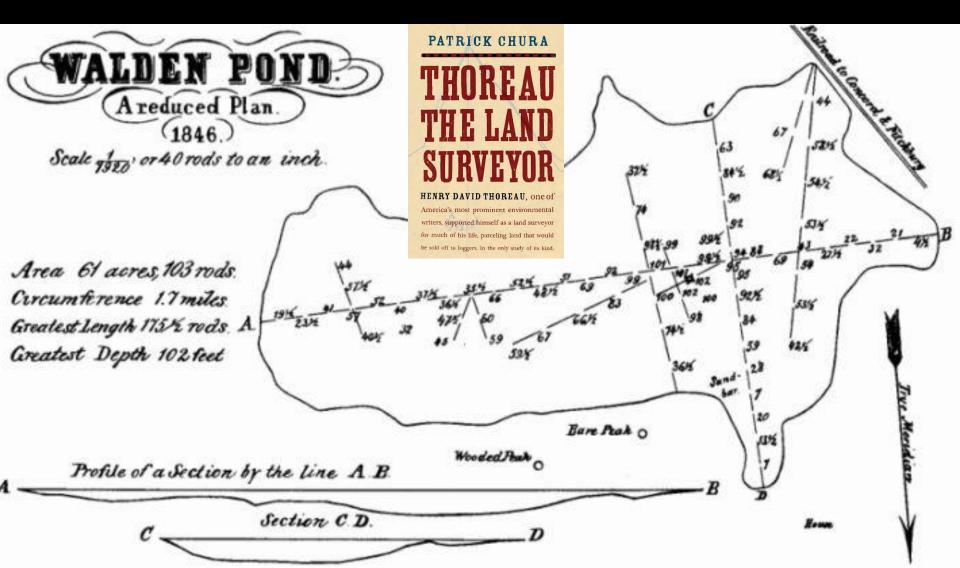






Thoreau and Humboldtian Science – Measure and Collect

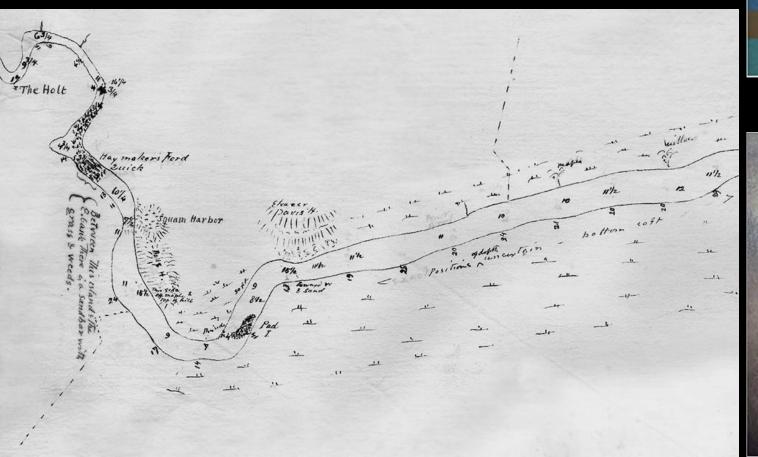
"How many new relations a foot-rule alone will reveal, and to how many things still this has not been applied! What wonderful discoveries have been, and may still be made, with a plumb line, a level, a surveyor's compass, a thermometer, or a barometer!" 1845

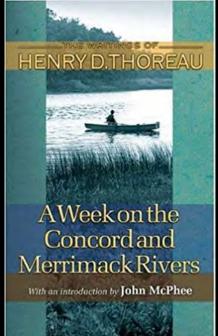


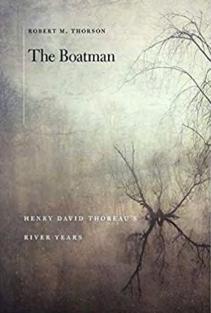
Thoreau and the Natural History of the Concord River

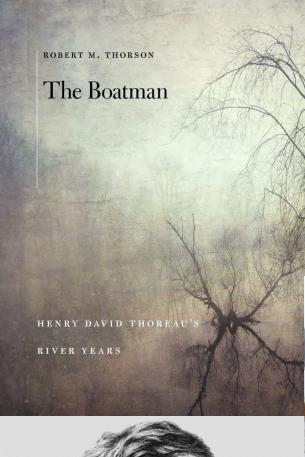
One of the last projects that Thoreau ever worked on was an enormously detailed 7 foot map of the Concord River.

Just before his death in 1862,
"I have not been engaged in any particular work on Botany, or the like, though, if I were to live, I should have much to report on Natural History."



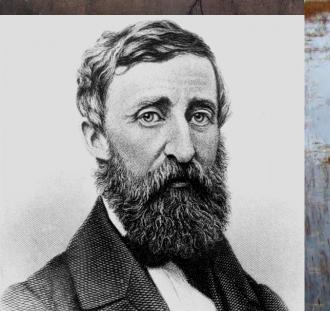






River Survey - In 1859, an association of Concord's farmers hired Henry David Thoreau to measure the abutments of all the bridges that crossed the river upstream from Billerica.

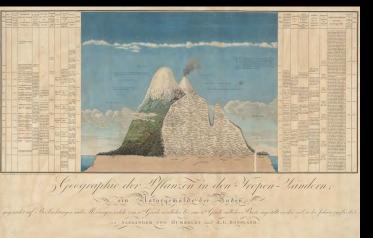
He was hired to survey the river by the farmers because they sought the removal of the downstream Billerica Dam (the farmers blamed the dam for causing the river to flood and ruining their hay).

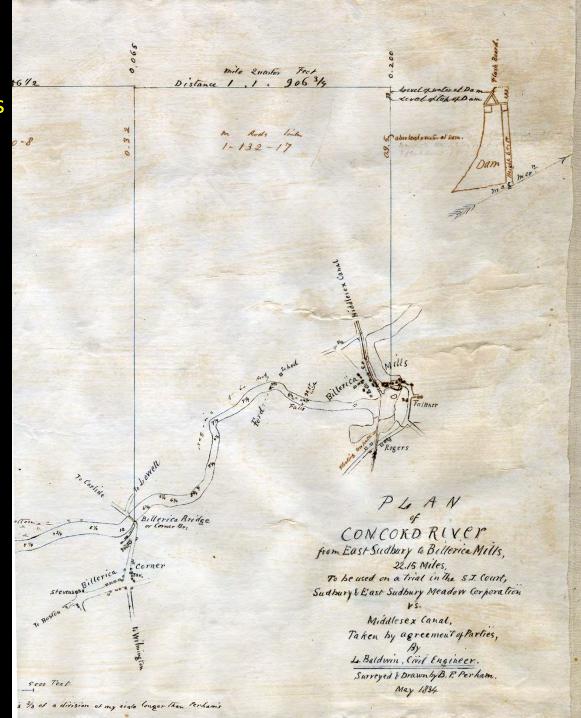




Thoreau the Biogeographer

"This scroll-map, with its details of channel morphology, hundreds of soundings, seven distinct reaches, and 44 surveyed gradients, culminated Thoreau's lifelong investigation into the ways and means of the Concord River...Working on his own, Thoreau inaugurated a truly scientific investigation of the largest, most powerful and wildest thing in his life, the Concord River." Thorson

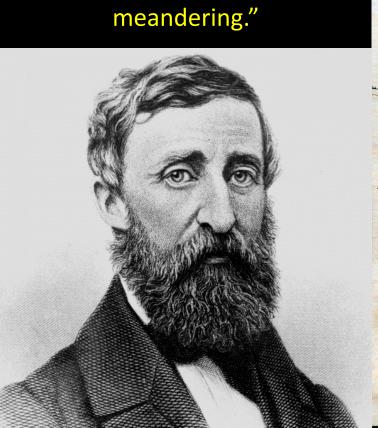


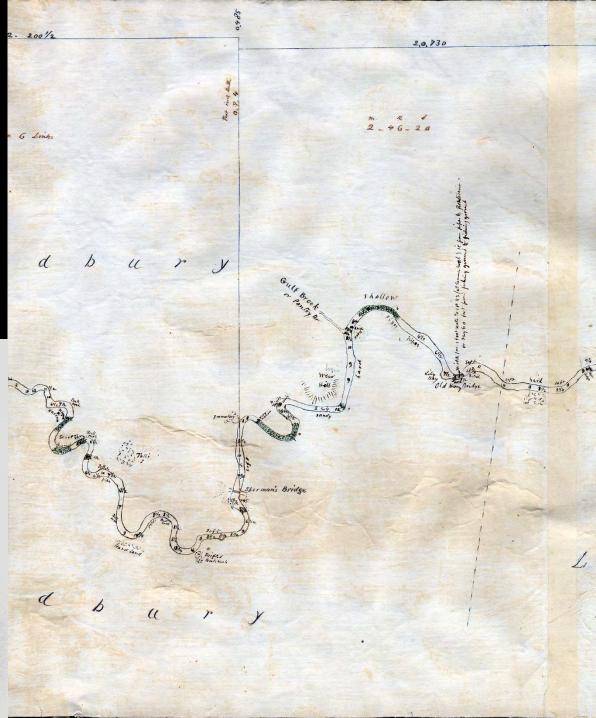


Connect Detect patterns that point to underlying laws

"What meandering! The Serpentine, our river should be called? What makes the river love to delay here?

Here come to study the law of meandering."





Thoreau and Humboldtian Science – Imagination and Science "What sort of a science is that which enriches the understanding but robs the imagination?"

"Mere accumulators of facts – collectors of materials for the master-workmen, are like those plants growing in dark forests, which 'put forth only leaves instead of blossoms."

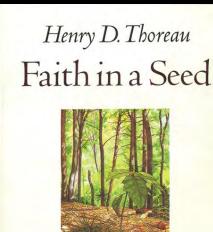
"How indispensable to a correct study of nature is a perception of her true meaning – the fact will one day flower out into a truth...

SEEING NEW WORLDS Henry David Thoreau and Nineteenth-Century Natural Science

LAURA DASSOW WALLS

Nature and Poetry

"If I am overflowing with life, as rich in experience for which I lack expression, then nature will be my language full of poetry, - all nature will fable, and every natural phenomenon be a myth. The man of science, who is not seeking for expression but for a fact to be expressed merely, studies nature as a dead language. I pray for such inward experience as will make nature significant."

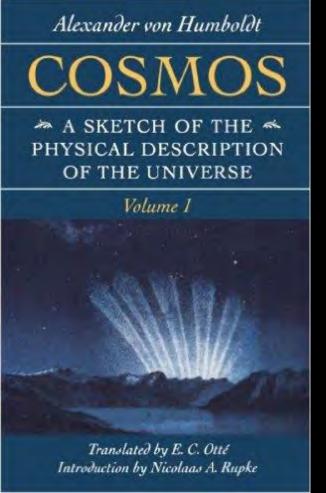


The First Publication of Thoreau's Last Manuscript

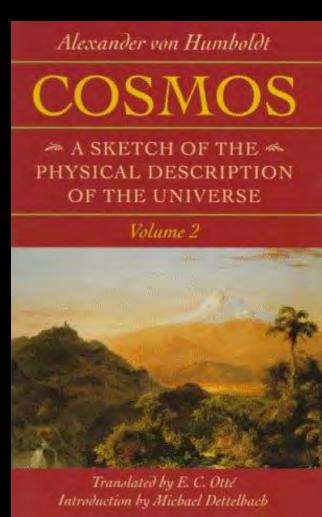
Imaginative Understanding and Science

Cosmos: A Sketch of the Physical Description of the Universe

"The aspect of external nature, as it presents itself in its generality to thoughtful contemplation, is that of unity in diversity, and of connection, resemblance, and order, among created things most dissimilar in their form — one fair harmonious whole."

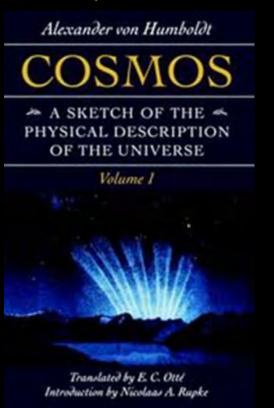


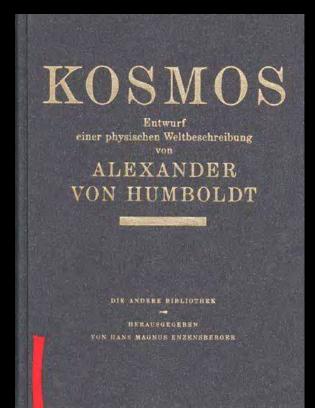


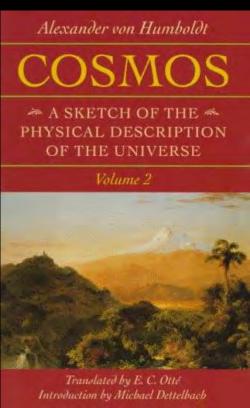


Imaginative Understanding and Science Humboldt's Cosmos "Order and Adornment"

- For Humboldt "cosmos" signifies both the "order of the world, and adornment of this universal order."
- Order refers to the observed fact that the physical universe, independently of humans, demonstrates regularities and patterns that we can define as laws.
- Adornment refers to human imaginative perception of beauty and wonder, which is also part of the universe.







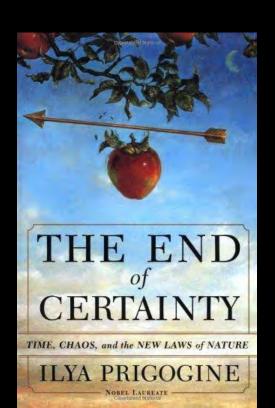
Humanity's Limitations in Comprehending The Cosmos

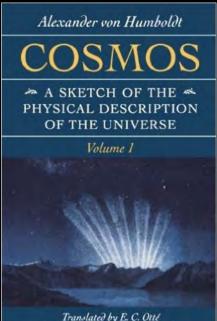
"The attempt perfectly to represent unity in diversity must ...necessarily prove unsuccessful...If nature be illimitable in extent and contents, it likewise presents itself to the human intellect as a problem which cannot be grasped, and whose solution is impossible."

The Universe is wider than our views of it.

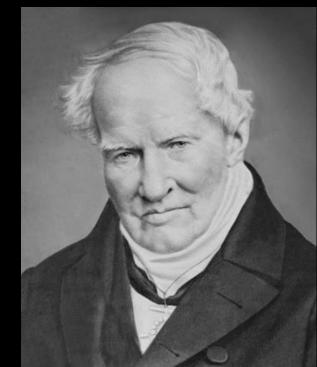
- Henry David Thoreau



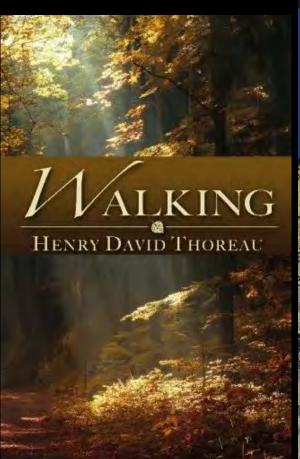




Introduction by Nicolaas A. Rupke



American Nature vs Old World Nature The Theory of Degeneracy

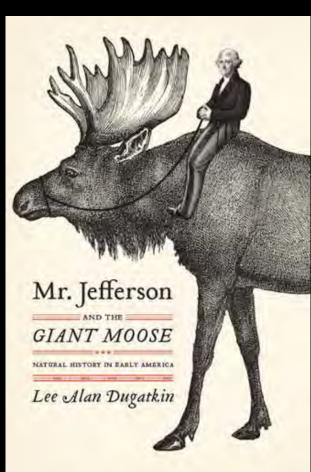




THE HISTORY OF A POLEMIC, 1750-1900

Antonello Gerbi • translated by Jeremy Moyle



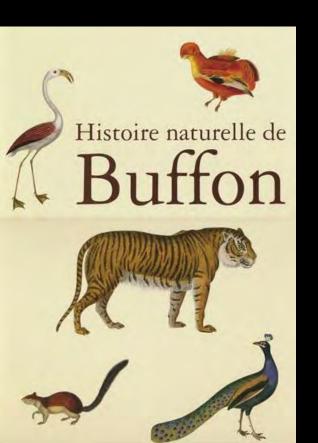


Theory of Degeneracy of American Nature - Comte de Buffon 1707–1788

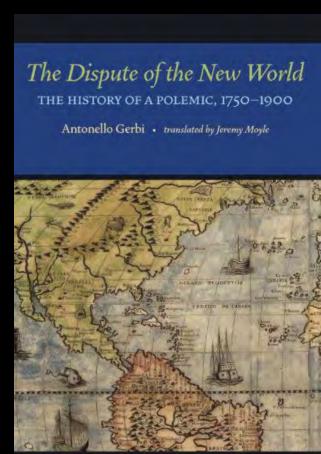
Comte de Buffon 1707-1788

French naturalist, mathematician, cosmologist

In 1749, he began publishing volumes of what would become a 6,000-page, 44 volume encyclopedia of natural history called *Histoire Naturelle*.







Theory of Degeneracy of American Nature

In the 5th Volume of *Histoire Naturelle*, published in 1766, he presented the theory of degeneracy of American Nature.

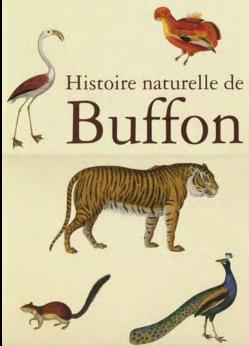
"Elephants belong to the Old Continent and are not found in the New...one cannot find there any animal that can be compared to the elephant for size and shape...

Living nature is thus much less active there, much less varied, and we may even say, less strong. The horses, donkeys, oxen, sheep, goats, pigs, dogs, and all these animals, I say, became smaller there; and...

...those which were not transported there...those, in short, common to both worlds, such as wolves, foxes, deer...are likewise considerably smaller in America than in Europe...

There is thus, in the combination of the elements and other physical causes, something antagonistic to the increase of living nature in this new world..."





Theory of Degeneracy of American Nature

Native Americans

"...here reduced, shrunken beneath this ungenerous sky and in this empty land, where man, scarce in number, was thinly spread, a wanderer, where far from making himself master of this territory as his own domain, nor tamed the waters, nor governed the rivers, nor worked the earth, he was himself no more than an animal...the savage is feeble and small in his organs of generation; he has neither body hair nor beard, and no ardor for the female of his kind... he lacks vivacity, and is lifeless in his soul."

Degenerating New World

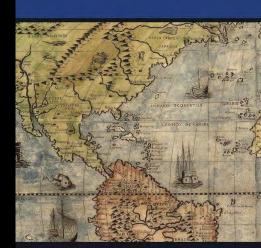
Any species imported into America for economic reasons would soon succumb to its new environment and produce lines of puny, feeble offspring, which applied equally well to transplanted Europeans and their descendants in America.

America is a land of swamps, where life putrefies and rots.



The Dispute of the New World THE HISTORY OF A POLEMIC, 1750–1900

Antonello Gerbi • translated by Jeremy Moyle



Theory of Degeneracy of American Nature

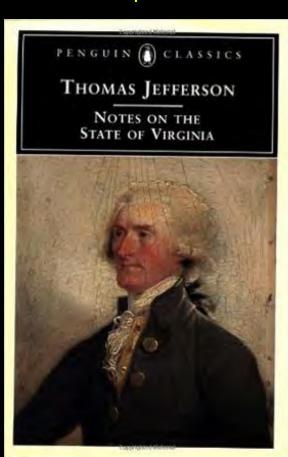
Thomas Jefferson (1743-1826) - U.S. Minister to France 1784-89

If the theory of American degeneracy took hold in Europe the long-term consequences could impact trade with and immigration too the United States.

Engaged in scientific debate with the Comte de Buffon by demonstrating that American wildlife is as large or larger than their European counterparts.



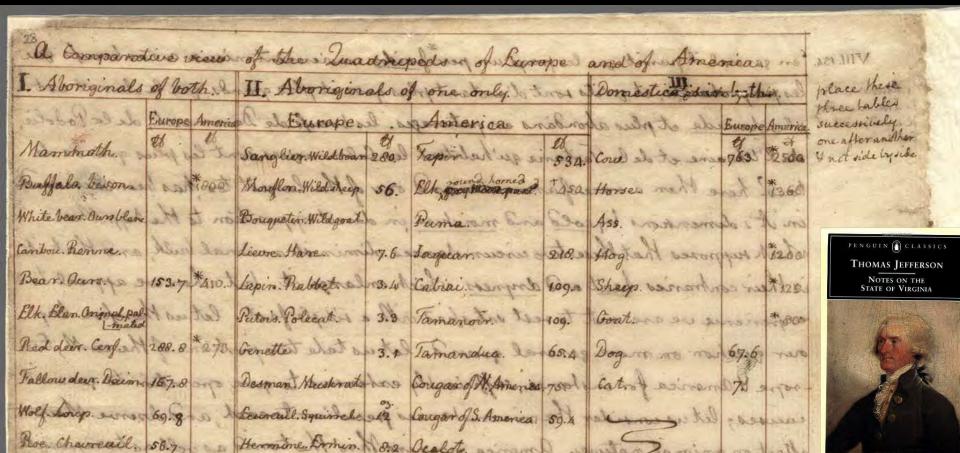




Jefferson and the Defense of American Nature

In his *Notes on the State of Virginia* (1785) Thomas Jefferson responded to Buffon's claims. His evidence included comparative tables of weights of animal species from America and Europe, lists of species endemic to each part of the world (the American list was four times as long)

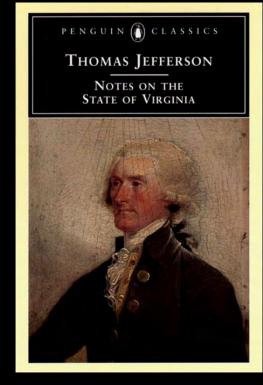
He also included a passionate defense of Native Americans and reprinted a speech by Chief Logan of the Shawnees that became much admired in Europe.



Jefferson – The Mammoth

Buffon - "Elephants belong to the Old Continent and are not found in the New...one cannot find there any animal that can be compared to the elephant for size and shape"

Jefferson - "The truth is, that a Pigmy and a Patagonian, a Mouse and a Mammoth, derive their dimensions from the same nutritive juices... what intermediate station they shall take may depend on soil, on climate, on food, on a careful choice of breeders. But all the manna of heaven would never raise the mouse to the bulk of the mammoth."

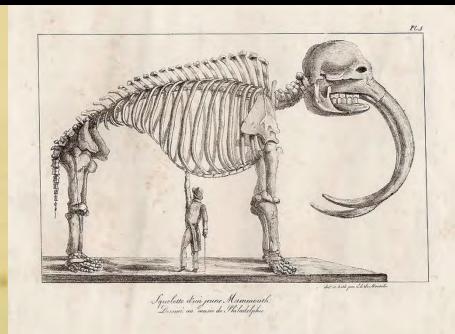


A comparative View of the Quadrupeds of Europe and of America.

I. Aboriginals of both.

Mammoth	in I sultin
Buffalo. B	ifon
White bear.	Ours blanc.
Carribou.	
Bear. Our	
	Original palmated
Red deer.	

Europe.	America.
lb.	lb.
	*1800
153.7	*410
288.8	*273



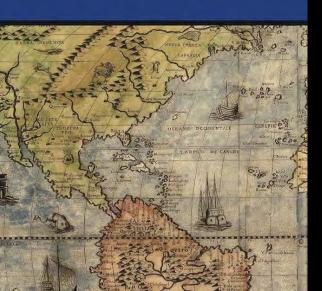
The Giant Moose

Jefferson ships a very large, stuffed American moose France to give Buffon.

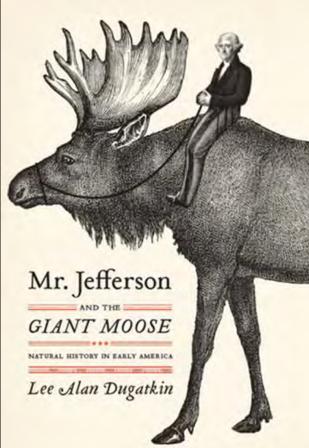
"This moose became a symbol for Jefferson – a symbol of the quashing of European arrogance in the form of degeneracy." Dugatkin, 2009



Antonello Gerbi • translated by Jeremy Moyle









Theory of Degeneracy of American Nature – The American Swamp

Buffon "...the crude state in which nature is found...in this state of abandon, everything languishes, decays, stifles. The air and the earth, weighed down by the moist and poisonous vapors, cannot purify themselves nor profit from the influence of the star of life.

The sun vainly pours down its liveliest rays on this cold mass ... it will never produce anything but humid creatures, plants, reptiles, and insects, and cold men and feeble animals are all that it will ever nurture."

America is a land of swamps, where life putrefies and rots.



Wildness and the West - New World Nature and the Swamp Henry David Thoreau, "Walking" (1862)

"I wish to speak a word for Nature, for absolute Freedom and Wildness, as contrasted with a freedom and culture merely civil,—to regard man as an inhabitant, or a part and parcel of Nature, rather than a member of society.

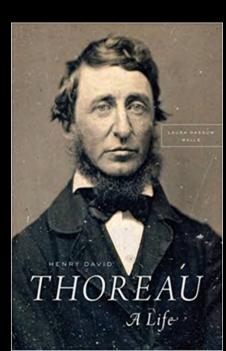
The West of which I speak is but another name for the Wild; and what I have been preparing to say is, that in Wildness is the preservation of the world.

Hope and the future for me are not in lawns and cultivated fields, not in towns and cities, but in the *impervious and quaking swamps."*





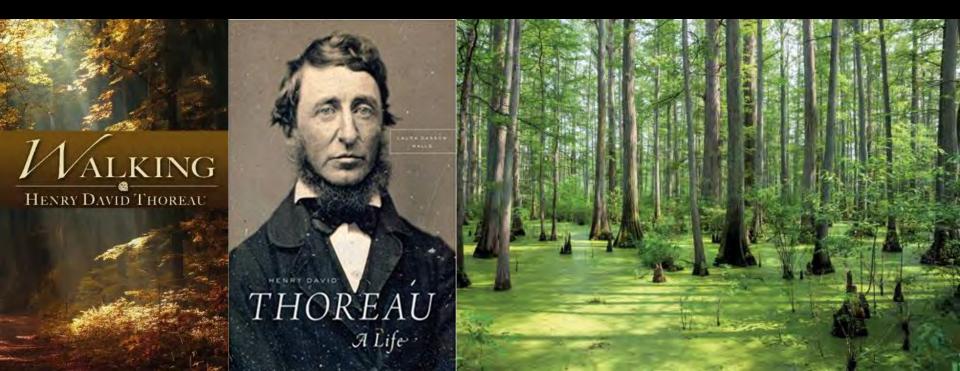




Literary American Natural History Thoreau's Defense of American Nature

"This statement will do at least to set against Buffon's account of this part of the world and its productions.

For I believe that climate does thus react on man — as there is something in the mountain air that feeds the spirit and inspires. Will not man grow to greater perfection intellectually as well as physically under these influences?"



Transcendentalism, The Dismal Swamp and "Re-creation"

"Yes; though you may think me perverse, if it were proposed to me to dwell in the neighborhood of the most beautiful garden that ever human art contrived, or else of a dismal swamp, I should certainly decide for the swamp."

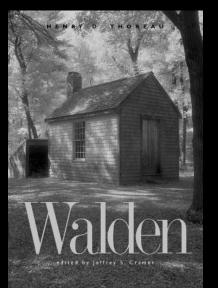
"When I would *recreate* myself, I seek the darkest wood, the thickest and most interminable, and, to the citizen, most dismal swamp.

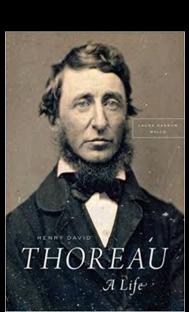
I enter a swamp as a sacred place — a *sanctum sanctorum*. There is the strength — the marrow of Nature. The wild wood covers the virgin mould, — and the same soil is good for men and for trees."











"Amalgam of Science and Sentiment"
American Natural History and Nation Building

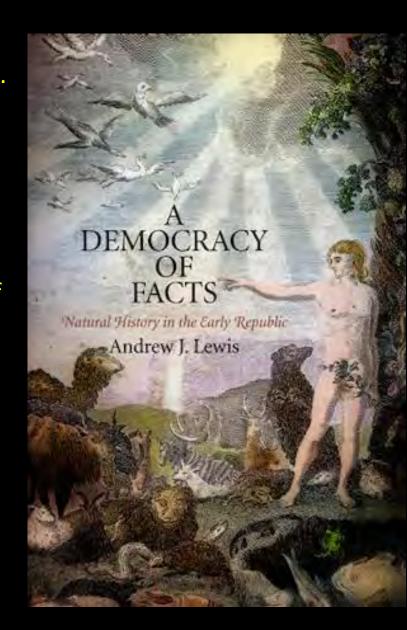
"American naturalists initially advertised for and welcomed the participation of their fellow citizens. Natural history, they urged, was a tool to investigate, to catalogue, to explore, and, ultimately, to know the new nation.

It was a method and means for a new citizenry to take ownership of a new nation...

Ordinary Americans made natural history a part of the nation building process, an exercise as much involved with the creation of national character as it was with plants and animals...

This powerful amalgam of science and sentiment made possible for Americans an understanding of nature and an ownership stake in the national landscape's past and present, as well as prognostications of its future potential."

- Lewis, A Democracy of Facts



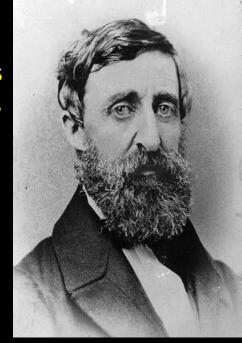
Scientific American Natural History and the Swamp

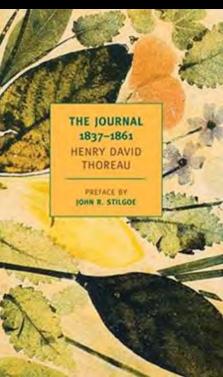
"I remember gazing with interest at the swamps about those days and wondering if I could ever attain to such familiarity with plants that I should know the species of every twig and leaf in them...

Though I knew most of the flowers, and there were not in any particular swamp more than half a dozen shrubs that I did not know, yet these made it seem like a maze to me, of a thousand strange species, and I even thought of commencing at one end and looking it faithfully and laboriously through till I knew it all.

I little thought that in a year or two I should have attained to that knowledge without all that labor." (December 4, 1856, Journal)



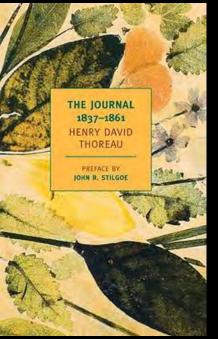


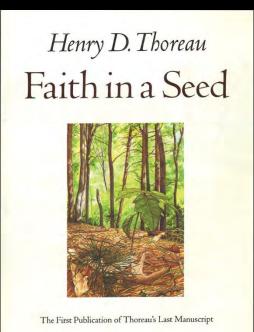


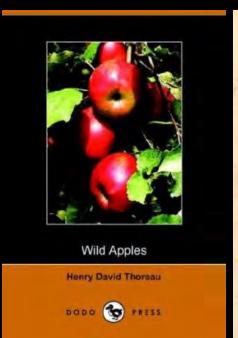
Science and Imagination Thoreau, Perception and American Natural History "Living Poetry"

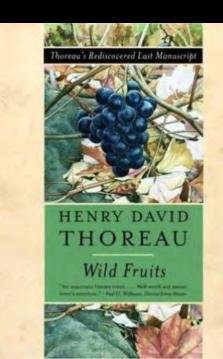
"We must look a long time before we can see...the true man of science ...will smell, taste, see, hear, feel, better than other men."

"There is nothing inorganic," he wrote; "this earth is not, then, a mere fragment of dead history ... but *living poetry like the leaves of a tree*—not a fossil earth—but a living specimen."









Thoreau and The Myth of American Nature

"If I am overflowing with life, as rich in experience for which I lack expression, then nature will be my language full of poetry, - all nature will fable, and every natural phenomenon be a myth.

The man of science, who is not seeking for expression but for a fact to be expressed merely, studies nature as a dead language. I pray for such inward experience as will make nature significant."

