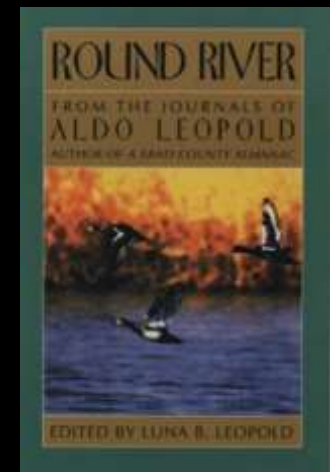
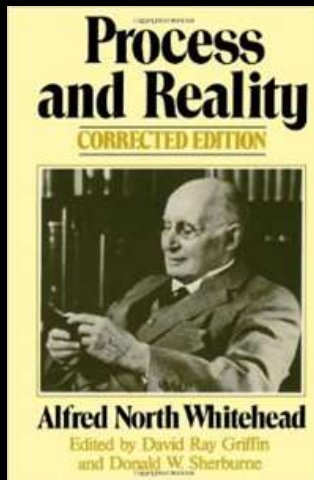




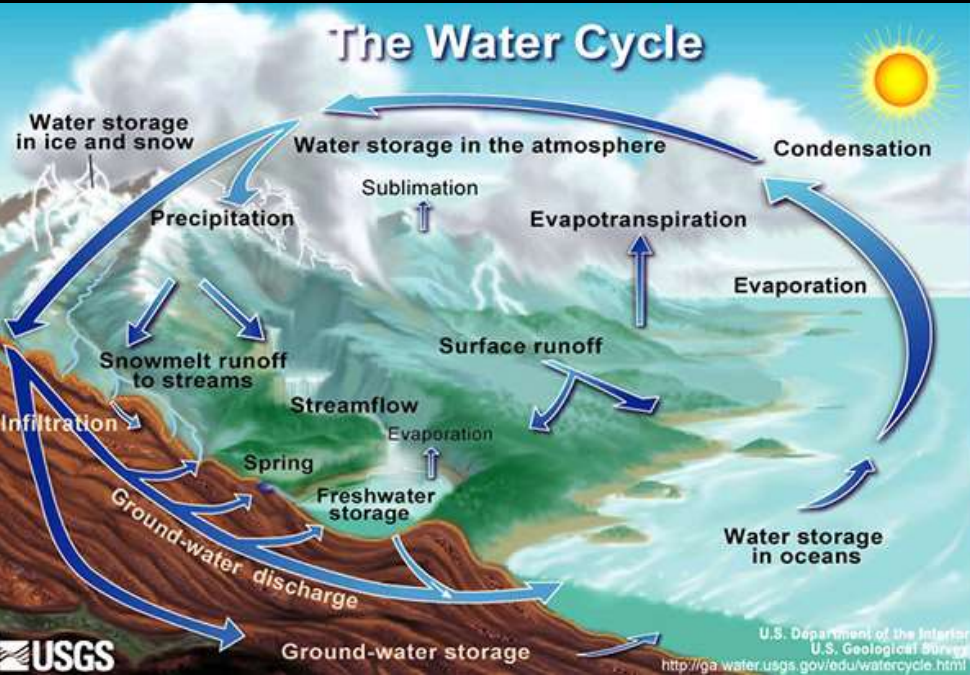
The Round River: Myth, Meaning, and Flowing Water

Kevin M. Anderson, Ph.D.
Austin Water – Center for Environmental Research



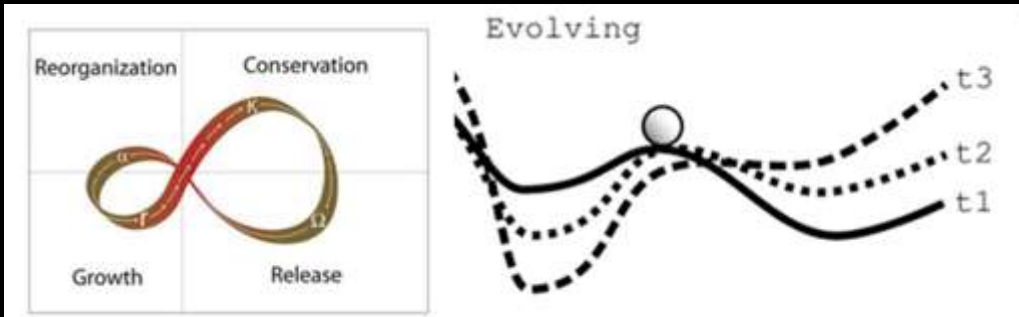
The Round River

The Water Cycle



The Meaning of Flowing Water

- Greek Mythology and Cosmology
- Philosophy
 - The Concept of Nature
- Science
 - How does Nature work?



Greek Mythology and Cosmology - Okeanos, Earth-Encircling River

Homer, *Iliad*:

"Okeanos, whose stream bends back in a circle."

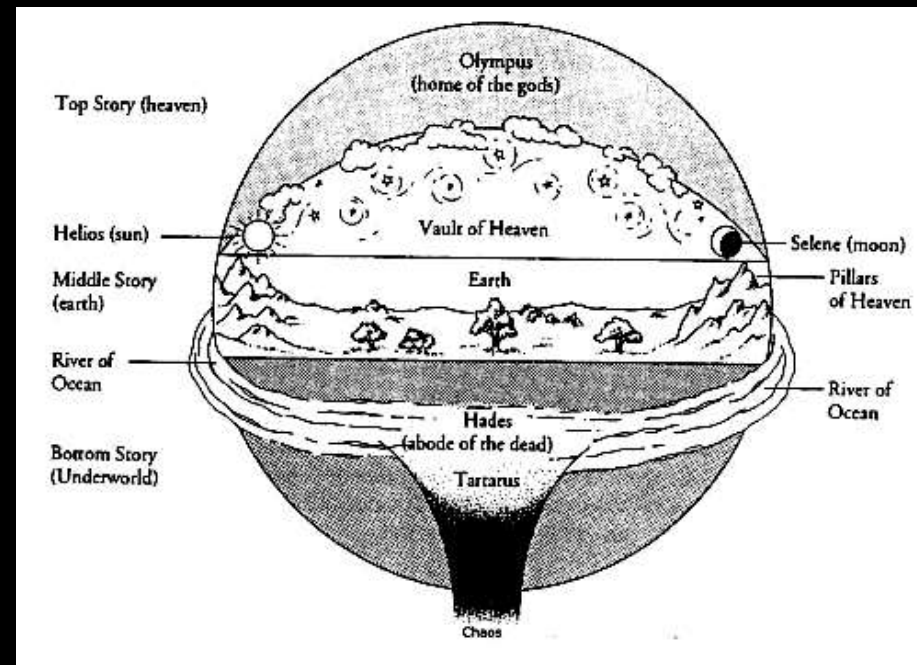
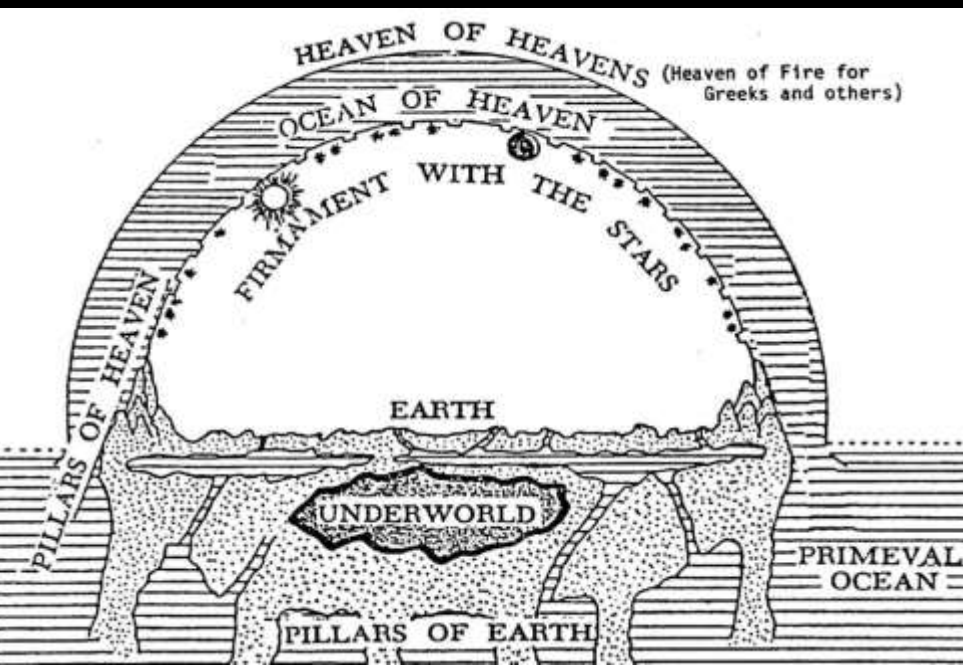
Hesiod, *Theogony*:

"Okeanos the completely encircling river."



Greek Divine Geography of Water - Okeanos, Earth-Encircling River

- The River Okeanos flowed in a circle around the entire earth. From its stream all the rivers and clouds drew their waters.
- The sun, moon, and stars were all believed to rise and set into its waters. At night, the sun-god sailed around the northern limits of the stream in a golden boat from his setting in the west to his rising in the east.
- Okeanos is the font of all the earth's fresh-water: including rivers, wells, springs and rain-clouds.
- In a cosmological sense, the river symbolized the eternal flow of time.



Greek Water Gods - Oceanus and Tethys

- *Oceanus* was the god of the great earth-encircling river Okeanos.
- *Oceanus* was also the god who regulated the rising and setting of the heavenly bodies which were believed to emerge and descend into his watery realm at the ends of the earth.
- *Tethys* - Oceanus' wife - Mother of the rivers of the world, who distributed water to the earth via subterranean caverns.
- Their children were the *Potamoi* or River-Gods and *Okeanides*, nymphs of springs and fountains.



Oceanus in the Trevi Fountain, Rome



Greek Fluvial Mythology and Underworld Rivers

The rivers of the Underworld were believed to be in the domain of Hades, the god of the Underworld.

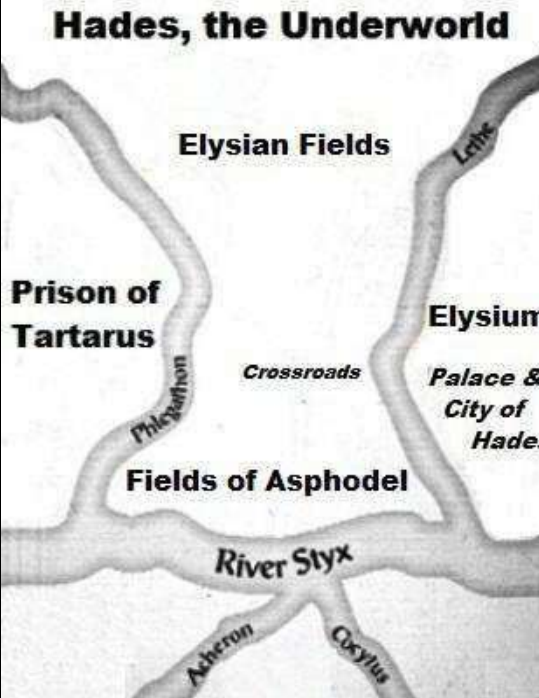
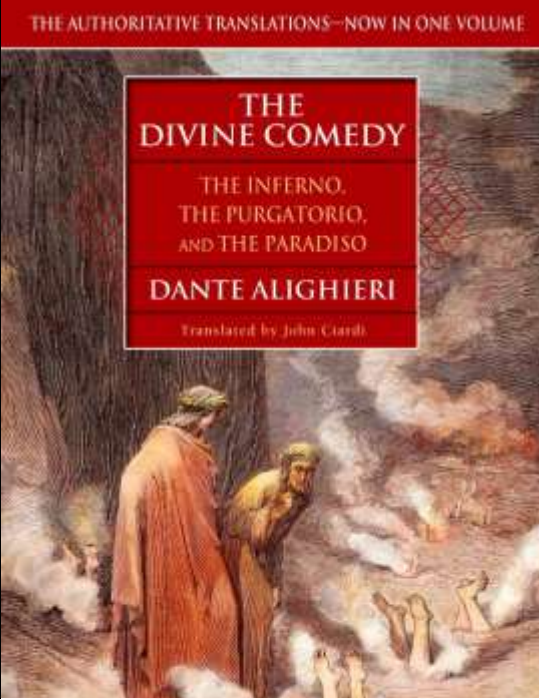
Each river had unique characteristics, and each personified an emotion or a deity after which they were named:

- Styx - hate
- Lete - forgetfulness
- Acheron - woe
- Phlegethon - fire
- Cocytus - wailing



Dante Alighieri (1265 – 1321)

- The Divine Comedy – a journey through Hell, Purgatory, and Heaven. Allegorically, the poem represents the soul's journey towards God
- It is divided into three parts: Inferno, Purgatorio, and Paradiso.



Fluvial Mythology and Rivers: Lethe and Oblivion

- It passed through the cave of Hypnos (sleep)
- All those who drank from it experienced complete forgetfulness. Lethe was also the name of the Greek spirit of forgetfulness and oblivion, with whom the river was often identified.
- In Classical Greek, the word *Lethe* literally means "oblivion", "forgetfulness", or "concealment".
- It is related to the Greek word for "truth", *aletheia*, meaning "un-forgetfulness" or "un-concealment".

The Waters of Lethe
Thomas Benjamin Kennington
(1856 – 1916)



Dante in the Lethe
Gustave Dore 1861

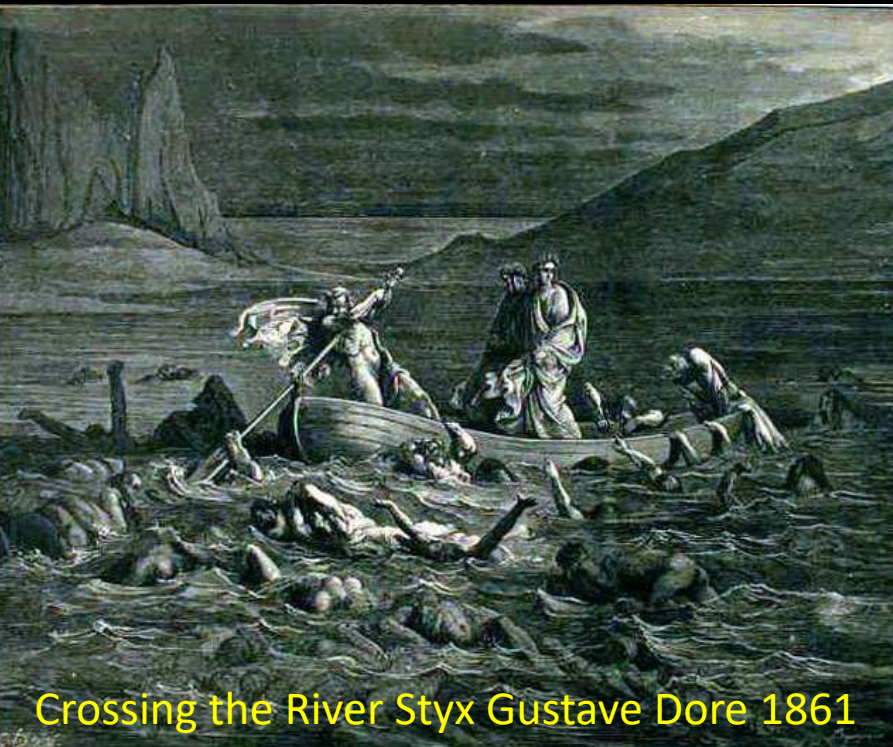


Fluvial Mythology and Rivers – The Styx and Passage

The Styx (also meaning "hate" and "detestation" adjectival form: Stygian) formed the boundary between Earth and the Underworld (often called Hades which is also the name of this domain's ruler).

In order to cross the River Styx and reach Hades, a dead person must pay a fee to the ferryman, Charon. If the correct fee is paid, Charon will take the dead across.

If the dead cannot afford the fee, however, they will be forced to wander the banks of the River Styx as Wraiths for eternity.



Crossing the River Styx Gustave Dore 1861



Alexander Dmitrievich Litovchenko 1861

Crossing the Styx - Orpheus

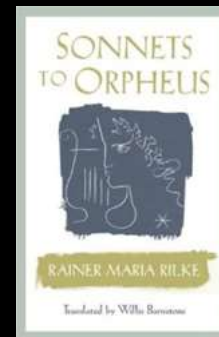
Orpheus was the greatest of all poets and musicians in ancient Greek religion and myth.

The major stories about him are centered on his ability to charm all living things with his music.

The love and loss of Eurydice and the death of Orpheus involves the passage over and into rivers.



Auguste Rodin
Orpheus & Eurydice (1887)



Tree arising! O pure ascendance!
Orpheus Sings! Towering tree within the ear!
Everywhere stillness, yet in this abeyance:
seeds of change and new beginnings near.

The Sonnets to Orpheus Rainer Maria Rilke, 1922



Orpheus
Roman mosaic

The Myth of Orpheus and Eurydice

Orpheus falls in love with the beautiful nymph Eurydice, and the two make plans to wed. But on their wedding day, Eurydice steps on a snake, which bites her.

She is killed, and Orpheus is stricken with terrible and all-consuming grief.

Orpheus finds a cave which leads to the Underworld and follows Eurydice.

Armed only with his lyre and his beautiful voice, Orpheus makes his way past every terrifying danger the underworld holds to the crossing of the river Styx.

Charmed by his music, Charon the boatman carries him across the river, and Orpheus meets Hades, the god of the Underworld and his wife, Persephone.



John Roddam Spencer Stanhope
Orpheus and Eurydice on the Banks of the Styx (1878)

His music softens the hearts of Hades and Persephone, who agreed to allow Eurydice to return with him to earth on one condition:

He should walk in front of her and not look back until they both had reached the upper world.

Orpheus Leading Eurydice from the Underworld
Jean-Baptiste-Camille Corot (1861)



Auguste Rodin
Orpheus & Eurydice
(1887)



He set off with Eurydice following, and, in his anxiety, as soon as he reached the upper world, he turned to look at her, forgetting that both needed to be in the upper world, and she vanished for the second time, but now forever.

The devastated Orpheus attempts to return to Hades and rescue her again, but this time Charon refuses to carry him across the river.

He sits on the shore starving, hoping for death, so that he may join Eurydice. But the gods will not let him die.



Orpheus glances back at Eurydice, 1806
Christian Gottlieb Kratzenstein Stub

Orpheus lament (1876)
Pascal Dagnan-Bouveret



Reluctantly, he returns to the upper world, finding solace only in his music.

He spent the rest of his days scorning women, not willing to love another so as to stay true to the memory of Eurydice.

He wandered the earth before being torn apart by the women of Thrace, who were angry at him for spurning their love and companionship.

They threw his head into a river, and it kept on singing all the way to the sea.



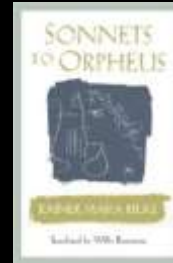
Nymphs Listening to the Songs of Orpheus (1853)

Charles Jalabert

But you, divine one singing on the brink of destruction
while legions of forsaken maenads tore at your flesh;
you vanquished their shrieks with harmony, oh bright one,
while from utter devastation rebounded your song afresh.

John William Waterhouse

And though you fade from earthly sight,
declare to the silent earth: I flow.
To the rushing water say: I am.



Nymphs Finding the Head of Orpheus
1900

Rainer Maria Rilke *The Sonnets to Orpheus* 1922



Gustave Courtois - Death of Orpheus (1875)

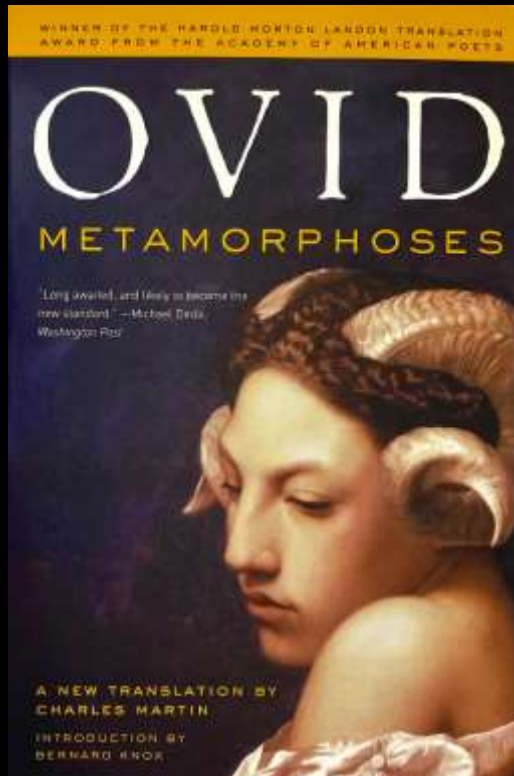


Greek Fluvial Mythology - Narcissus and Echo

Reflection and Absorption

- In Greek mythology, Narcissus was the son of the river god Cephissus, the son of Oceanus and Tethys, and the nymph Leiriope. He was distinguished for his beauty.
- The classic version is by Ovid in Book 3 of his *Metamorphoses*

Echo and Narcissus (1903) - John William Waterhouse



Narcissus and Echo - Reflection and Absorption

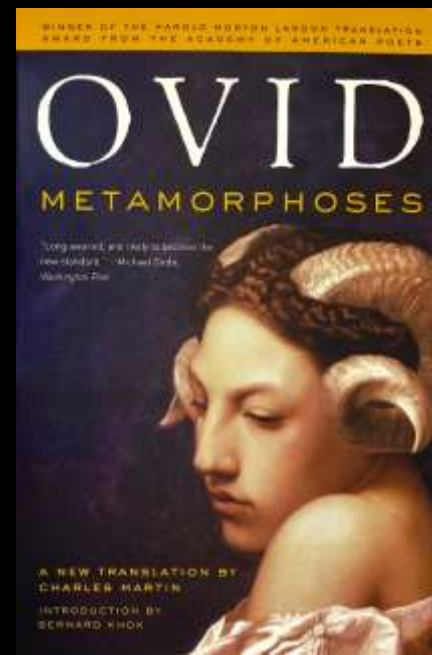
There was a day when Narcissus was walking in the woods. Echo, a mountain nymph, saw him and fell deeply in love with him. She followed him.

Narcissus sensed that someone was following him and shouted "Who's there?". Echo repeated "Who's there?". She eventually revealed her identity.

She made an attempt to embrace the boy. He stepped away from her and told her to leave him alone.

She was heartbroken and spent the rest of her life in lonely glens until nothing but an echo sound remained of her.

Echo and Narcissus (1903) - John William Waterhouse



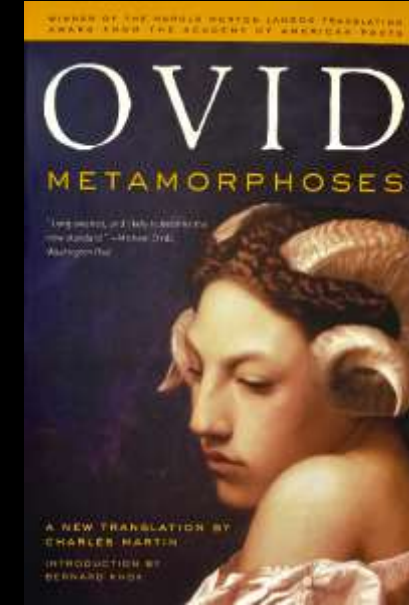
Narcissus - Reflection and Absorption

Nemesis, the goddess of revenge, learned of what he did and decided to punish Narcissus. She lured him to a pool where he saw his own reflection.

He was amazed at the beauty of his reflection. He didn't realize his reflection was only an image and fell in love with it.

Unable to leave the beauty of his reflection, Narcissus died.

The flower that bears his name sprang up where he died.



Narcissus (1597-1599) - Caravaggio



Roman and Medieval Fluvial Mythology - The Mouth of Truth

Dating back to the 1st century, the Mouth of Truth is a tall stone disc carved into a humanoid face with hollow holes for eyes and its gaping mouth.

The original purpose of the object may have been a ceremonial well cover. The face itself has been said to represent a pagan god either Oceanus or a local river god.

The legend surrounding the stone carving is that if one were to stick their hand inside the mouth and tell a lie, the mouth would bite the offending hand off.

This belief seems to have originated during the Middle Ages. It now rests outside the doors of the Santa Maria in Cosmedin church in Rome.



Round River - The Mouth of Truth

It shows up in the 1953 movie, *Roman Holiday*, Gregory Peck and Audrey Hepburn



Oceanus-faced
gargoyle, originally
from Treuchtlingen,
Bavaria



Philosophy and The Concept of Nature

Fluvial Philosophy - Can you step into the same river twice?



PENGUIN CLASSICS

HERACLITUS

Fragments

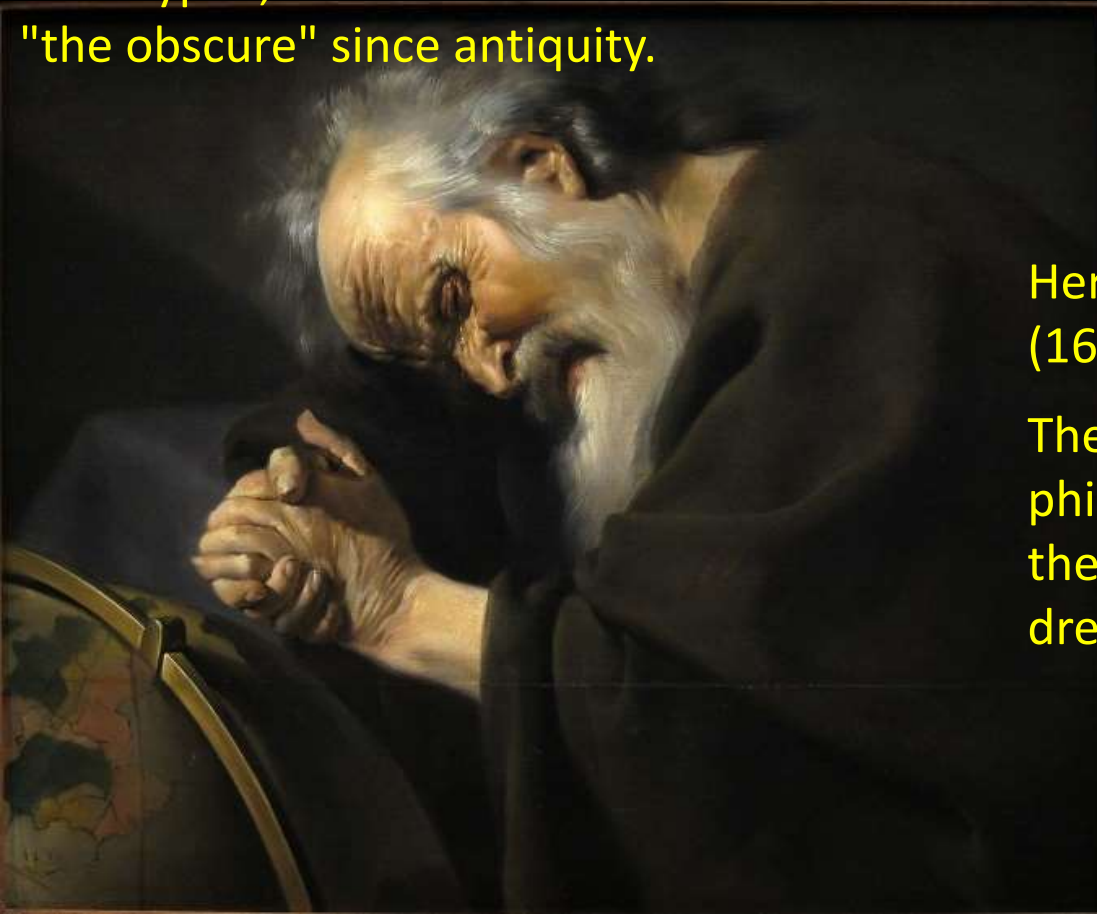
Translated by BROOKS MAXTON



Fluvial Philosophy - Heraclitus c. 535 – c. 475 BC

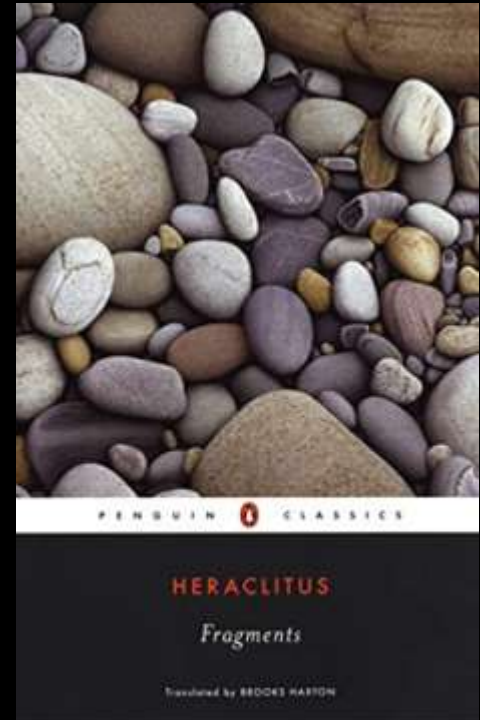
Little is known of Heraclitus's life. He wrote a single work, only fragments of which have survived. Most of the ancient stories about him are thought to be later fabrications based on interpretations of the preserved fragments.

His paradoxical philosophy and appreciation for wordplay and cryptic, oracular utterances has earned him the epithet "the obscure" since antiquity.



Heraclitus by Johannes Moreelse (1602–1634)

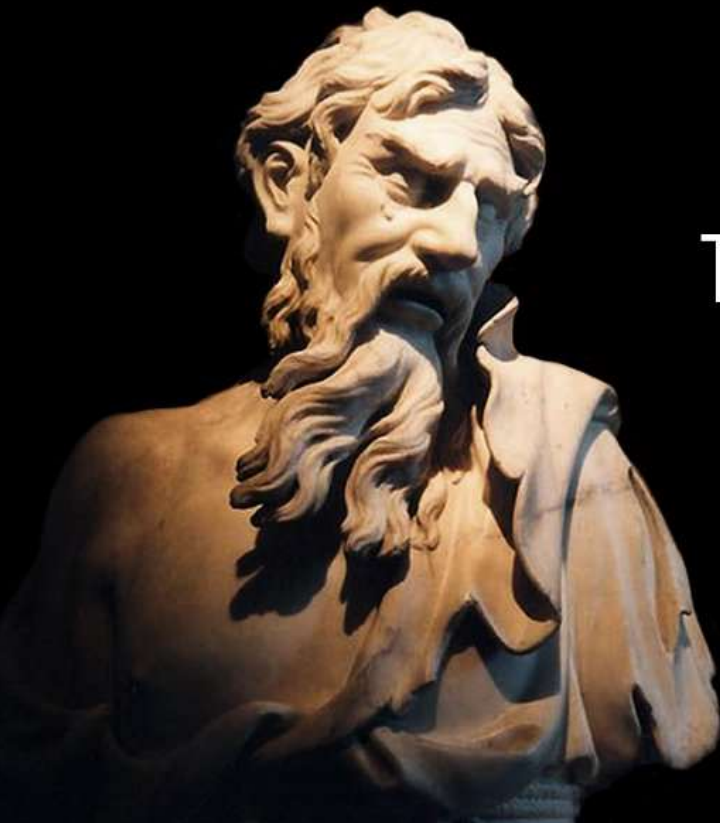
The image depicts him as "the weeping philosopher" wringing his hands over the world, and as "the obscure" dressed in dark clothing.



Fluvial Philosophy - Heraclitus c. 535 – c. 475 BC

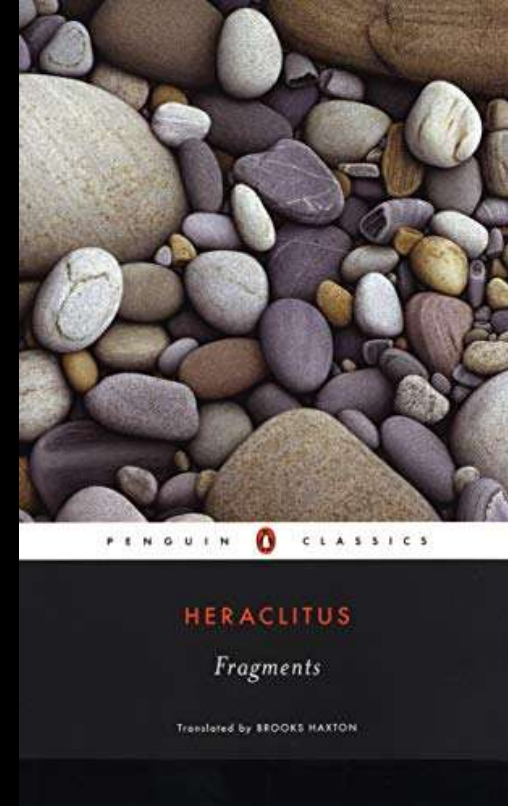
The River Fragment

Plato: “Heraclitus, I believe, says that everything changes and nothing remains still ... and ... you cannot step twice into the same stream” and “All entities move and nothing remains still” (Plato *Cratylus*)



There is nothing **permanent**
except **change.**

– *Heraclitus*

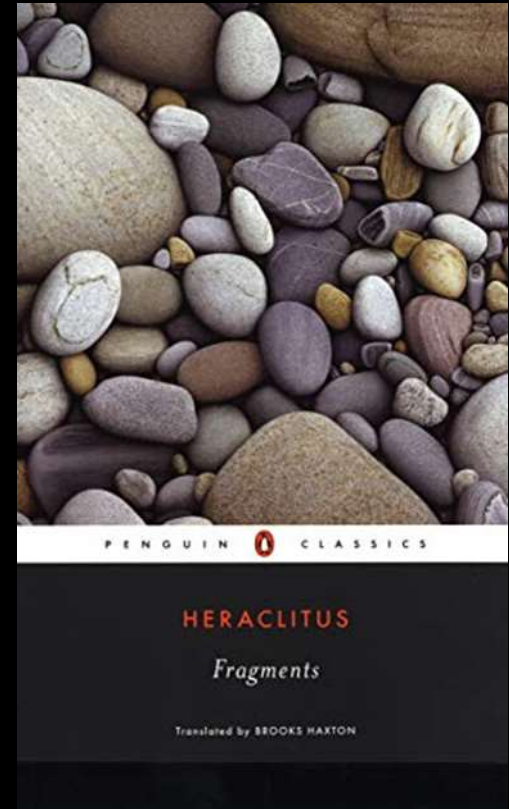


The Concept of Nature

The River Fragment

What Heraclitus actually said is the following:
“On those stepping into rivers staying the same,
other and other waters flow.”

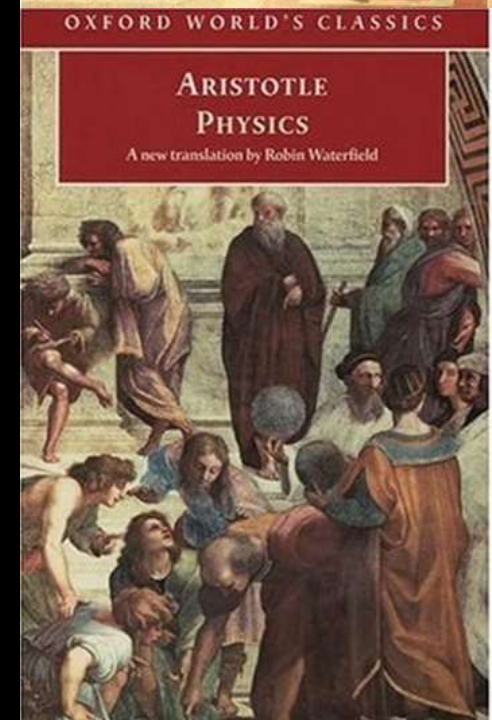
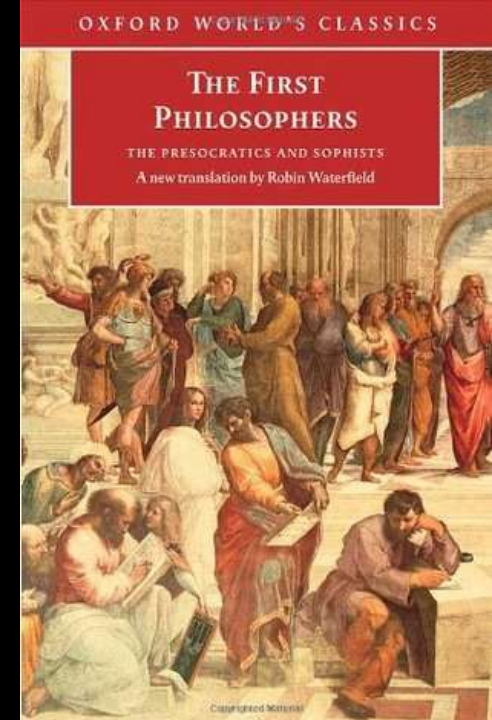
- The message of the river fragment is not that all things are changing so that we cannot encounter them twice, but something much more subtle and profound.
- *It is that some things persist only by changing.*
- Nature/Material reality exists by virtue of a process of constant turnover in its constituent matter like a flame or a river.
- Here constancy and change are not opposed but inextricably connected.



Greek Natural Philosophy – How does Nature work?

How to explain Order and Change?

- Four Elements – Earth, Water, Air, Fire
 - All physical things made of two or more elements
 - Earth and Water = heavy, move downward
 - Air and Fire = light, move upward
 - Motion, Change, Transformation explained by elements



The Concept of Nature – Basic Element is Fire - Constancy and Change

- The Cosmos is eternal *"This world-order [kosmos], the same of all, no god nor man did create, but it ever was and is and will be: everliving fire, kindling in measures and being quenched in measures."* (first use of kosmos in Greek philosophy)
- Fire is the basic material of the world. (Earth, Air, Water)
- "We both step and do not step in the same rivers. We are and are not."
- A human body could be understood in precisely the same way, as living and continuing by virtue of constant metabolism (fire) – as Aristotle later understood it.

Panta rhei, "everything flows"

- Constancy and change are not opposed but inextricably connected.
- Heraclitus believes in flux or process, but not as destructive of constancy; rather it is, paradoxically, a necessary condition of constancy.
- Some things stay the same only by changing – Flux or Process



THE ART AND THOUGHT OF HERACLITUS

An edition of the fragments with
translation and commentary

CHARLES H. KAHN

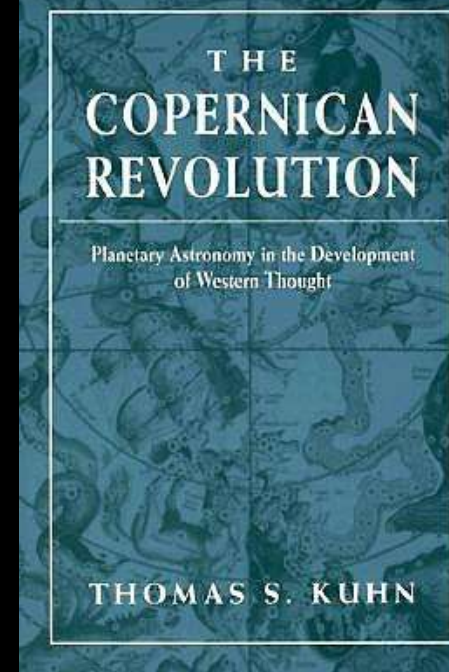
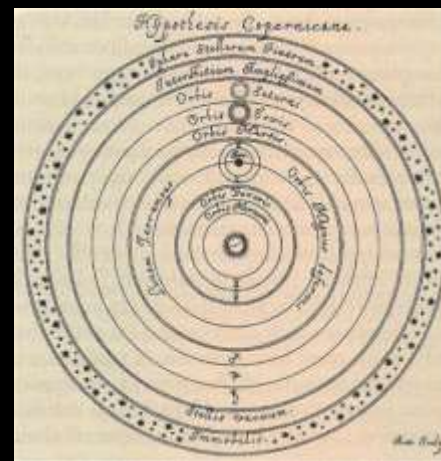
Fluvial Philosophy

The Concept of Nature



The Science of Nature

Explaining Order and Change



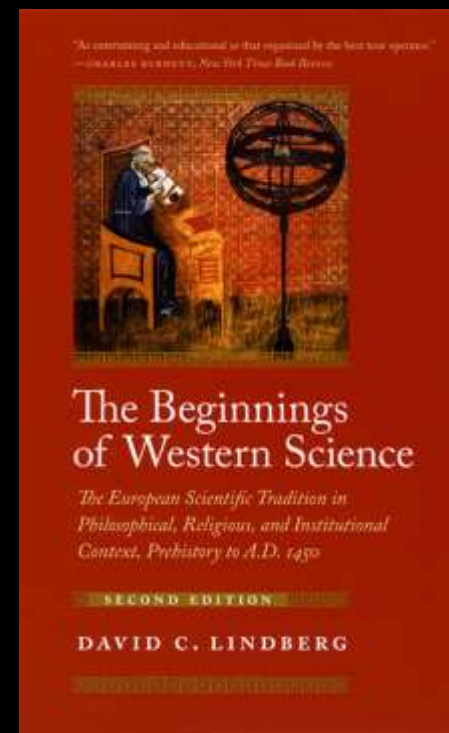
The Copernican Revolution – a new order for the universe

Nicolaus Copernicus, *On the Revolutions of the Heavenly Spheres*
1543

The Scientific Revolution - a new way of generating knowledge
prioritizing empirical knowledge and material causes

Francis Bacon, *New Organon, or true directions concerning the
interpretation of nature* 1620

- “take the question to nature” and learn by direct observation and experiments
- Nature’s Laws are mathematical
- What is the relationship between experience and reason?



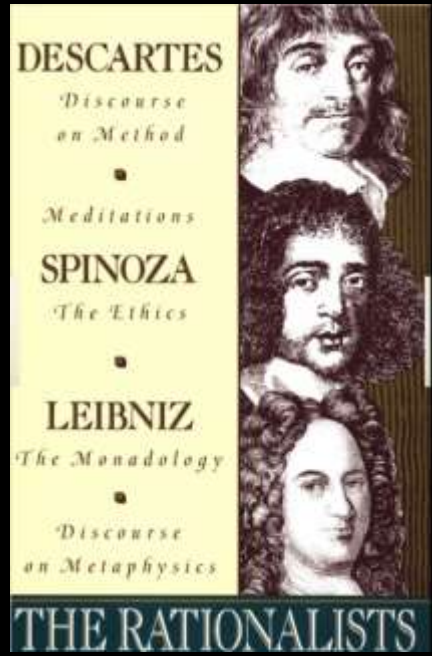
Rationalism

- Innate knowledge
- Knowledge is based on reason and logic
- Mathematics and logic is the paradigm of knowledge
- Genuine knowledge is certain
- Experience (sense perception) does not produce certainty

1596-1650

1632-1677

1646-1715



Versus

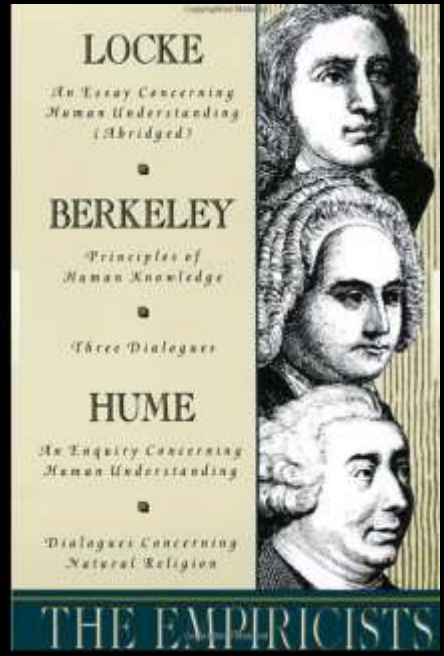
Empiricism

- No innate knowledge (tabula rasa)
- Knowledge is based on experience and experimentation
- Experimental science is the paradigm of knowledge
- Experience and experiment rarely, if ever, produce certainty

1632-1704

1685-1753

1711-1776



Concept of Nature - Both sides agree that Mind and Matter are fundamentally different realities – But how does that work?

The Mind and The Stream of Consciousness

William James 1842 –1910

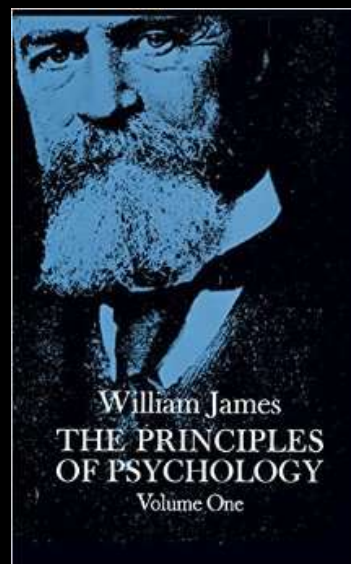
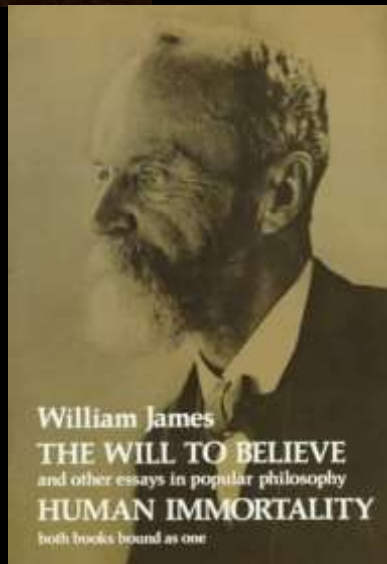
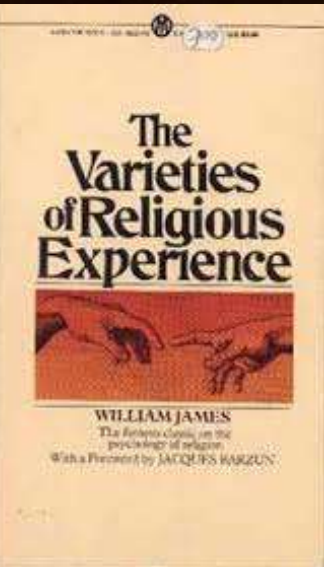


"Consciousness, then, does not appear to itself chopped up in bits. Such words as 'chain' or 'train' do not describe it fitly as it presents itself in the first instance. It is nothing jointed; it flows.

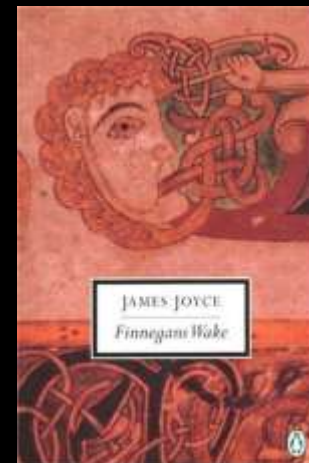
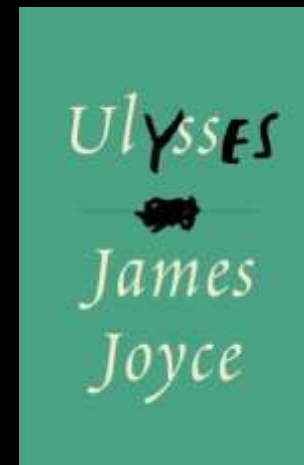
A 'river' or a 'stream' are the metaphors by which it is most naturally described.

In talking of it hereafter let us call it the stream of thought, of consciousness, or of subjective life."

The Principles of Psychology 1890



Stream of Consciousness





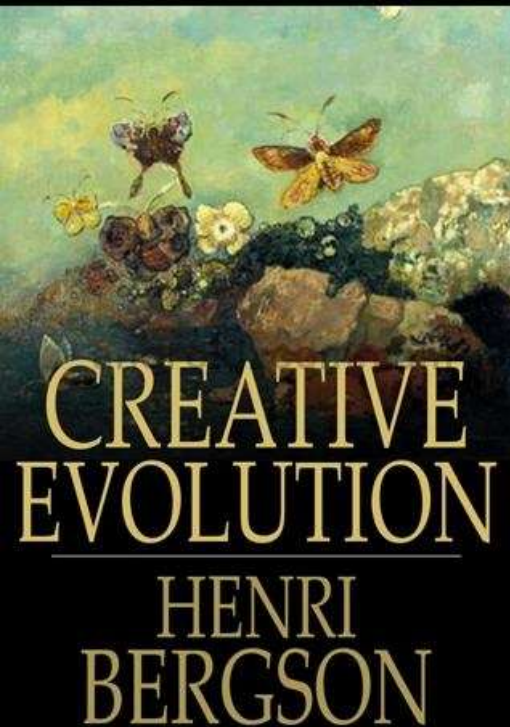
The Concept of Nature - Process and Duration

Henri Bergson 1859 – 1941

French philosopher, the first to elaborate what came to be called a process philosophy, focus on reality as motion, change, and evolution.

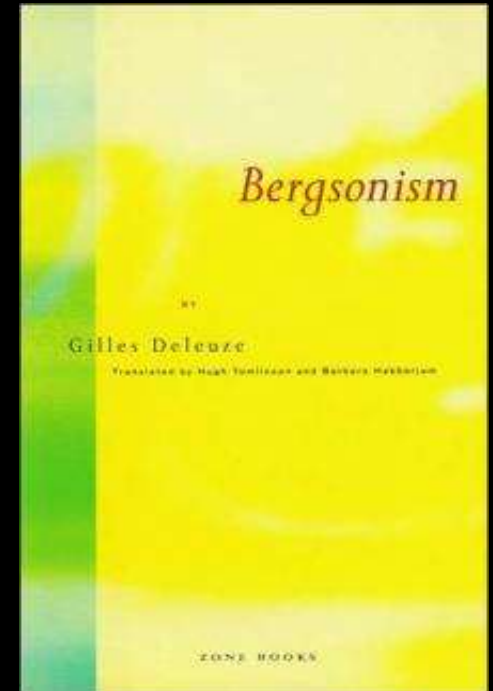
The human intellect “spatializes the universe” – prioritizes static categories over flux and change

He was also a master literary stylist, of both academic and popular appeal, and was awarded the Nobel Prize for Literature in 1927.



1907

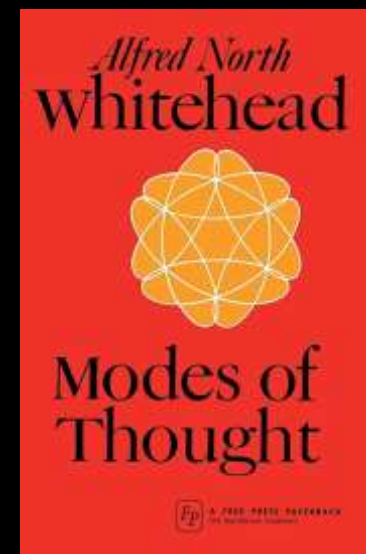
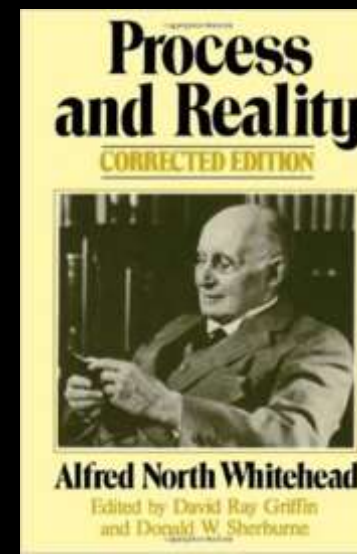
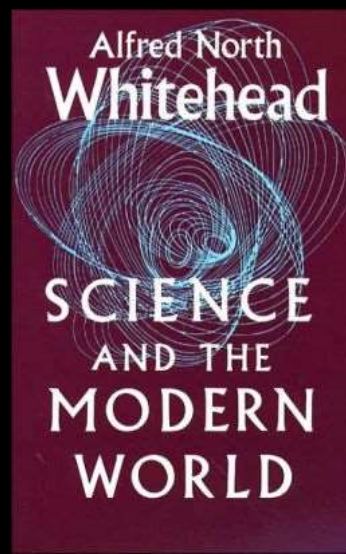
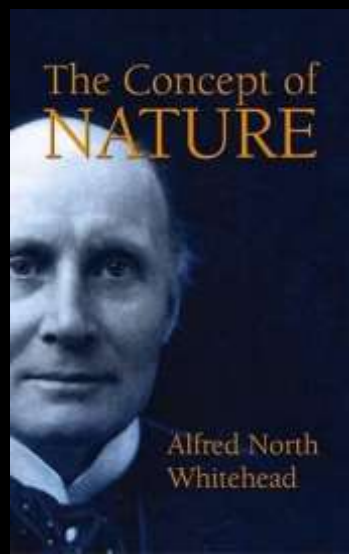
- Élan vital
- Duration
- Memory
- Multiplicity
- Creativity
- Novelty
- Intuition



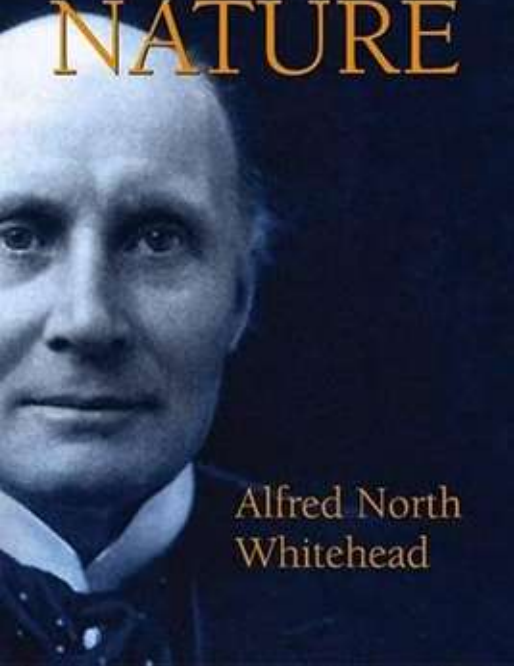
Gilles Deleuze 1966

Process Philosophy and Alfred North Whitehead (1861 – 1947)

- Taught mathematics and physics at Cambridge, Imperial College London 1884-1924
- *Principia Mathematica* 1910-13 (with Bertrand Russell) one of the 20th Century's most important works in mathematical logic - “retires” to Harvard 1924-37
- *The Concept of Nature* 1919, *Science and the Modern World* 1925, *Process and Reality* 1929, *Adventures of Ideas* 1933, *Modes of Thought* 1938
- “The safest general characterization of the European philosophical tradition is that it consists of a series of footnotes to Plato.”
- Whitehead was convinced that the scientific notion of matter was misleading as a way of describing the ultimate nature of things. Mind and Matter must be reunited.



The Concept of NATURE

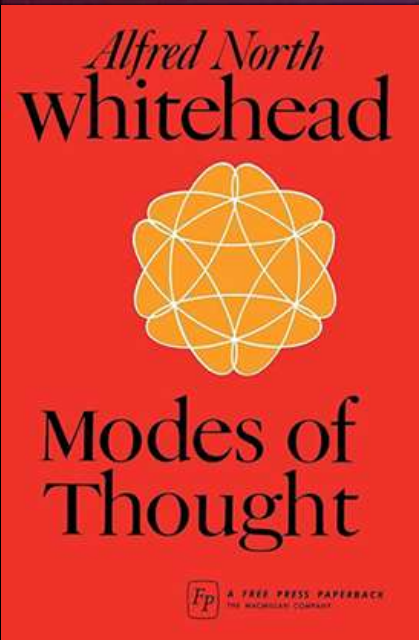
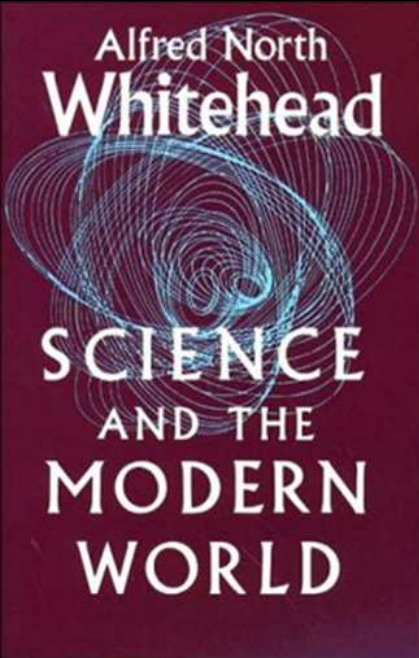


Alfred North
Whitehead

The Concept of Nature

The Fallacy of Misplaced Concreteness

- Scientific Materialism “There persists ... [a] fixed scientific cosmology which presupposes the ultimate fact of an irreducible brute matter, or material, spread through space in a flux of configurations. In itself, such a material is senseless, valueless, purposeless. It just does what it does do, following a fixed routine imposed by external relations which do not spring from the nature of its being. It is this assumption that I call ‘scientific materialism’.”
- The Fallacy of Misplaced Concreteness - “By assuming that enduring objects are the most real and fundamental things in the universe, materialists have mistaken the abstract for the concrete.”
- Concept of Nature - He conceives of reality as composed of processes of dynamic "becoming" rather than static "being," emphasizing that all physical things change and evolve and that changeless "essences" such as matter are mere abstractions from the interrelated events that are the final real things that make up the world



Renewing Empiricism – Fusing Matter and Life

- Not Mind vs. Matter - Whitehead rejected Descartes' idea that reality/nature/being is fundamentally constructed of bits of matter that exist totally independently of one another and that there "mental substances external to material substances"
- Against Descartes' and Locke's idea of two different kinds of real existence, either exclusively material or exclusively mental – there was no "bifurcation of nature" between primary and secondary qualities, between mind and nature
- Matter and Life - "In truth, this formulation of the problem in terms of minds and matter is unfortunate. It omits the lower forms of life, such as vegetation and the lower animal types...the effect of this sharp division between nature and life has poisoned all subsequent philosophy"
- Fusing Matter and Life - "The doctrine that I am maintaining is that neither physical nature nor life can be understood unless we fuse them together as essential factors in the composition of 'really real' things whose interconnections and individual characters constitute the universe"



A Philosophy of Organisms – Creativity and Novelty

- Lived Experience - “Science can find no individual enjoyment in nature: Science can find no aim in nature: Science can find no creativity in nature: it finds mere succession...The reason for this blindness of physical science lies in the fact that such science only deals with half the evidence provided by human experience.”
- Organism and Event - Whitehead rejects the idea of separate and unchanging bits of matter as the most basic building blocks of reality, in favor of the idea of reality as interrelated events in the flow of nature – with organisms as the model of an “event”. The fundamental reality is the active and experiential nature of organisms.
- Creativity - Whitehead referred to his metaphysics as “philosophy of organism“ to embrace evolutionary nature where new organisms emerge – Nature is creative!
- Novelty - “‘Creativity’ is the principle of novelty...the ‘creative advance’ is the application of this ultimate principle of creativity to each novel situation which it originates.”

Process and Reality

CORRECTED EDITION



Alfred North Whitehead

Edited by David Ray Griffin
and Donald W. Shruburne



Time, Experience, and *All Things Flow*

- All Things Flow - “It is nonsense to conceive of nature as a static fact, even for an instant devoid of duration. There is no nature apart from transition, and there is no transition apart from temporal duration. This is the reason why the notion of an instant of time, conceived as a primary simple fact, is nonsense”
- Experience – If nature is alive, the most basic elements of reality can all be regarded as experiential, indeed that everything is constituted by its experience.
- All things are alive (there is no “dead” matter) - He used the term “experience” very broadly, so that even inanimate processes such as electron collisions are said to manifest some degree of experience.
- Time - And he insisted that time/duration is a fundamental part of nature – experience always had duration. (We live in spacetime)
- *“The elucidation of the meaning involved in the phrase “all things flow” is one chief task of metaphysics.”*

Process and Reality CORRECTED EDITION



Alfred North Whitehead

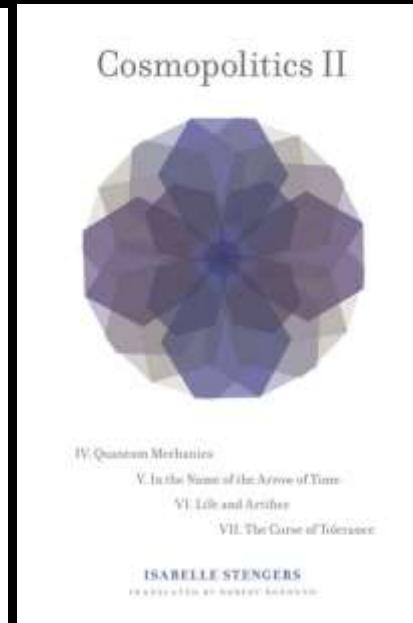
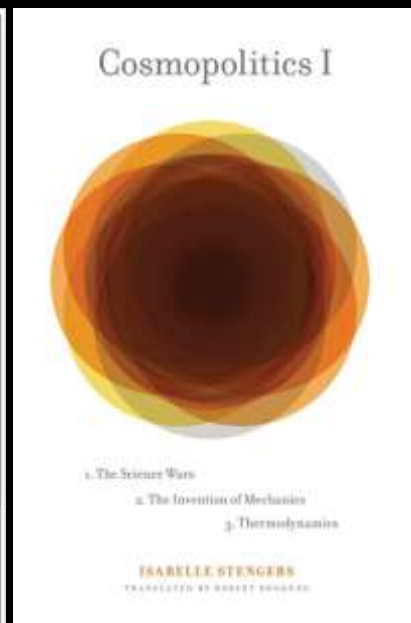
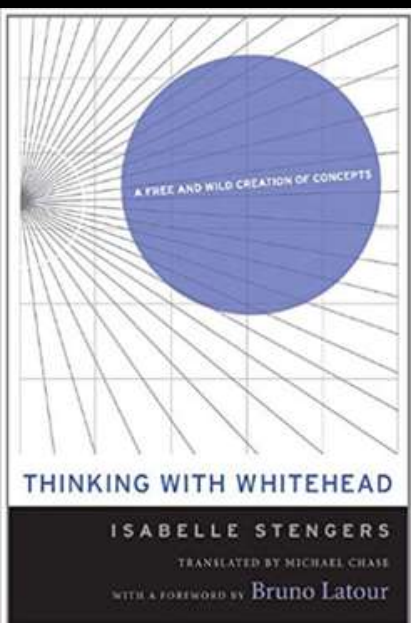
Edited by David Ray Griffin
and Donald W. Sheburne

Renewing Empiricism - *Thinking with Whitehead*

Isabelle Stengers b.1949 Professor of Philosophy at the Université Libre de Bruxelles.

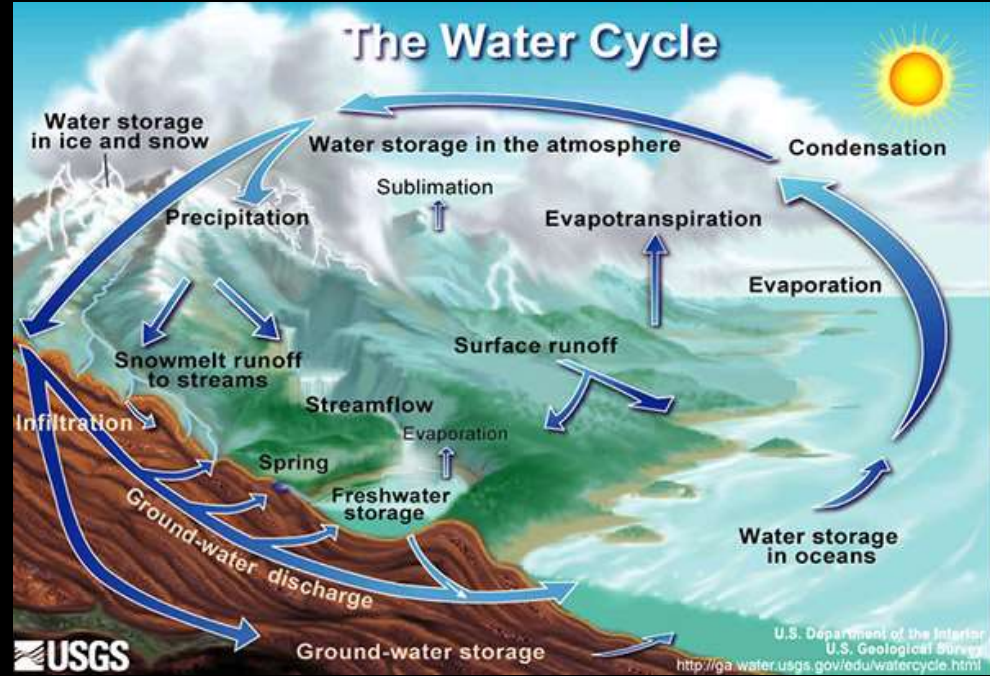
“Philosophy is the attempt to make manifest the fundamental evidence as to the nature of things... *The aim of philosophy is sheer disclosure.*” Whitehead, *Modes of Thought*

“To think with Whitehead is...to affirm that the success of a philosophical proposition is not to resist objection but to give rise to what he himself calls a ‘leap of the imagination’ – and the point is to experiment with the effects of that leap: what it does to thought, what it obliges one to do, what it renders important, and what it makes remain silent.” Stengers, *Thinking with Whitehead*

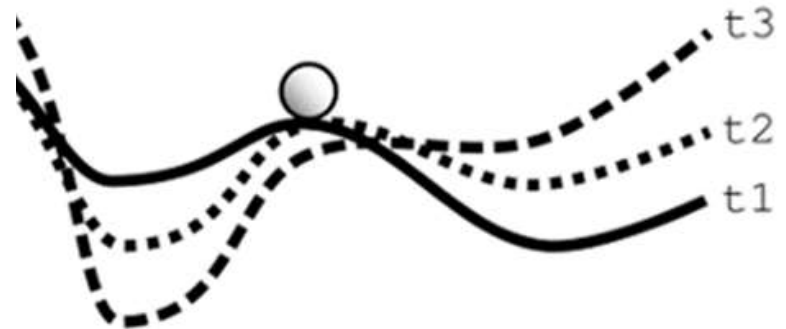


How does Nature work?

The Round River and Science



Evolving



Nature as Process

The New Ecology of Change - Ecological Resilience

Balance vs. Disequilibrium

Permanence vs. Change

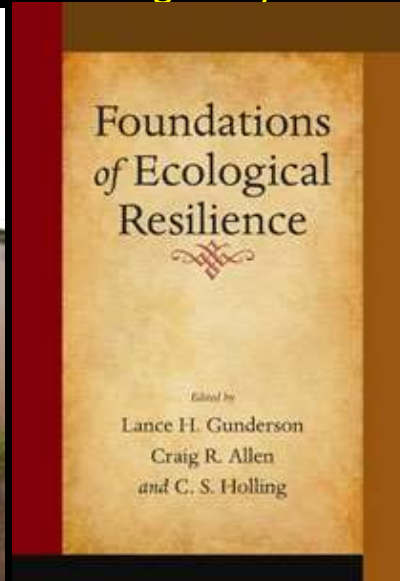
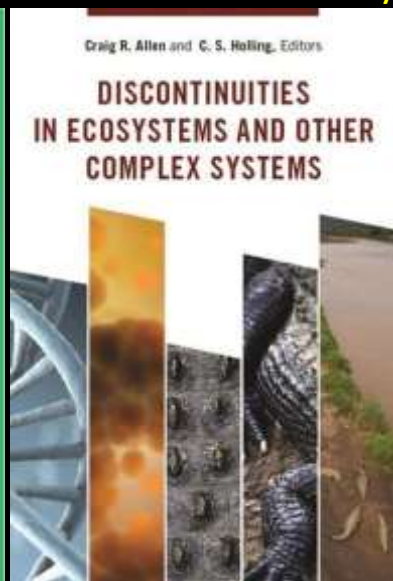


Humboldt - “to discern the constancy of phenomena in the midst of apparent changes.”

- The concept of resilience - the persistence of natural systems in the face of changes in ecosystem variables due to natural or anthropogenic causes.
- The general meaning of resilience, derived from its Latin roots 'to jump or leap back', is the ability to recover from or adjust easily to misfortune or change.

Holling, C.S. (1973). "Resilience and stability of ecological systems"

Buzz Holling 1930-2019



How does Nature work?

Nature as Process (Flowing/Flux)

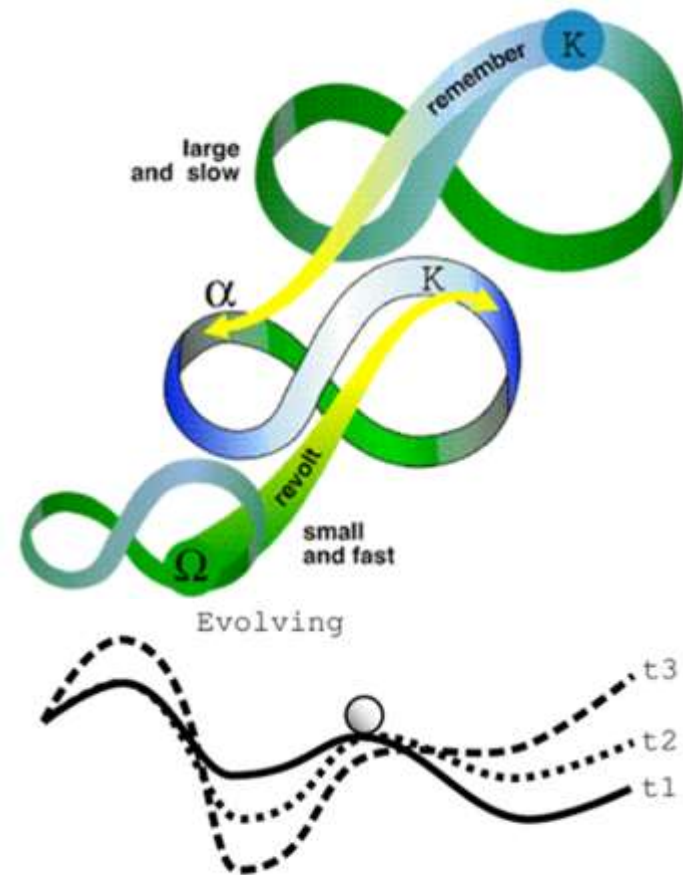
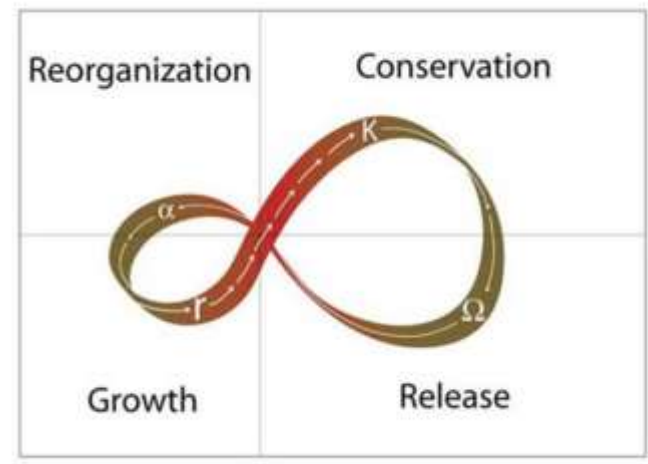
The Adaptive Cycle

Growth - where species and systems grow and diversify to exploit new opportunities and develop entirely new ecological ways of being.

Conservation - where systems stabilize into mature, often hierarchically nested systems, where there is little or no room for innovation or growth.

Release (the “backside” of the mobius strip) - where mature systems destabilize and collapse, and become increasingly discontinuous and chaotic which opens the field for...

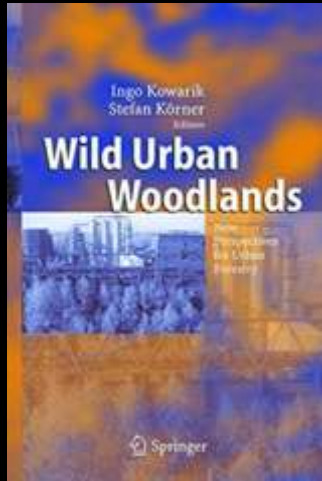
Reorganization – where systems return in completely new ways, which creates a new field of conditions and possibilities for the next growth phase



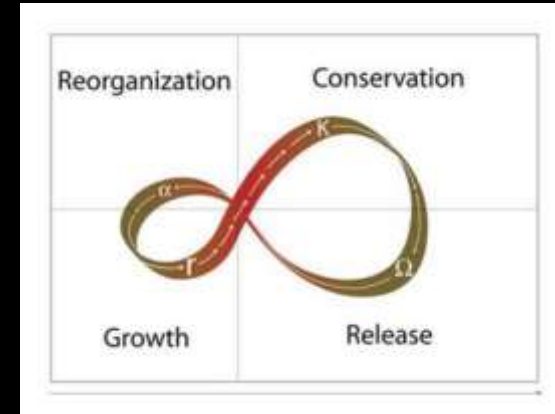
Nature and Resilience – Waller Creek 7th Street Bridge

A resilient ecosystem can withstand shocks and rebuild itself when necessary.

“the natural capacity for *process* is the central point, not a particular, retrospectively determined and often idealized, *picture of nature*.”



2023



2005



2009



2012



2017

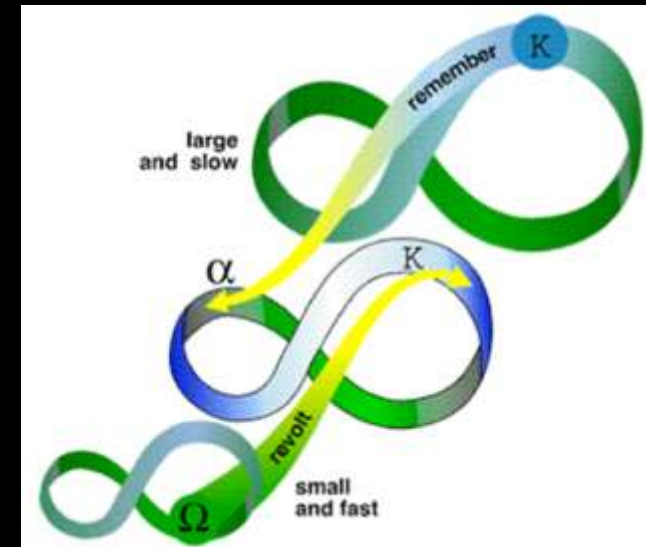
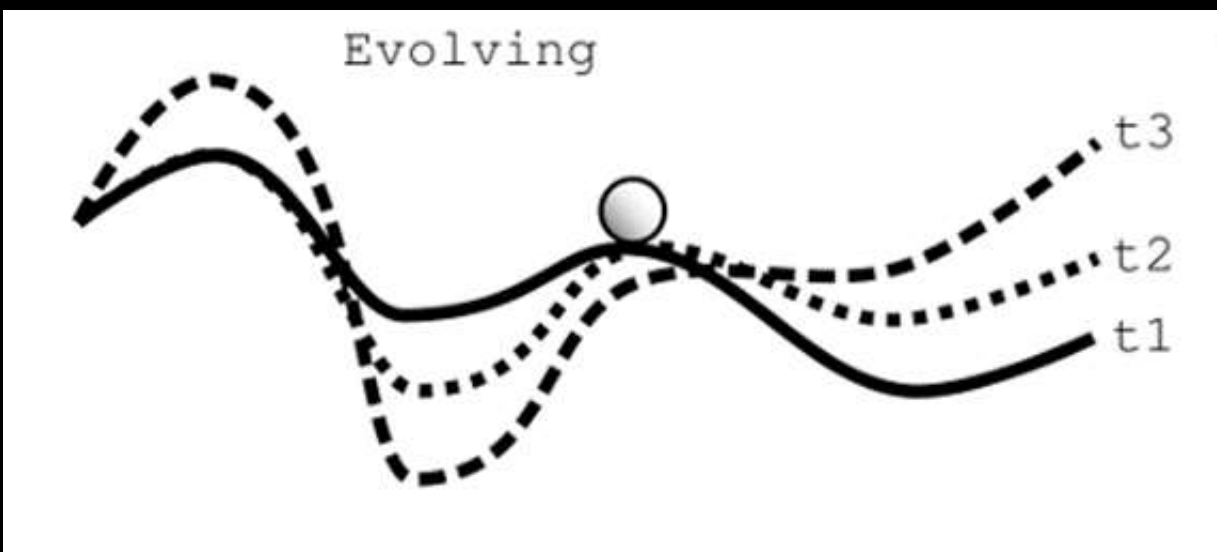
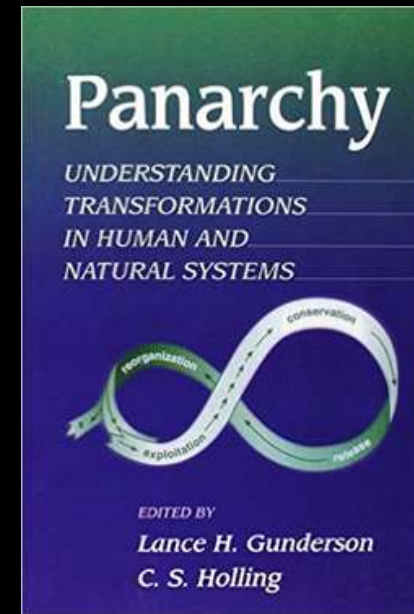
How does Nature work?

A New Myth of Nature - Panarchy

Transformation - Evolving Nature and Panarchy

A Story of Resilience and Change

- Panarchy is a new narrative or myth of evolving nature, hinted at by the name of the Greek god of nature - Pan - whose persona also evokes an image of unpredictable change.
- Change is not always for the good - Pan has a destabilizing role that is captured in the word panic, directly derived from one facet of his paradoxical personality.



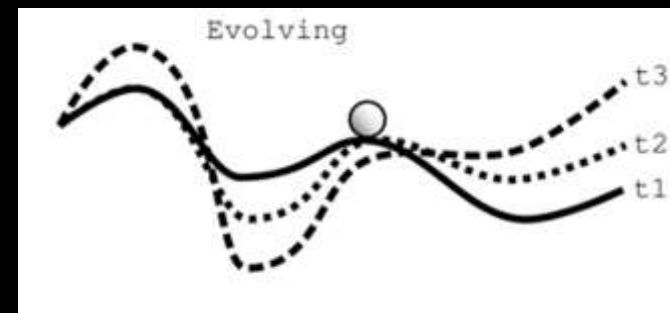
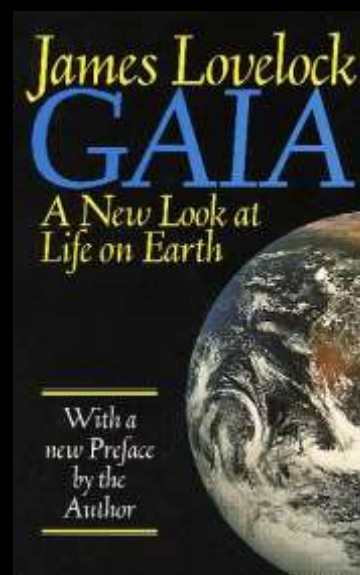
The Earth is an Organism

How Nature Works - Gaia and Homeostasis

James Lovelock (26 July 1919 – 26 July 2022)

Lynn Margulis (1938 – 2011)

- The Earth is a self-regulating complex system involving the biosphere, the atmosphere, the hydrospheres and the pedosphere, tightly coupled as an evolving system.
- Many processes in the Earth's surface, essential for the conditions of life, depend on the interaction of living forms, especially microorganisms, with inorganic elements.
- These processes establish a global control system that regulates Earth's surface temperature, atmosphere composition and ocean salinity, powered by the global thermodynamic disequilibrium state of the Earth system.



The Earth is Alive - Gaia and Homeostasis

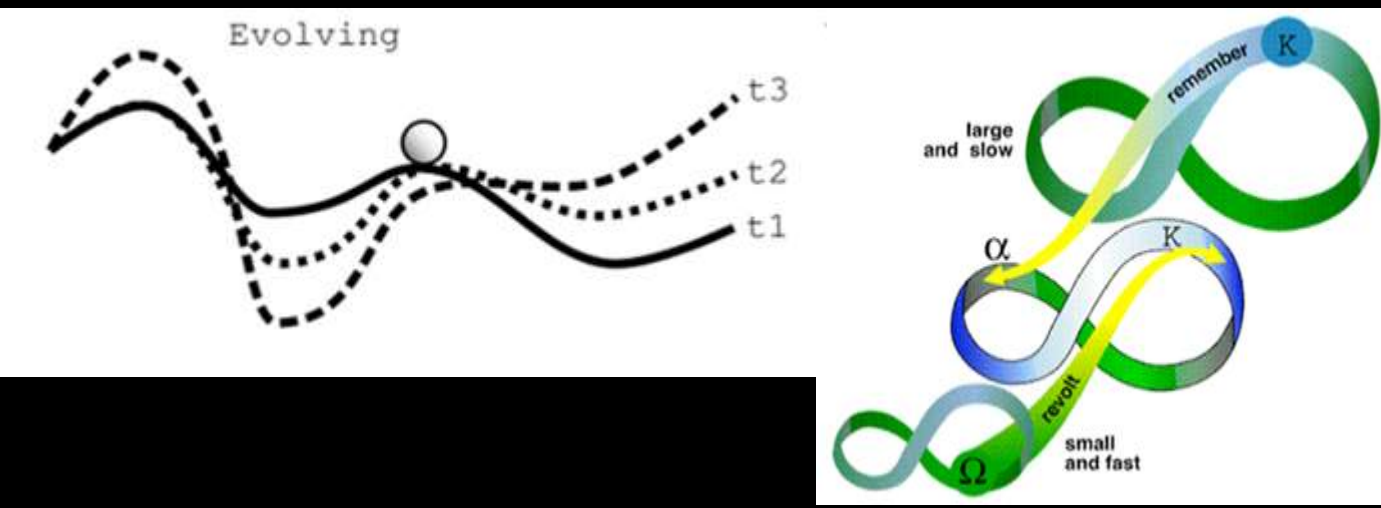
James Lovelock

- “When I talk of Gaia as a super organism, I do not for a moment have in mind a goddess or some sentient being. I am expressing my intuition that the Earth behaves as a self regulating system, and that the proper science for its study is physiology.” (Earth as Organism)
- The originality of the Gaia hypothesis relies on the assessment that such homeostatic balance is actively pursued to keep the optimal conditions for life on Earth, even when terrestrial or external events menace them – like a chemical reaction or cybernetic system (thermostat).



James Lovelock
GAIA
A New Look at
Life on Earth

With a
new Preface
by the
Author



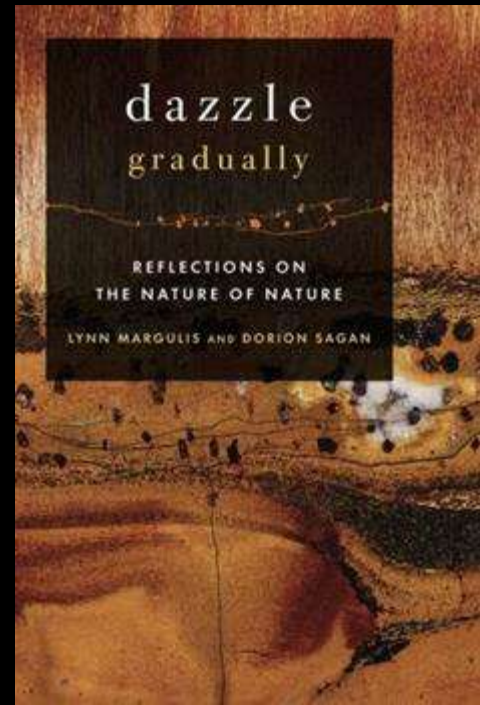
Inhabiting the Earth – Rhetoric of the Powerless

The Agency of Nature

Lynn Margulis

- “Life is a planetary level phenomenon and the Earth has been alive for at least 3000 million years. To me the human move to take responsibility for the living Earth is laughable - the rhetoric of the powerless.”
- The planet takes care of us, not we of it.
- Our self inflated moral imperative to guide a wayward Earth or heal a sick planet is evidence of our immense capacity for self-delusion.
- Rather, we need to protect us from ourselves.”

The Agency of Nature - “Life on earth is more like a verb. It repairs, maintains, re-creates, and outdoes itself.”



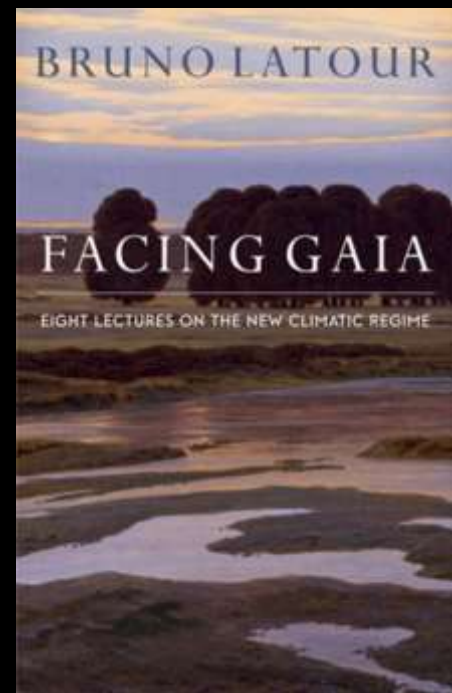
Panarchy - Philosophy of Organism

Nature as a verb – The Agency of Nature

Bruno Latour (1947-2022)

“Contrary to the old nature, Gaia does not play either the role of inert object that could be appropriated or the role of a higher arbiter on which, in the end, one could rely.

It was old Nature that could serve as a general framework for our actions even as She remained *indifferent* to our fate... Gaia is no longer *indifferent* to our actions...Gaia can treat us as enemies. We can respond in kind.”

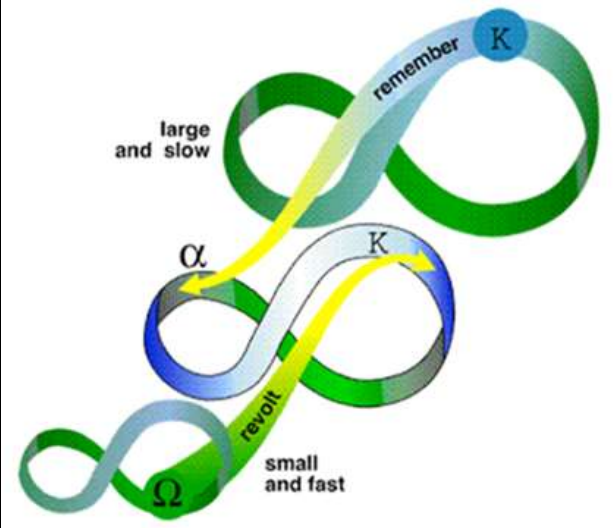
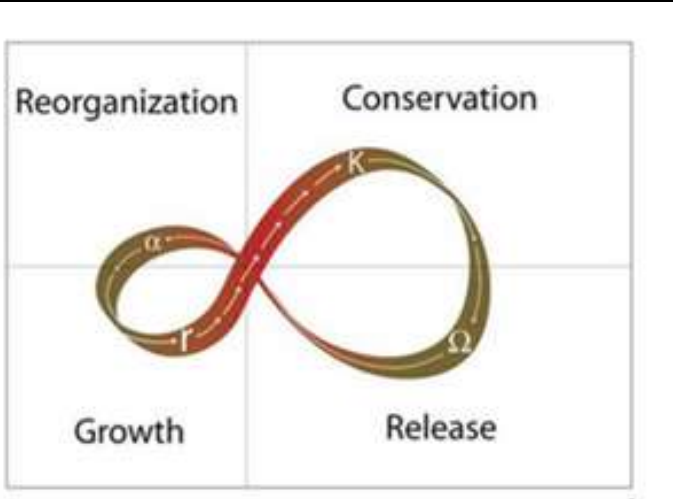
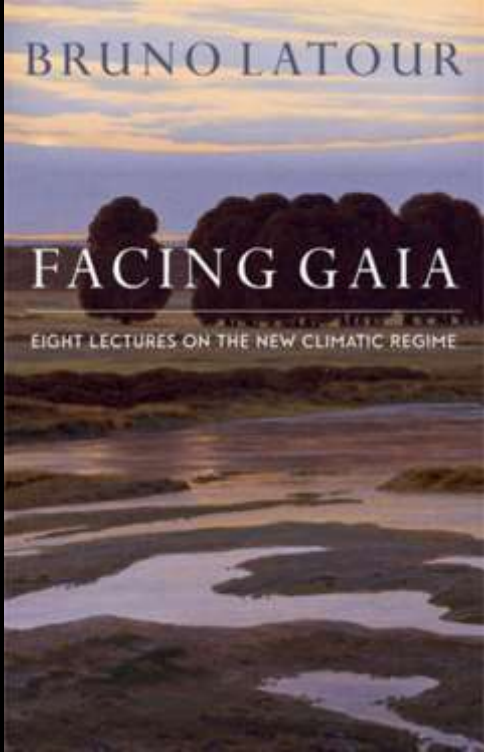


Reconnecting Mind and Matter, Human and Earth

Bruno Latour

“That’s what the Anthropocene is all about... *we have to weave ourselves, to cocoon ourselves within a great many loops* so that progressively, thread after thread, the knowledge of where we reside and on what we depend for our atmospheric condition can gain greater relevance and feel more urgent.

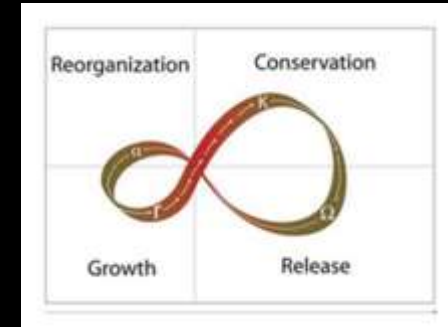
This slow operation of being wrapped in successive looping strips is what it means to be ‘of this Earth’ and it has nothing to do with being human-in-nature or human-on-a-globe.”



The Round River – a Metaphor for Ecology – Aldo Leopold

"One of the marvels of early Wisconsin was the Round River, a river that flowed into itself, and thus sped around and around in a never-ending circuit."

Aldo Leopold 1887-1948



ROUND RIVER

FROM THE JOURNALS OF
ALDO LEOPOLD
AUTHOR OF A SAND COUNTY ALMANAC



EDITED BY LUNA B. LEOPOLD



SPECIAL COMMEMORATIVE EDITION

A SAND COUNTY ALMANAC *And Sketches Here and There*



ALDO LEOPOLD

WITH AN INTRODUCTION BY ROBERT FINCH

How does Nature work? "a river that flows into itself"

"The current is the stream of energy which flows out of the soil into plants, thence into animals, thence back into the soil in a never ending circuit of life...

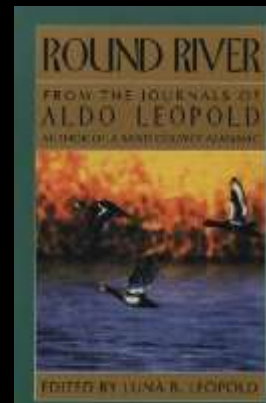
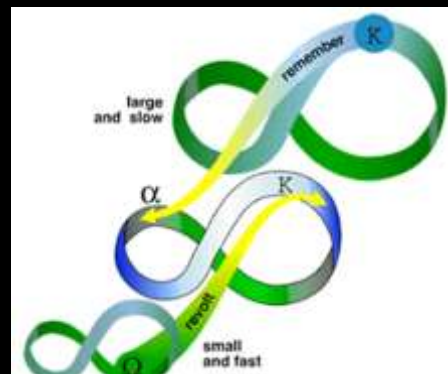
In our educational system, the biotic continuum is seldom pictured to us as a stream.

From our tenderest years we are fed with facts about the soils, floras, and faunas, that comprise the channel of Round River (biology), about their origins in time (geology and evolution), about the technique of exploiting them (agriculture and engineering).

But the concept of a current with droughts and freshets, backwaters and bars, is left to inference.

To learn the hydrology of the biotic stream we must think at right angles to evolution and examine the collective behavior of biotic materials.

This calls for a reversal of specialization; instead of learning more and more about less and less, we must learn more and more about the whole biotic landscape"



Understand?



An underwater photograph showing a dense field of green seaweed or kelp. Sunlight filters through the water from the top, creating bright, shimmering spots and rays. The seaweed blades are long and narrow, and their movement is captured in a way that suggests a gentle current. The overall scene is vibrant and dynamic, illustrating the concept of 'Everything Flows!'.

Everything Flows!