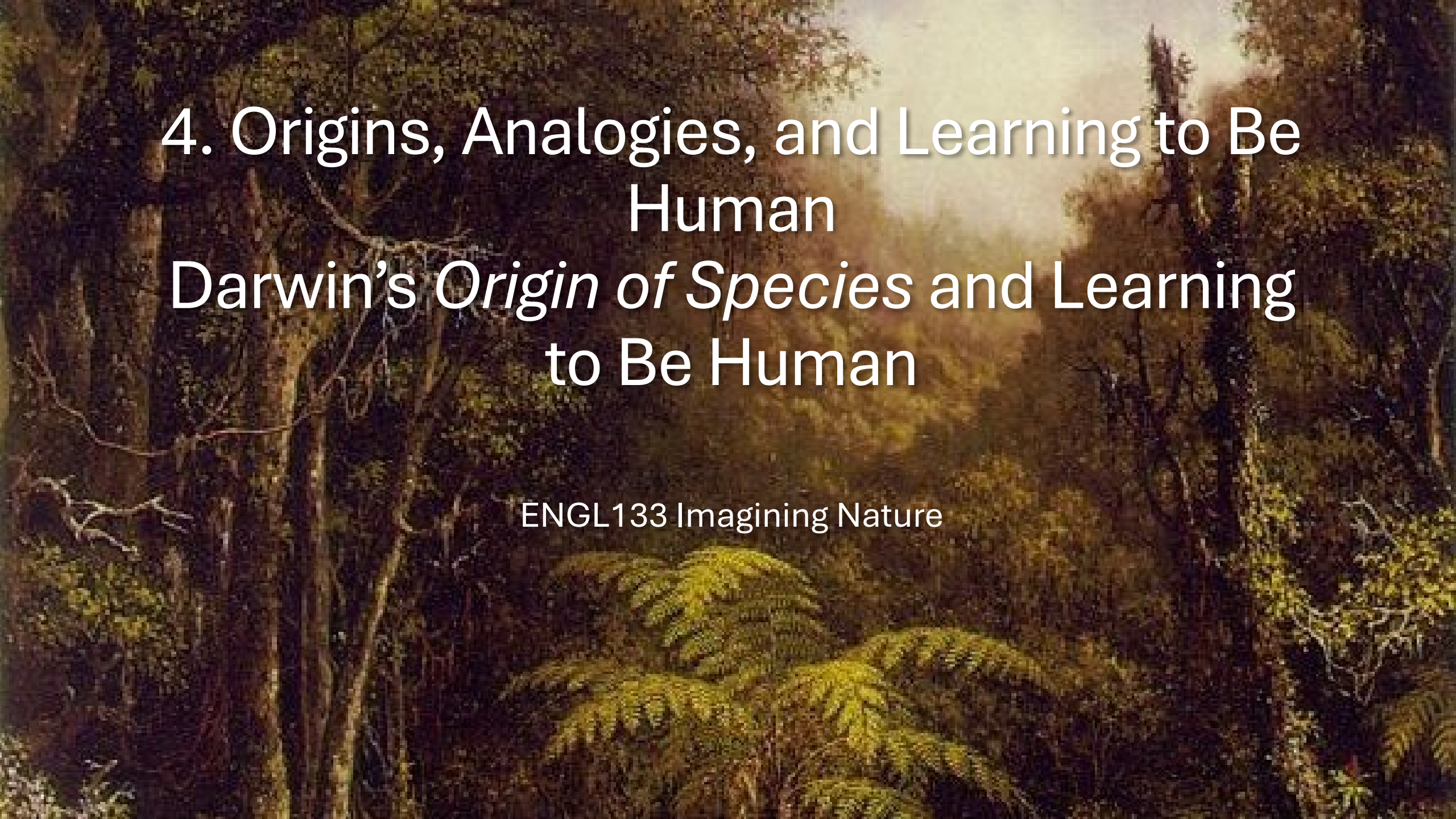
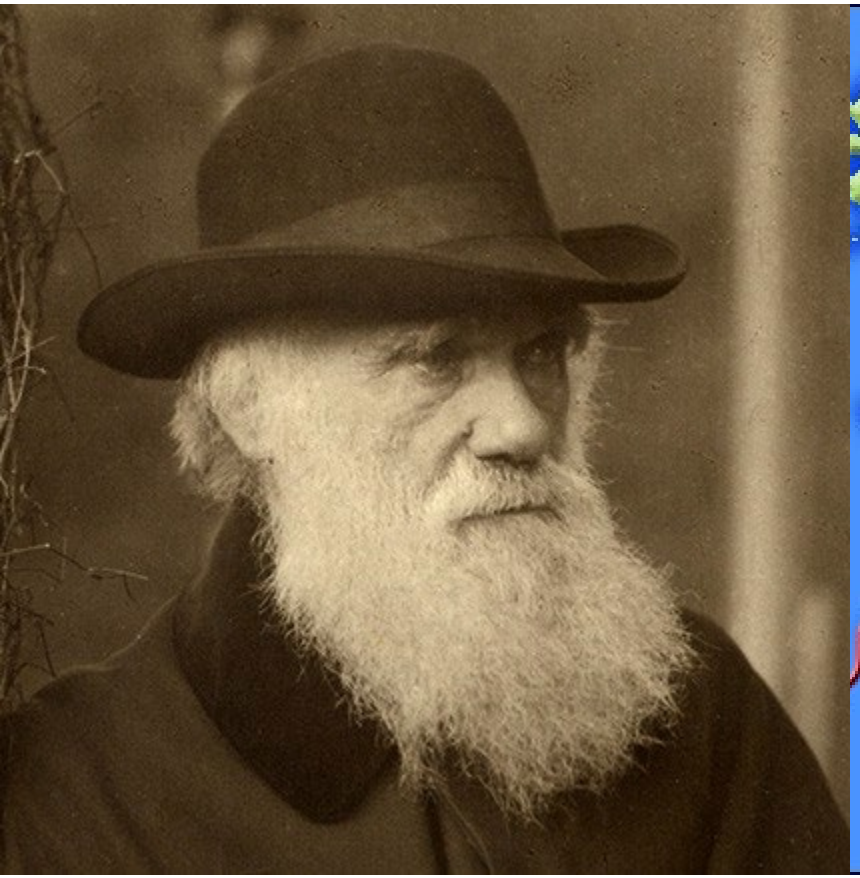
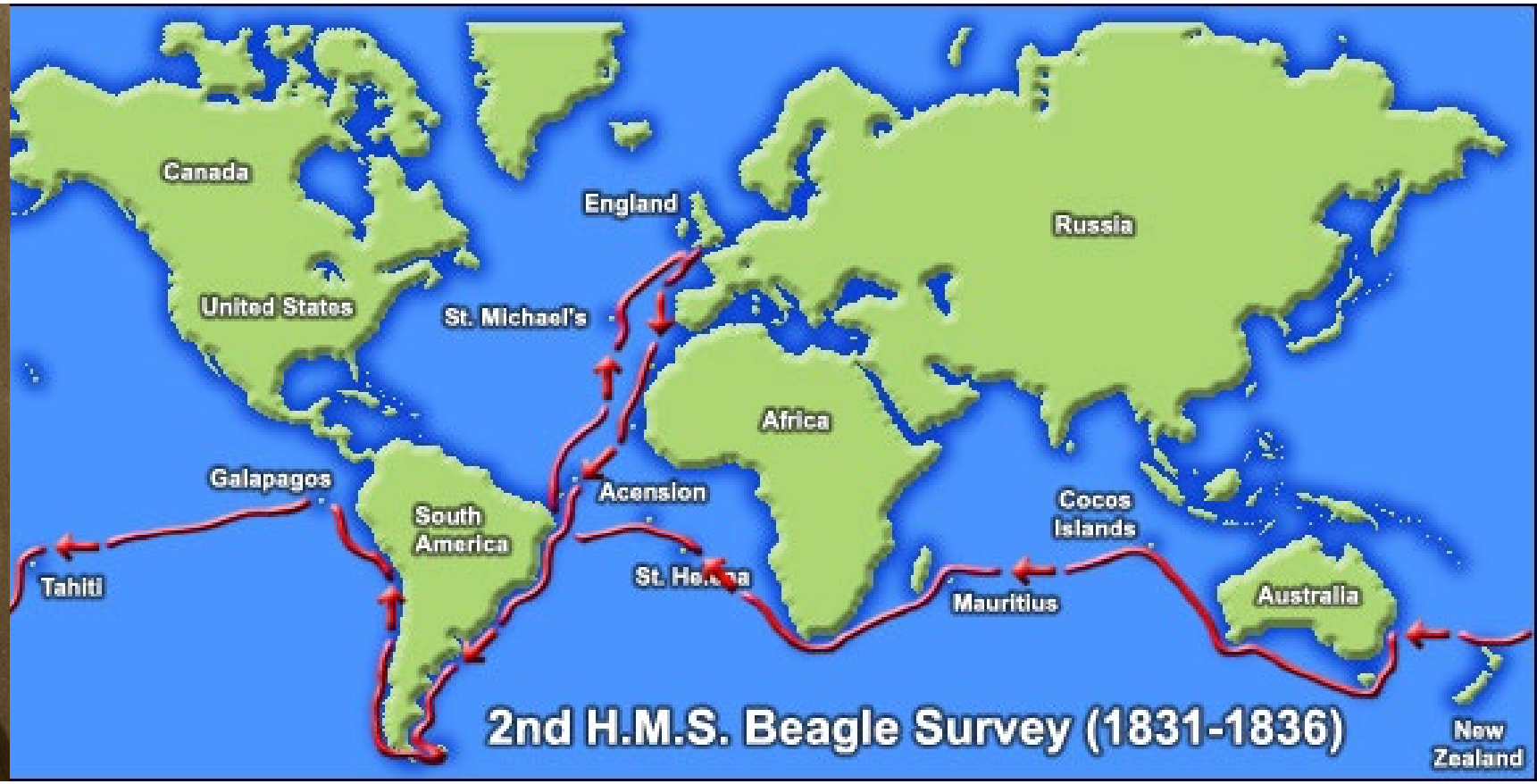


4. Origins, Analogies, and Learning to Be Human
Darwin's *Origin of Species* and Learning to Be Human

ENGL133 Imagining Nature





Charles Darwin (1809-1882), *The Origin of Species* (1859)

Darwin, Excerpt from *Origin of Species*
Chapter 4: "Natural Selection"

Key terms:

-Adaptation-a heritable trait that allows an organism to better survive and reproduce in its environment; not just a random mutation

-ex. different beak shapes of Galapagos finches

-Natural selection- the "preservation of favourable variations and the rejection of injurious variations"

-this process leads to gradual changes in a population over time

-Survival of the fittest-not the strongest or smartest that survive but the one that can most readily adapt to its environment

-variations occur over generations "in the great and complex battle of life"

-Phylogeny-the history of organism's lineage as they change through time

But who (or what) is doing the (natural) selecting?

“**As man can produce and certainly has produced a great result by his methodical and unconscious means of selection, what may not nature effect? Man can act only on external and visible characters: nature cares nothing for appearances, except in so far as they may be useful to any being. She can act on every internal organ, on every shade of constitutional difference, on the whole machinery of life. Man selects only for his own good; Nature only for that of the being which she tends**. … He [i.e. man] often begins his selection by some half-monstrous form; or at least by some modification prominent enough to catch his eye, or to be plainly useful to him. Under nature, the slightest difference of structure or constitution may well turn the nicely-balanced scale in the struggle for life, and so be preserved. How fleeting are the wishes and efforts of man! how short his time! and consequently how poor will his products be, compared with those accumulated by nature during whole geological periods. **Can we wonder, then, that nature's productions should be far 'truer' in character than man's productions; that they should be infinitely better adapted to the most complex conditions of life, and should plainly bear the stamp of far higher workmanship?”** (2)

Darwin's primary analogy

-the similarity between artificial selection (in domestic breeding of animals and plants) and natural selection

-compare to Aristotle on causation (the four causes explained in terms of a statue and a sculptor)

Darwin's personification of Nature

- what does ventriloquizing nature do for Darwin, as opposed to say, Alan of Lille in his 12th c. *Complaint of Nature*?

-Similarities:

-nature is imagined as the higher power in both Alan and Darwin; it is "truer"—a moral yardstick where man is deficient

-both appeal to the laws of nature

-"the stamp of far higher workmanship"-cf. Lady Nature in her medieval forge

-Differences:

-Alan has embodied nature in human form vs. Darwin's disembodied nature (process)

-Darwin claims that natural selection has no final causes: adaptation eliminates final causes because nature can get to the same point from different routes

-ex. both bats and birds have wings

YET the mechanism of a personified natural selection remains unclear:

> “It may be said that natural selection is daily and hourly scrutinising, throughout the world, every variation, even the slightest; rejecting that which is bad, preserving and adding up all that is good; silently and insensibly working, whenever and wherever opportunity offers, at the improvement of each organic being in relation to its organic and inorganic conditions of life.” (Darwin, “Natural Selection”2-3)

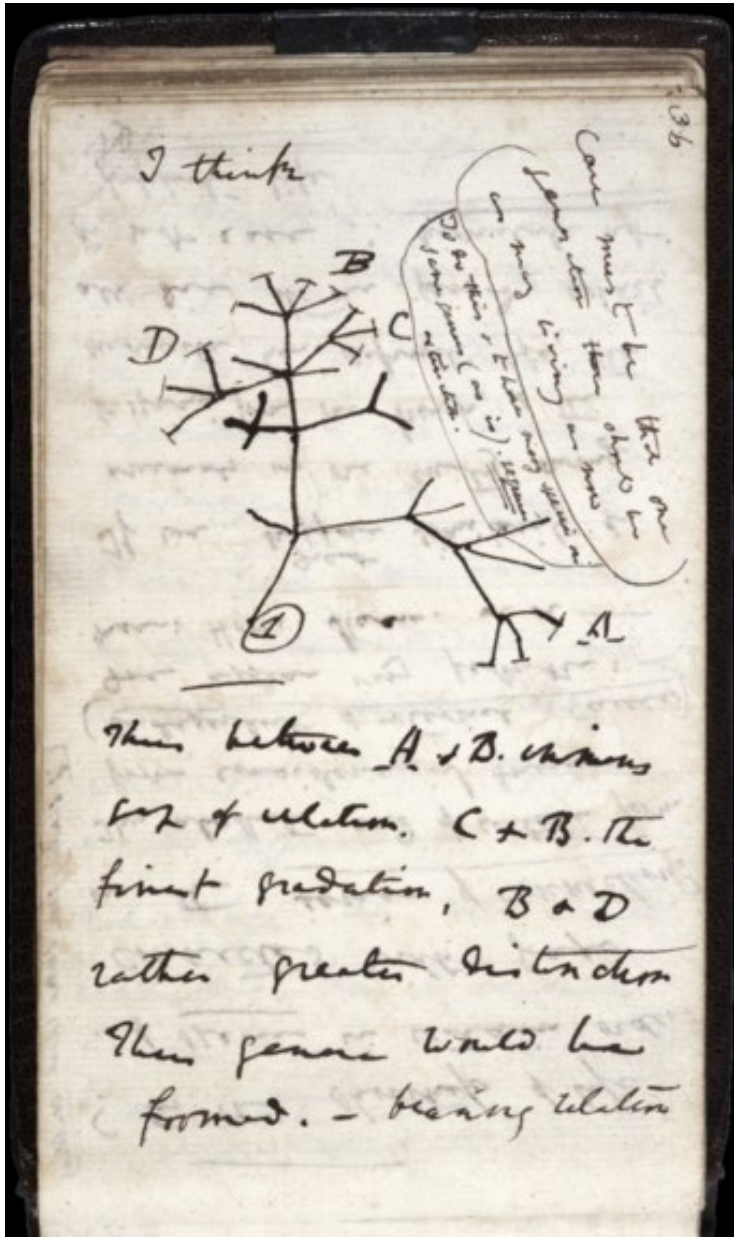
-Nature “scrutinizes,” “rejects” and “preserves”

-‘survival of the fittest’ transposes a human-based model of striving and fighting onto the natural world

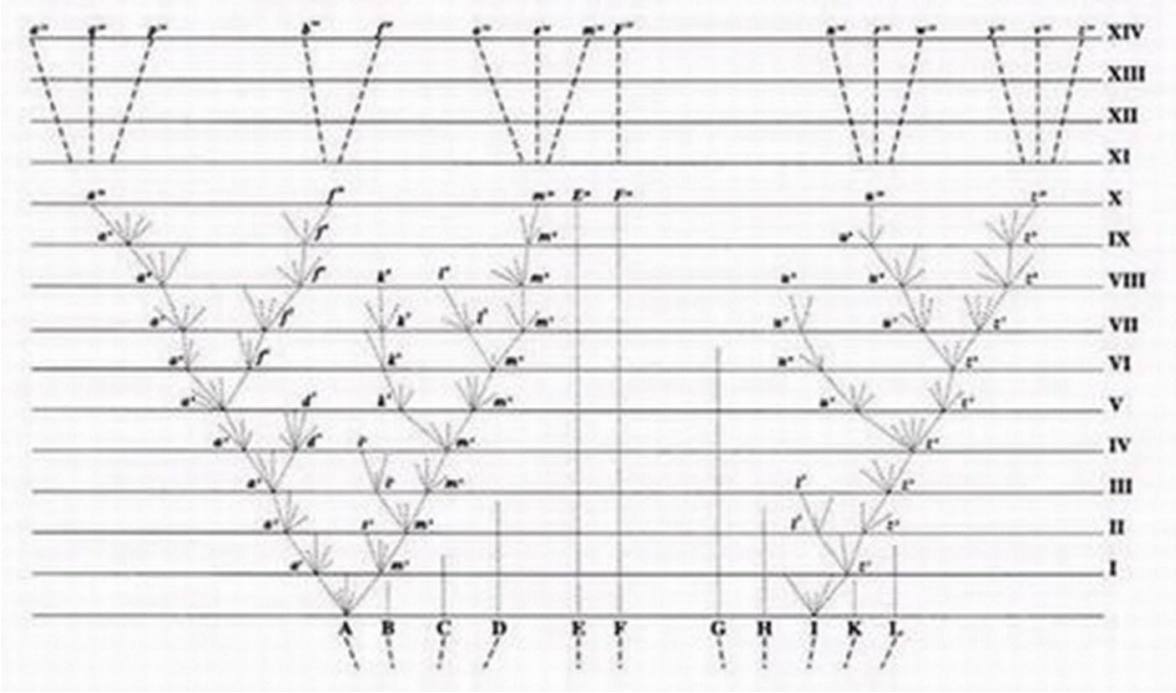
-some argue that Darwin simply installs sex where god had formerly been

-creatures strive not toward their perfect preordained end (teleology) or form but instead strive to reproduce

-the engine in previous views of personified nature is god, in Darwin’s personified nature it is sex



Initial sketch of Tree of Life, Darwin's notebook, July 1837

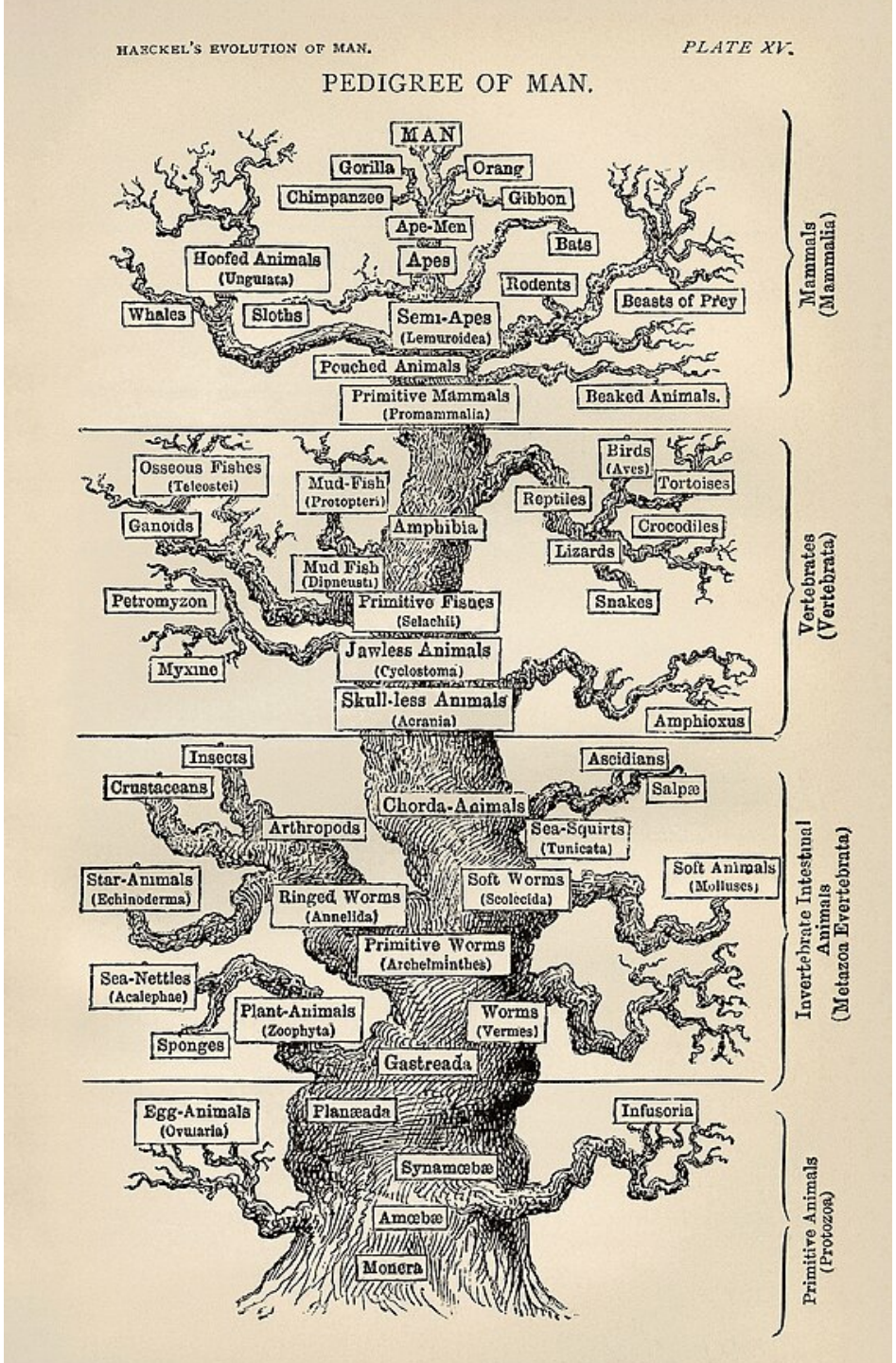


Tree of Life Image as it appeared in *On the Origin of Species* (1859)

-the Tree of Life shows how species are related to each other based on similarities and differences

-each fork represents the most recent common ancestor of the subsequent branches

-includes both living and extinct species

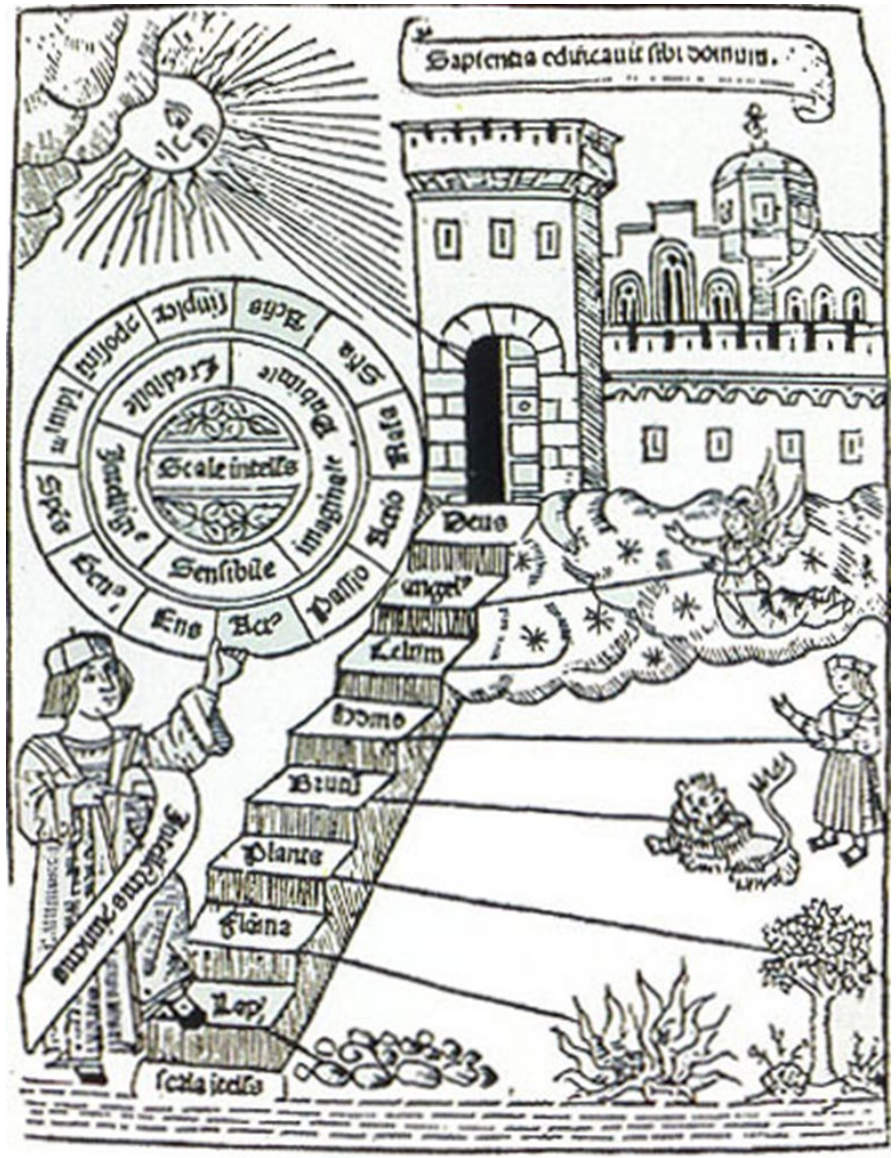


-Ernst Haeckel's version of Darwin's Tree of Life from an English translation of *The Evolution of Man* (1879)

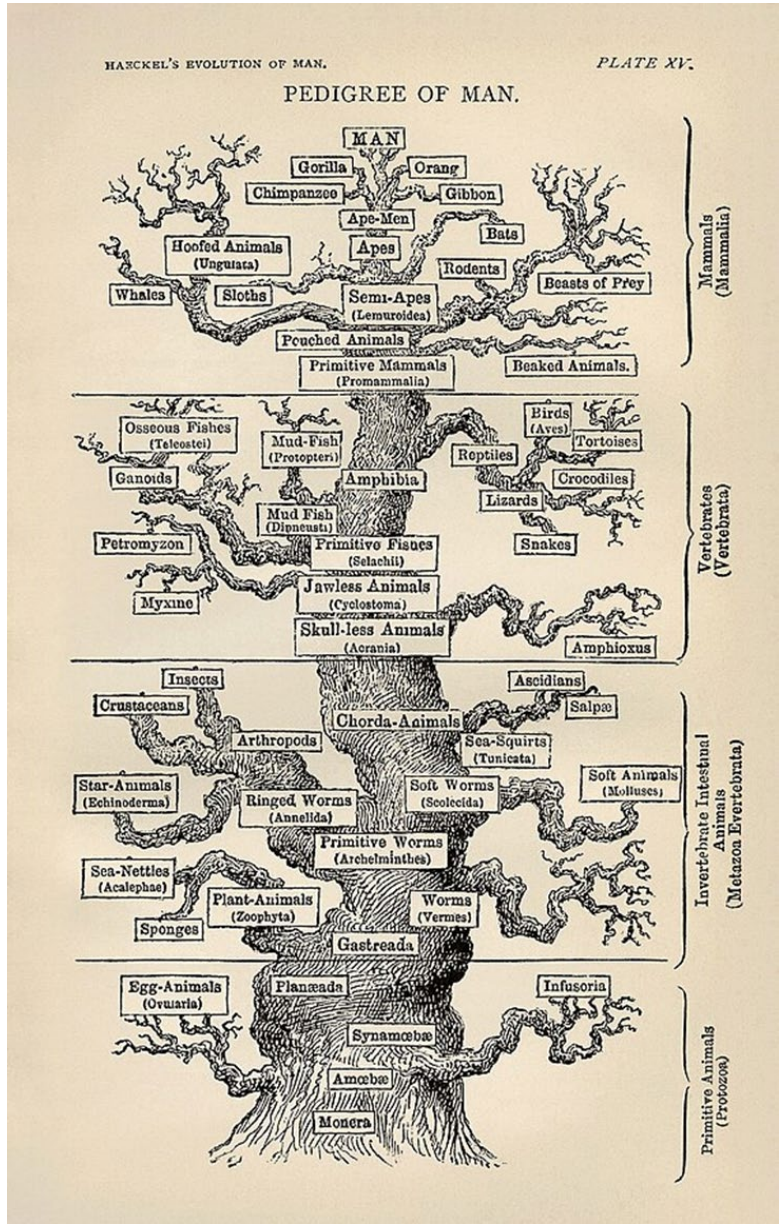
-Haeckel was Darwin's greatest popularizer in Western Europe

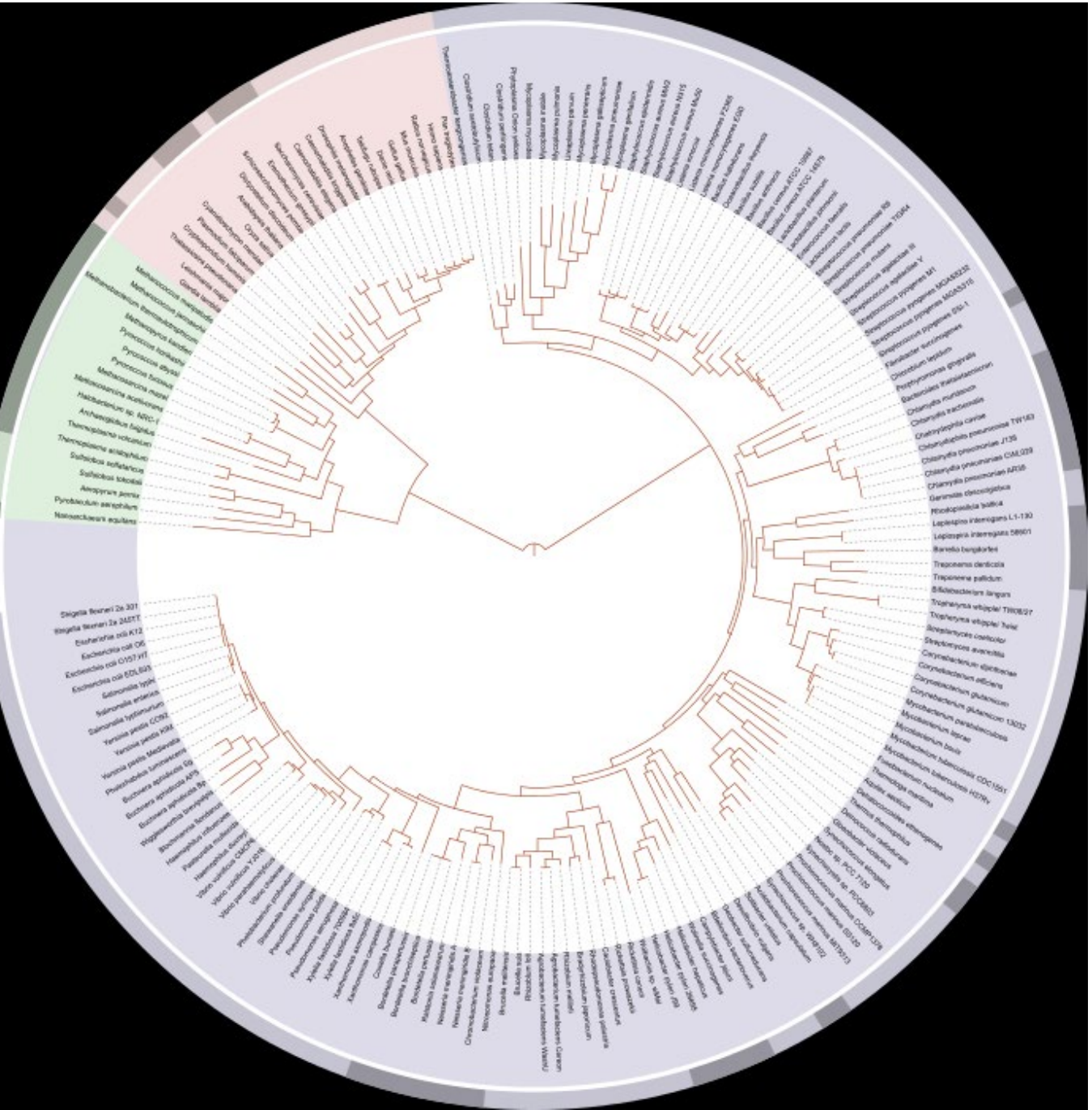
--what does this value? What does it make visible?

Vertical relationships through time; the separation of species from each other (i.e. no cross breeding across species)



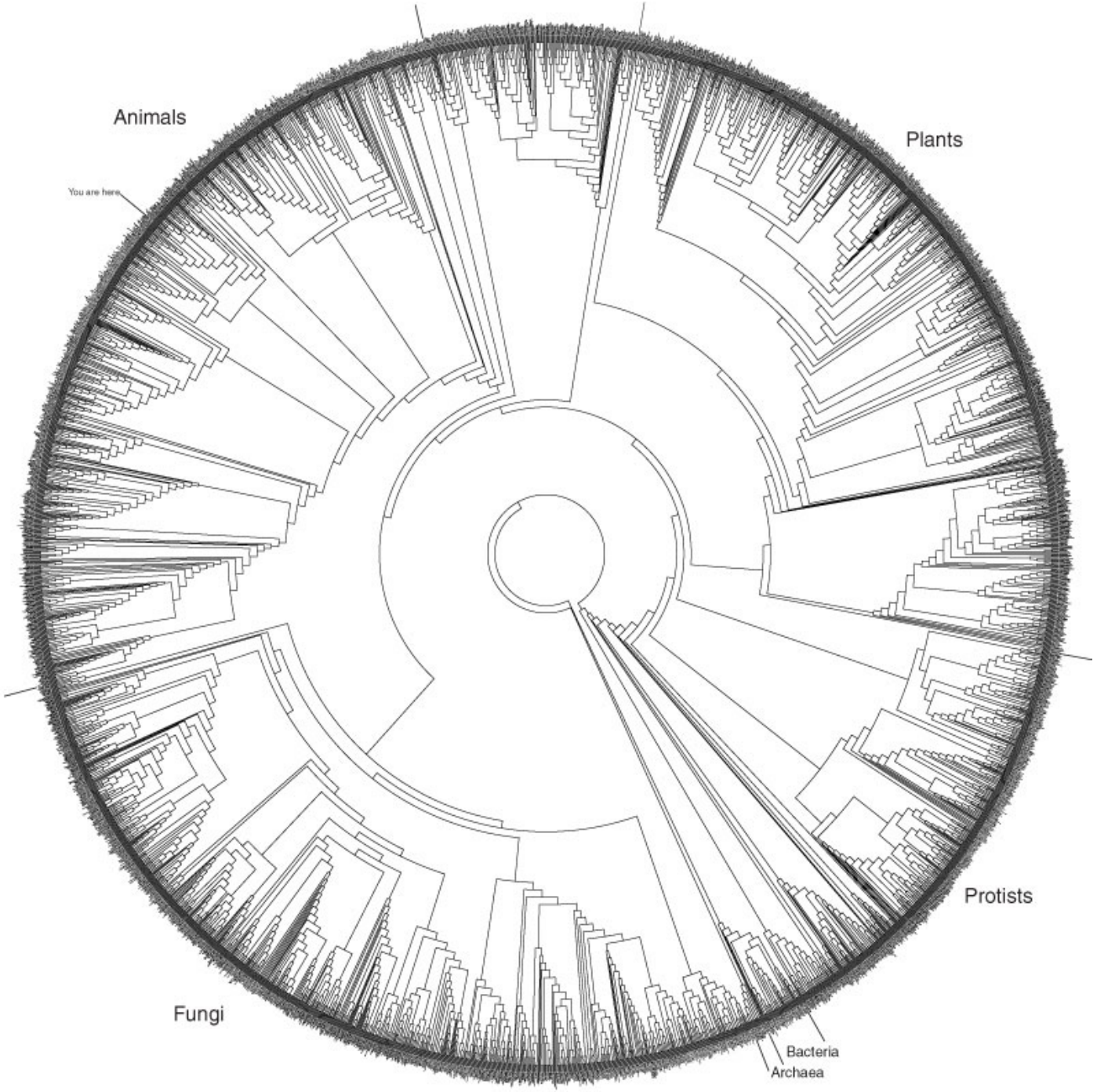
How does the medieval Ladder of Life compare to the Darwinian (Haeckel) Tree of Life? How are they same/ different?





Hillis plot of the Tree of Life, based on completely sequenced genomes.

A phylogenetic tree of life, showing the relationshipof a sample of species whose genomes had been sequenced as of 2006.



Hillis Phylogenetic Tree of Life

Source: chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/http://www.zoas.edu/faculty/antisense/tree.pdf

Why Should We Care about Analogies for Nature and How They Change Over Time?

-analogies are not just decoration; they are theories of knowledge and they determine the types of questions that we ask about nature

-all analogies suppress some things in order to make others clearer

-for example:

-the medieval book of Nature and Ladder of Life allow us to see the shared animacies between humans and the rest of nonhuman nature but also inscribes the hierarchy of human over the rest of nature; imagines it as theological

-the Renaissance machine analogy explains regular processes of nature by analogy with recent technological advances but it also introduces an intractable divide between the human and the rest of nature; nonhuman nature is made available for human exploitation rather than stewardship

-Darwin's Tree of Life explains how different species relate to one another but most of the non-animate world drops off; emphasizes a vertical hierarchy with little cross species similarity (or cross breeding); only the agonistic principle of adaptation is valued; nature is a cage fight; also suggests genetic determinism in both human and animal kingdom

-Hillis's Phylogenic Tree of Life values horizontal connections among different levels of being; emphasizes what humans share with the nonhuman world as well collaboration among genes / species

How do we become human?

-one answer is the one given by Darwin: we become human through evolution: adaptation and natural selection

-but we also *learn* to be human

-there are many other answers beyond the biological

Daniel Heath Justice, “How Do We Learn to be Human?”

-How does the term ‘human’ gets weaponized?

> “[In the western tradition,] there is a fiercely maintained boundary between human and nonhuman, and even in the former category, there is a clear hierarchy: men are more human than women, European colonizers are more human than Indigenous and other colonized peoples, the rich and titled are more human than the poor and oppressed, Christian capitalists are more human than animist traditionalists, and so on.” (Justice 40)

-humanity is not a static state

-“Our biology is only a very small part of our humanity the rest is a process of becoming.” (Justice 33)

-becoming human in many indigenous communities is about **kinship**

-cf. Vine Deloria “Kinship with the World?

“Kinship isn’t just a thing, it’s an active network of connections, a process of continual acknowledgement and enactment. To be human is to practise humanness.” (Justice 41-2)

Robin Wall Kimmerer, “In the Footsteps of Nanabozho: Becoming Indigenous to Place”

-Nanabozho= the Original Man and, according to RWK, “our great teacher of how to be human” (205)

-Kimmerer’s Sitka Spruce grandmother

Kimmerer’s question:

> “But can Americans, as a nation of immigrants, learn to live here as if we were staying? With both feet on the shore? What happens when we truly become native to a place, when we finally make a home? Where are the stories that lead the way?” (207)

In class Writing Assignment on Robin Wall Kimmerer, “In the Footsteps of Nanabozho: Becoming Indigenous to Place” (Canvas)

Work with a partner but write down your answers separately with your name on it so you can turn it in at the end of class (unless you are both in the same section). Feel free to consult Kimmerer’s essay but no other resources.

1. What does Nanabozho, as Original Man, learn from his kinship network? What model of kinship is this? Give at least one example.

2. What does Kimmerer mean when she encourages non-indigenous people to become “indigenous to place”?

3. What are the drawbacks of this model that Kimmerer acknowledges? What is the difference between being “indigenous” to place and being “naturalized” to place?