

# WHERE DOES BIG HISTORY FIT?

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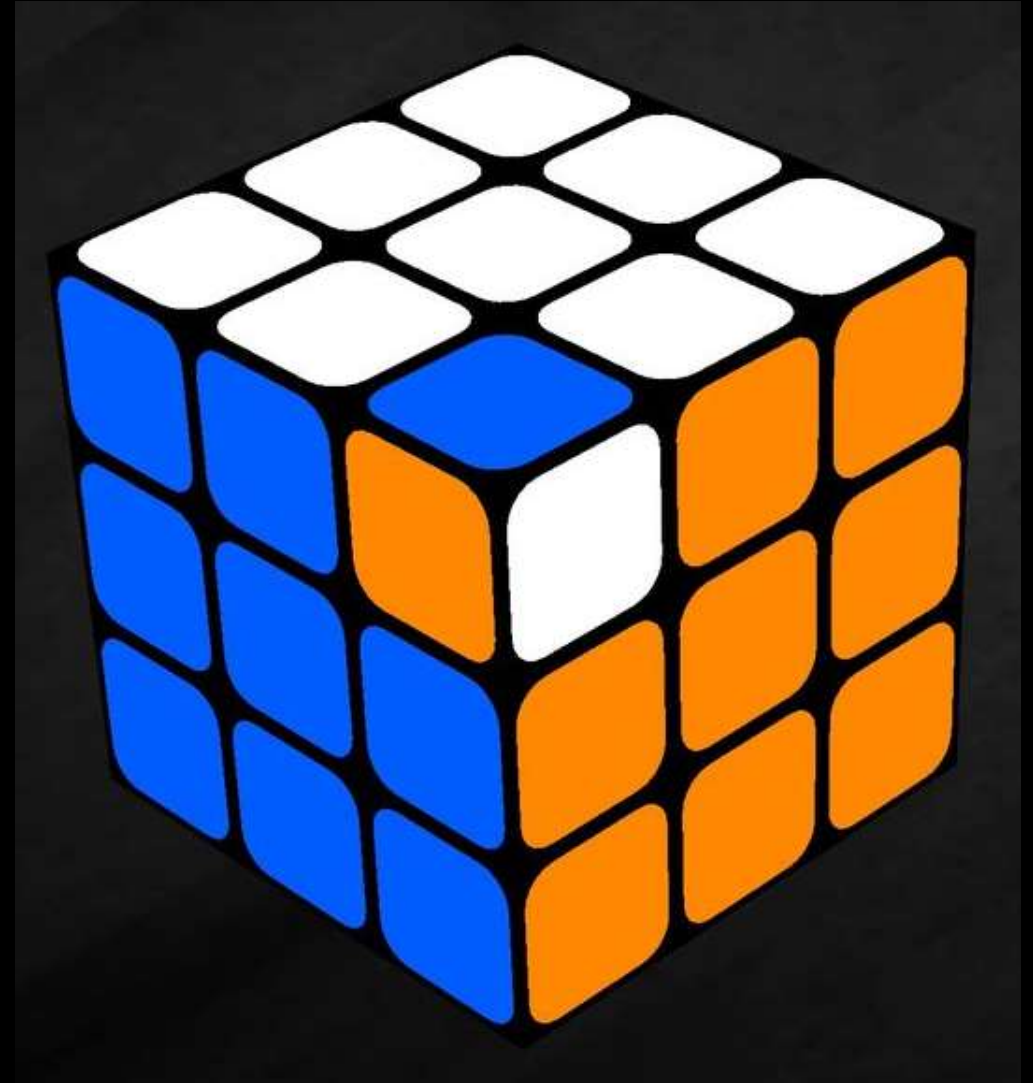
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# OVERVIEW

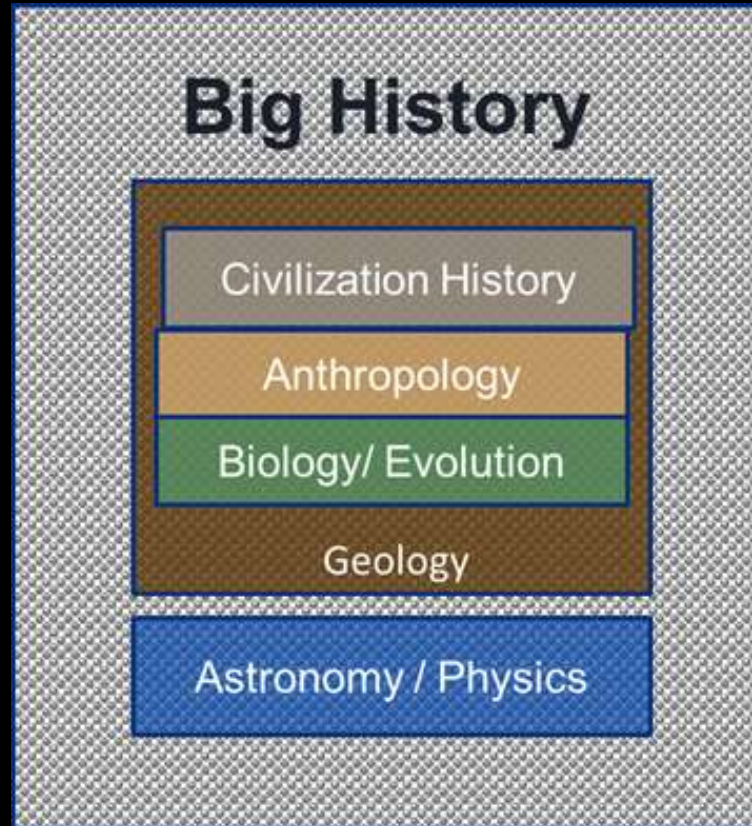
## Where Does Big History Fit?

- In Academia
- In Abstraction
- In Epistemology
- In Current Discussions
- In the Future
- In Science History



# FIT IN ACADEMIA

- Natural and Social Science Disciplines:
  - Astronomy/Physics/Geology
  - Biology/ Evolution
  - Anthropology / Psychology
  - Civilization History / Sociology
- Formal Science (Systems) Disciplines
  - Complexity / “Physics”
  - Futures / Strategic Planning
  - Information Sciences / AI
  - Ecosystems
  - Cyborg / Control Systems



- Taught
  - History / Cosmos
  - Geography
  - Literature / Myths
  - Psychology
  - Core Curriculum
  - Montessori
  - Lifelong learning
  - International
  - Religious groups
  - Prison
  - Honors/ gifted programs
  - Popular Media: Videos, Blogs, Books, Humor



THE NARRATIVE IS THE  
TIP OF THE ICEBERG

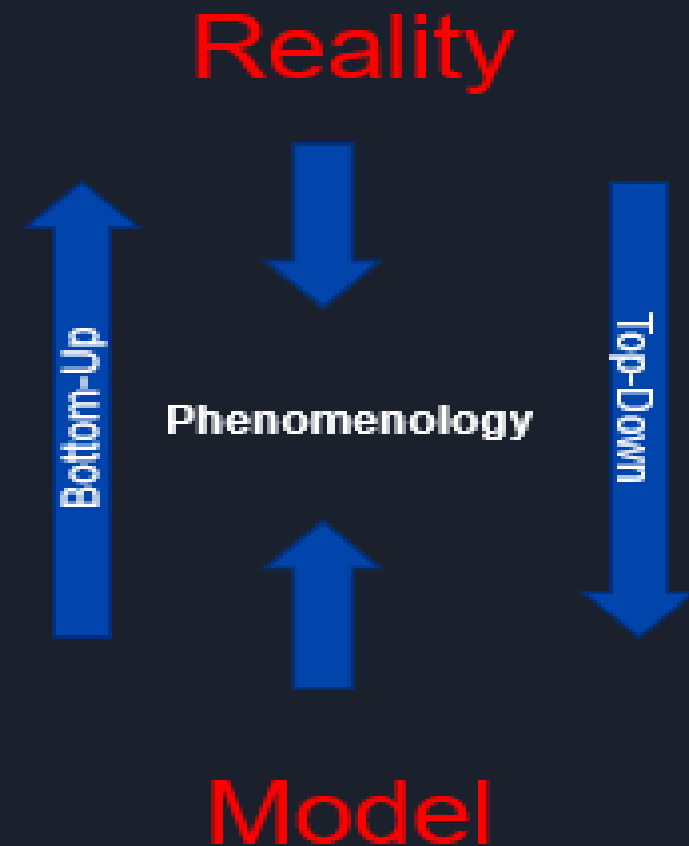
# TESTING THE LIMITS OF KNOWLEDGE GENERATION

- There are many **hypotheses, data gaps, assumptions, and other uncertainties** in big history
  - **Even if every event were recorded** it would be very difficult to understand the underlying mechanisms of big history.
  - Some **models can oversimplify** or be **biased (e.g., cherrypicking)**
  - At **what level of abstraction** can models be useful, understandable, or be templates for mental models



# Limits of Knowledge

- Never really know all the reasons and interconnections
- More view as a phenomenological model (not detailed but some processes beyond correlation)
- Boundaries remain vague
- Mysteries of cosmos, life, human mind, and technological civilization continue
- Criticism:
  - Cherry pick events
  - Comparing objects with different measures
  - Can't even define complexity, even less than measuring it
  - Too broad, commonalities are just superficial
  - Why would the universe and life follow a dynamics that is simpler than a spinning coin?



# WHY NOW?

- Emerging Global Crises
  - Acceleration effects such as rapid change and need to cooperate
  - But difficult to reflect when so much is going on
- 20<sup>th</sup> century science, natural history, and civilization measures
  - Itself is emergent (more than the sum of its parts)
  - But still many disciplines siloed
- Global exchange (communications/meetings, translations)
  - Connections, simpler transdisciplinary search
  - But networks take time to build
- Many educational resources
  - OER/BHP, Coursera, Hank Green...
  - But still not many institutions, students, sponsors, journals, applications
- It can still fill an integrated topic for the inclusion of standard curricula
  - Through case studies
  - Through gamification



# WHAT ARE FUTURE ISSUES THAT BIG HISTORY COULD PROVIDE INSIGHTS

- Ethics continuing with broader empathy and understanding
- Many new ethical challenges will be faced as technological options become available for:
  - Enhanced human capabilities
  - Artificial Intelligence
  - Ecosystem awareness
  - International responsibility
  - Intergenerational considerations
- Important Explorations:
  - Role of energy (Ayres, Smalley, Smil)
  - Fragility to high inequality (Club of Rome, HANDY, Turchin, Korotayev)
  - Rapid growth in Complexity leaves many issues unresolved (singularity & current crisis)





# ANY ANALOGIES?

## Early 20<sup>th</sup> Century

- **Physics** was considered to be almost complete in late 19<sup>th</sup> century.
  - Then came relativity, quantum mechanics, & nuclear physics
- **Quantum Mechanics** released unexpected findings that defied common sense
  - The role of observation, wave/particle duality, all pathways interfere
- Required **extensive international scientific collaboration** to understand and build instruments to test
- Besides **deeper understanding**, many applications (good and bad) came from the exploring this topic

## Early 21<sup>st</sup> Century

- **History** was considered to be almost complete in late 20<sup>th</sup> century.
  - Then came global crises, AI
- **Big History** might release unexpected findings that defy common sense
  - The singularity trend, the relationship of physical laws and life, the instability of modern social systems
- Requires **extensive international collaboration** to understand and convey meaning
- Besides **deeper understanding**, ...?

# OVERVIEW

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