WHERE DOES BIG HISTORY FIT?

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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
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

- 20th 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)
**Early 20th Century**

- **Physics** was considered to be almost complete in late 19th 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 21st Century**

- **History** was considered to be almost complete in late 20th 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**, …?
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