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An “expanding text-iverse” approach to Big History learning & teaching materials

Teaching and Researching Big History: Exploring a New Scholarly Field
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Grand Valley State University, Grand Rapids, Michigan, USA.

Rationale

- I would like to be able to dynamically shift between, for example, and “overview” reading of a section, to the next level of detail, or back to a lower level, etc
- So, on a “first reading”, look at the general overview
- On a second reading, drop down a level of detail and technical depth.
- On a later reading, maybe even further down into technical depth…
- If I get really hooked, even look at current journal articles
- I imagine others might find this approach useful, too…

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The Basic Idea (very easy to state)

- “Multi-layered” approach to design & structure of curriculum materials
- Multiple levels of technical/conceptual “depth”
- Nested and embedded in a single “document”
- Dynamically changeable view of the level of tech depth
- “Depth” defined by difficulty of concept, not necessarily via mathematical difficulty (although this is easy to do)
- Comparable “depth” across all major domains, equally
  - Physical, biological & social sciences, humanities, arts, etc

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Where does this idea come from?

- Some (paper-based) textbooks take a ‘multiple-track’ approach to content
  - At an introductory level
  - At a more Advanced level
    - Misner, Thorne & Wheeler (*Gravitation*, 1973)
    - d’Inverno (*Introducing Einstein’s Relativity*, 1992)
- BUT, why stop at only two levels?
- Why not a complete, self-contained, fully-fleshed-out, self-consistent “document” containing *all* levels of detail/depth relevant to the subject domains considered (whatever they are)?
- Recent developments in electronic media now make this technically feasible (whereas paper books don’t and never did)
  - e.g. Al Gore, *Our Choice* (iPad App, Push Pop Press)

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What "levels" are you talking about?

- There could be *any number* of ways to do this
- This is only one possibility, based on my own very limited experience. Other ideas very welcome!
- It is meant to be *illustrative* of the *general* idea, NOT prescriptive
  - i.e. the general idea is what I'm trying to get across, not this particular formulation of it
  - i.e. let's start a conversation about this
- It also arises from a bit of selfishness on my part, because this is how *I* would like to read material on my long train commutes
  - Your mileage and reasons might vary ☺

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Example Levels

1. Popular non-technical
   a) Primary school level(s)
   b) Secondary school level(s)
   c) Adult / general
2. Early undergraduate (introductory survey/overview course)
3. More advanced undergraduate ("first technical course")
4. Very advanced under- or early post-graduate ("2nd" course)
5. Research boundary ("bleeding edge of knowledge")
   - PhD, post-doc and continuing "boundary riding"

Note how none of these is specific to Big History…

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Examples of sources

- Populate the framework with Big History content
  - We might disagree on exact placements; that's OK! Let's discuss it - that's the important bit
- Primary & secondary school
  - There are many examples here at this conference that I didn't know about when I was first writing this
- Popular, non-tech
  - eg. Eric Chaisson, *Epic of Evolution*
  - eg. *Back in Time*, iPad app, LANDKA
- Early undergrad
  - eg. Cynthia Brown, *Big History*
  - eg. David Christian, *Maps of Time*
  - eg. David & Cynthia's book with Craig??

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Examples of sources

- More advanced u/grad
  - eg. ? Fred Spier, *BH & the Future of Humanity*
    - (or maybe early u/grad?)
  - eg. Chaisson, *Cosmic Evolution*
  - eg. Kutter, *The Universe and Life*
- Very advanced u/grad
  - Perhaps some suitable BH-ish chapters from a variety of sources from the BH & different discipline literature(s)
- Research boundary
  - Direct links to the current research & scholarly literature in suitable, probably multi-disc journals

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How <u>might</u> this be done?

- Most probably some variant of an electronic format
- Single, consolidated "text" (words, pictures, video…)
- Markup of the distinct level with eg. SGML-ish tags
- Perhaps also include music; Maybe even an album:
  - *Big History - the album*: *Music from the history of the universe as played out on Planet Earth*
  - Various artists? Vangelis, Oldfield, Eno, etc
    - Maybe commission them (or get them really enthused!)?
  - (Conceptual) music to set the 'mood' for each epoch…

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How does this get started?

- Does the idea actually make sense?
- What would be a 'core' set of concepts that would form the backbone of the timeline?
- How 'densely packed' would they be, and how much new conceptual complexity would emerge at each new level?
- How would it be curated?
- Could this approach be adapted to ChronoZoom / BHP?
- Could it be made portable (ie operate in a non-internet-connected way)?
- Conversations, conversations, conversations …

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This is just the seed of an idea

I hope this preso might start a continuing conversation

Big History can change the world through changing world*views*, so let us give it the best chance we can to let it!

The simple idea is: allow people to reach into the joys of learning Big History at any starting level of familiarity with the disciplines upon which Big History draws.

Make the account complete, coherent, customisable.

Thank you.

- JV

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