A role for archaeology in climate change adaptation

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For human adaptation, the archaeological record is the most extensive (and inclusive) source of information we have

- Need to move beyond “lessons” from specific case studies, which need not travel to other contexts
- One example: Ellis et al. 2021 PNAS—wilderness has been rare for a long time, so the biodiversity crisis is due to recent expansion of the world economy
- Evidence of sustainable management by indigenous societies before that
For adaptation to climate change, cities are not a problem, but a key part of the solution

• Most human environmental impact does come from feeding the needs of cities
• But cities have been hubs for innovation, cumulative knowledge, and social development all along
• Cities have also been magnets for people from smaller places, in the past and today
• Their impacts, positive and negative, derive from the concentration of human networks in space
• We need to figure out how to increase the positive while reducing the negative
If you focus on the fundamentals, human settlements and networks exhibit predictable regularities

- People
- Movement and Interactions/exchanges
- Of energy, things, and information
- In space and time
- Balancing costs and benefits
- Using built infrastructure
- Integrated across many people
- Emergent properties
These regularities transcend the past and present

\[ y = 2.4 + 1.1x \]
\[ y = 2.7 - 1.1x \]
\[ y = -5.5 + 1.2x \]
\[ y = -5.4 + 1.2x \]
\[ y = 15 + 1.2x \]
\[ y = 14 + 1.2x \]

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**Bronze Age China**

**Medieval Angkor**

**Contemporary USA**

**Slope \( \approx \frac{7}{6} \)**

**Intercept can vary**

**The center can change in 2 ways**

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Efforts to adapt to climate change must take these regularities into account!

• A good theory that applies broadly and accounts for past and present evidence will also apply in the future

• Proposed solutions that run counter to such a theory will not work

• A good theory will help constrain our imaginations

• One role for archaeology is to help define this theory

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