

The Postmortal concepts/lessons/resources related to sustainability

Population: population growth, Malthus' theory (mention on p. 9), history of population growth and future projections, impacts of a population of 20 billion people on earth as mentioned in the book (p. 347).

- https://en.wikipedia.org/wiki/Thomas_Robert_Malthus
- From Penguin teaching guide: <http://www.census.gov/population/international/data/countryrank/rank.php>
- From Penguin teaching guide: <http://esa.un.org/unpd/ppp/>
- https://en.wikipedia.org/wiki/Human_overpopulation
- David Suzuki talking about population growth and resource use using bacteria in a test tube example: <https://www.youtube.com/watch?v=8x98KFcMJe0>
- Al Bartlett, Professor Emeritus, Physics, University of Colorado at Boulder (videos at link are probably too detailed and too long): http://www.albartlett.org/presentations/arithmic_population_energy_video1.html

Resource scarcity/resource limitations: (President's address on pp. 66-67; \$5 tap water fee mentioned on p. 165; "toxic Potomac" River filled with gray sludge on p. 333)

- Stress on natural resources in general:
 - <http://www.theguardian.com/environment/2015/jan/15/rate-of-environmental-degradation-puts-life-on-earth-at-risk-say-scientists>
- Water as a resource, comparing current local abundance to drought challenges in California:
 - Great Lakes = ~20% of world's available fresh water: https://en.wikipedia.org/wiki/Great_Lakes
 - California drought: <http://www.latimes.com/science/la-me-g-california-drought-map-htmlstory.html>
 - Effects on agriculture, which will likely have some effect on food nationwide: <http://www.npr.org/sections/thesalt/2015/06/03/411802252/drought-may-cost-californias-farmers-almost-3-billion-in-2015>
- Water quality: "toxic Potomac" River filled with gray sludge (p. 333)
 - Water quality concerns for Lake Erie – Toledo water crisis:
 - News clip video: <http://www.nbcnews.com/news/us-news/toledo-tap-water-still-limits-mayor-demands-more-tests-n171826>
 - Scholarly summary of algae bloom info: <http://ohioseagrant.osu.edu/documents/publications/FS/FS-104%20Ten%20things%20you%20should%20know%20about%20HABS.pdf>
 - Cuyahoga River pollution history and recovery:
 - "Cuyahoga River Pollution Ohio 1967" video: <https://www.youtube.com/watch?v=jxV6BbREFY>
 - "Return of the Cuyahoga" introductory video: <https://www.youtube.com/watch?v=JmIRtKEYPBU>

Pollution (ocean pollution): Freighter had to be rescued after becoming immobilized great pacific garbage patch (p. 95).

- Ocean plastic problem overview: <http://www.5gyres.org/the-plastic-problem>
- Local effects of plastic pollution in Lake Erie: <http://science.kqed.org/quest/2013/08/01/troubled-waters-lake-eries-plastic-problem/>
- Great Pacific Garbage Patch overview from NOAA: <http://marinedebris.noaa.gov/info/patch.html> (the Great Pacific Garbage Patch is a mess, but not a solid mess yet)
- Recent Boston Globe article about a humpback whale getting rescued from entanglement by ropes off the coast of Massachusetts (PDF available if link does not work) as evidence of currently existing problems with marine debris: <https://www.bostonglobe.com/metro/2015/07/12/hogtied-humpback-whale-saved-from-great-whiteshark/p8pdpMA3FsTfMn9frqCeRk/story.html>

Sustainability as a concept – systems thinking – economic, social, and environmental systems interacting with and affecting one another: How did a change in the social system (the cure) affect the economic and environmental systems and the social system itself? Can single, individual decisions have effects on others in short and long term?

- Use the Toledo water crisis as an example of the connections between different actions/stakeholders, how they fit into economic, social, and environmental systems, and how different actions influenced and affected one another.
- Describe or diagram connections between the decision to get the cure and different actions or stakeholder groups within economic, social, and environmental systems as described in *The Postmortal*.

Short term need/want vs. long term outcomes: p. 70, in response to the President's legalization of the cure – from *The Atlantic*: "It's the classic American scenario of people wanting everything *right now* without caring a lick about the long-term."

- Looking back from the end of the book, was this a valid concern/accurate description of the situation? Did people think about the long-term consequences? Is it difficult to envision consequences if the future is completely unknown? Discuss.