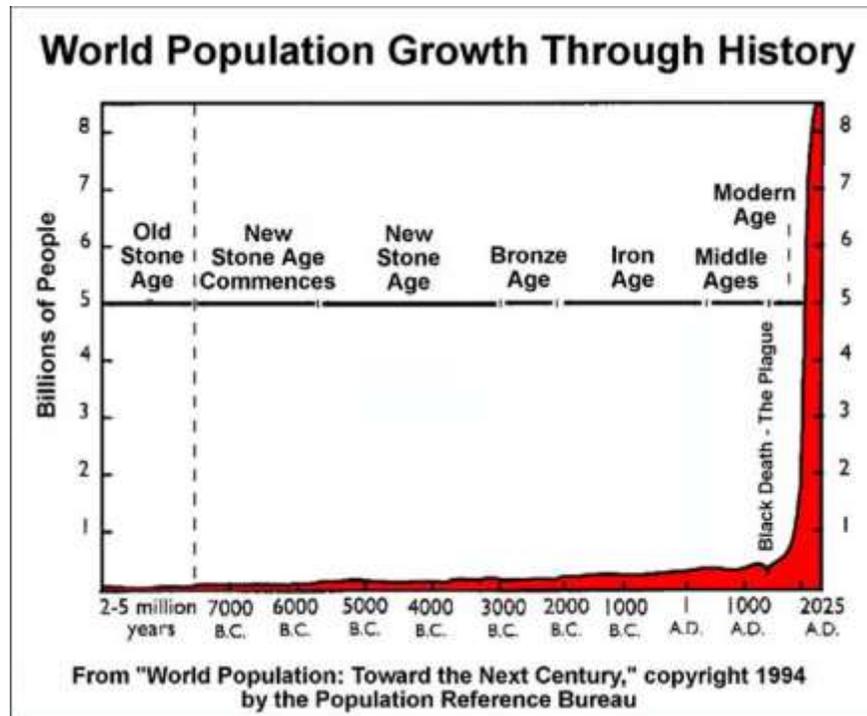


## LECTURE 36: THE FUTURE I

### I. Population

- a. There are now seven billion people on the planet. Are there too many people?



- i. Many people say yes. Some go as far as claiming humans are too dangerous to exist. The above graph is from the Voluntary Human Extinction Movement's website (<http://vhemt.org/>). Their slogan is "May we live long and die out." Yes, this is a real organization.
- ii. Less radical environmental groups advocate drastically reducing population and cite pollution, famine, and limits of natural resources as evidence that our current population is unsustainable. The earth has a "carrying capacity" that we are in danger of exceeding (or already have).
- b. Are they right? To answer that question we have to first tackle a bigger one: What's "too many?"
- ### II. The economics of ideas
- a. Who is the greatest person who ever lived?

- b. Ideas are nonrivalrous, they grow as fast as people can think of them and they spread as fast as people can communicate
  - c. Ideas change everything
    - i. Proper incentives encourage answers
    - ii. Which is why economists care less about if a problem has a solution and more about if there's an incentive to solve it.
- III. The Ultimate Resource
- a. Markets are great institutions for solving problems, so much so that economist Julian Simon claims natural resources are *infinite*.
    - i. Remember, prices indicate scarcity: high prices imply the item is very scarce; low prices imply it is less scarce; no price implies it is not scarce; etc.
    - ii. A higher price creates an incentive to adapt (recall: a signal wrapped in an incentive).
      - 1. Find more sources, stretch what you have, create substitutes.
      - 2. Adaptations which were once not economical are now economical.
    - iii. The long run prices are decreasing even though population is increasing.<sup>1</sup>
    - iv. Since “finite” means “bounded” or “countable,” then the evidence suggests that resources are not finite. While no one denies the physical amount of, say, oil is finite, that physical amount doesn't matter. In reality we don't even know what it is. But in practice, for our purposes, resources are infinite.
  - b. Hence the ultimate resource: ideas.
- IV. Examples of failed scares
- a. Pre-history: flint
  - b. 1700s BCE: copper
  - c. 1200s BCE: tin
  - d. 550s BCE: disappearing forests in Greece
  - e. 1500s CE: disappearing forests in England
  - f. 1800s CE: coal and food
  - g. 1850s CE: oil
  - h. 1900s CE: rubber and timber in the US
  - i. 1920s CE: rubber again
  - j. 1930s CE: water in the US

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<sup>1</sup> Even when prices notably increase (such as the recent leap in oil prices), it's due to a genuine improvement in the world economy (see China). Contrary to doomsayers' beliefs it's usually demand, not supply which drive any long run upward trend in prices. And even these are temporary.

- k. 1940s CE: rubber *again*
- l. 1950s CE: water again in the US
- m. 1970s CE: metals, food, plant variety
- n. 1980s CE: water *again* in the US
- o. Scares of food, water, metal, and oil continue to plague the popular rhetoric