Materials: The Stuff of Things

What forces drive technological development?

- Power and Conquest
- Survival
- Financial Gain
- La Dolce Vita
  (a.k.a. The Good Life)

Human History is Reckoned in Terms of...

Materials!

- Stone Age
- Bronze Age
- Iron Age
- Polyester Age (70’s)
Properties of Stone

- Plentiful
- Hard
- Durable
- But not easily shaped

Properties of Bronze

- Not-so-plentiful
- Man-made
- Durable, but not very hard
- Easily shaped

Properties of Iron

- Does not naturally occur in its metallic form
- Requires high temperatures
- Unrefined, it is brittle
- Refined as steel, it is tough
- Durable and hard
- Easily shaped
Where Were Settlements Located Prior to the 19th Century?

Why?

Technological Breakthroughs

- Portable Power
  - Steam Engines
- Inexpensive Steel
  - Steam Boilers & Rails
- High Speed Steel
  - Machine Tools

Technological Breakthroughs

- Electric Motors
  - A new form of power
- The Electrical Grid
  - Wide area distribution of power
  - Commercial and residential users
- Consumer Products
  - Modern conveniences
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