Discussion of "The Impact of AI on Innovation" by Cockburn, Henderson, and Stern

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Questions

- What will AI mean for innovation?
- What does this imply for policy?
  - My focus: intellectual property policy

Thinking about AI: Do we need a new model?

- I'm a general equilibrium preferences/technology/equilibrium kind of guy
  - So this is a change in technology
- But technology for what?
  - Innovation vs Copying
  - Equilibrium effects: what input prices will change?

Non-human intelligence producing innovations

- Not a new idea:

AI will make certain inputs more valuable

Implications for innovation

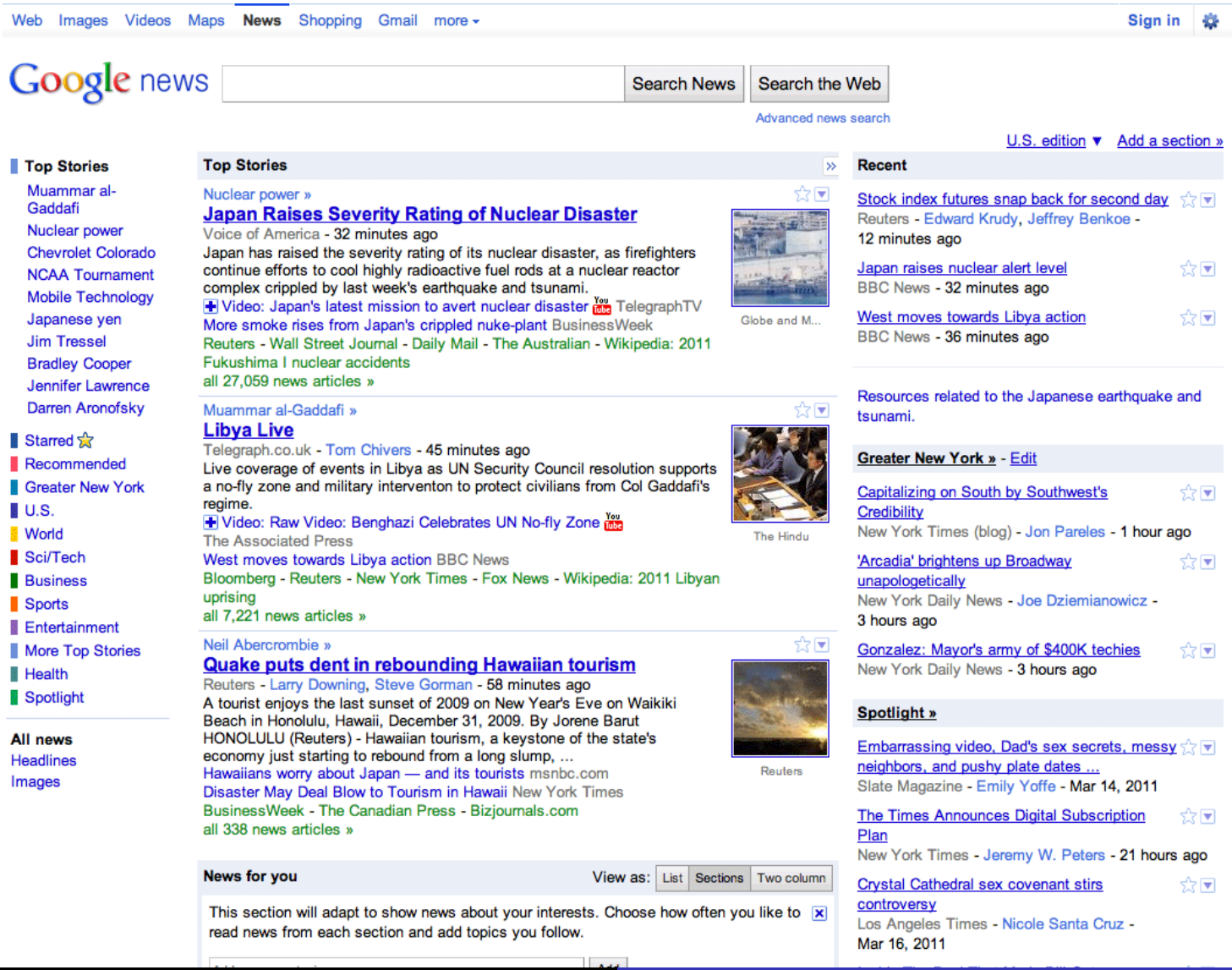
- More productive technology for innovations typically will increase innovation
- Mostly this is good, but may lead to duplication, etc
  - Although there may be property rights to solutions, problems are generally free and therefore subject to a "tragedy of the commons" c.f. Hopenhayn and Squintani (2017) on the problems this can cause

Implications for factor prices of new technologies

- The scarce inputs in the new production process will become more valuable
  - People who manage/invent the algorithms: just like with capital-skill complementarity stories of the last 50+ years
  - Data will be an important and scarce input

AI may make copying cheaper

- A controversial thing Google is already doing:



Policy Implications: part 1

- To the extent that innovation becomes cheaper, IP can probably not be as strict
  - Could be racing/duplication issues, but these usually don't suggest stricter IP for solutions.
- To the extent that copying becomes cheaper, IP will probably need to be more strict
  - But cf Boldrin and Levine (2008, 2013): not necessarily, if copying requires buying at least a little of what is being copied

It is going to be more important, and harder, to describe what is "nonobvious" innovation and what is "obvious" copying

Policy Implications: part 2

- When something becomes cheaper, don't let people monopolize complementary inputs
- Here, data is the natural complementary input

What property rights protection should be given to data?

Summary

- AI may reduce the cost of innovating, and of copying
- The first is probably (but not definitely) good, the latter is probably (but not definitely) bad
- AI may make it harder to describe what constitutes an innovation, which is almost surely bad
- AI may force us to make decisions about property rights that hadn't been nearly as important to innovation as before