WELCOME

to SICSS-Paris

SICSS

CREST

INSTITUT POLYTECHNIQUE DE PARIS

Logistics

Wifi: SICSS / SicssParis2022

This morning:

- Introduction: What are CSS?
- Presentations/Schedule/Logistics

What are Computational Social Sciences?

Computational Social Sciences

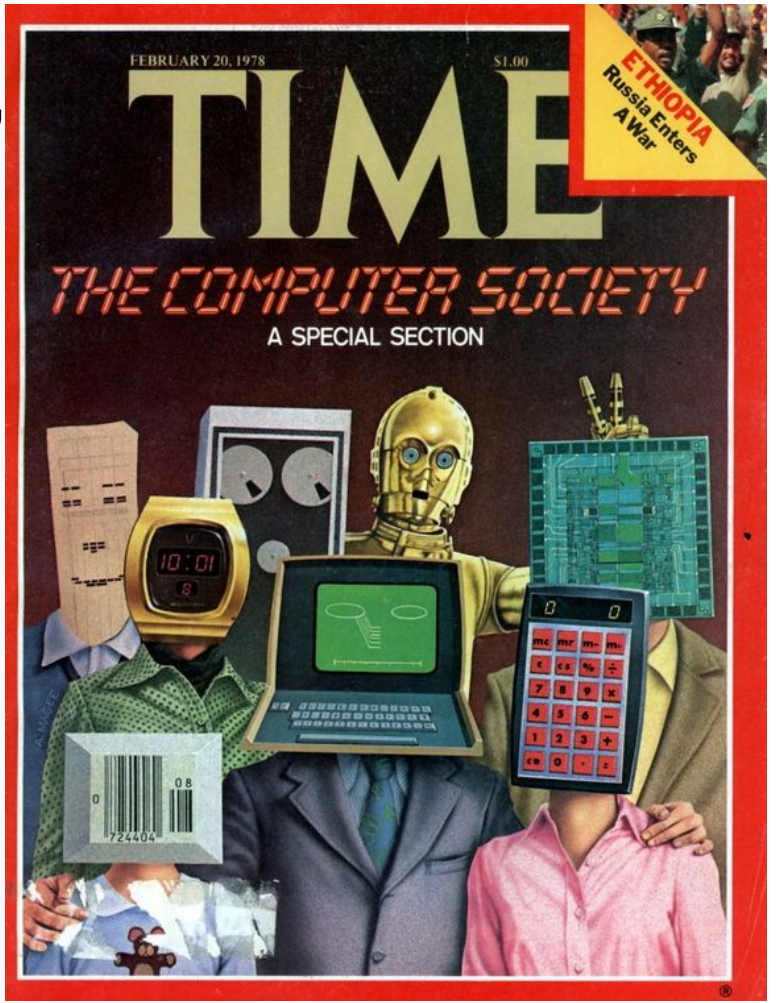
- Harnessing the power of computers to carry out (social) scientific research
- An interdisciplinary endeavor
- A set of methods more than a field

Computational Social Sciences

- Computers? Nothing new!

“Demography has long used computer data” (Kashyap, 2021)

- “But since the 2000s, two changes”
  - Data abundance
  - Computer power



What are Computational Social Sciences?

- The same remark holds true in many disciplines: the combination of more data and more power did create **massive opportunities** for research.

- CSS are trying to make the most of this new social & technical configuration.

Doing Research in the Big Data Era

Is more data better? Polarized views

Doing Research in the Big Data Era

Is more data better? Polarized views

A Threefold Promise

Empirical

- Investigating old questions anew
- Asking new questions

A Threefold Promise

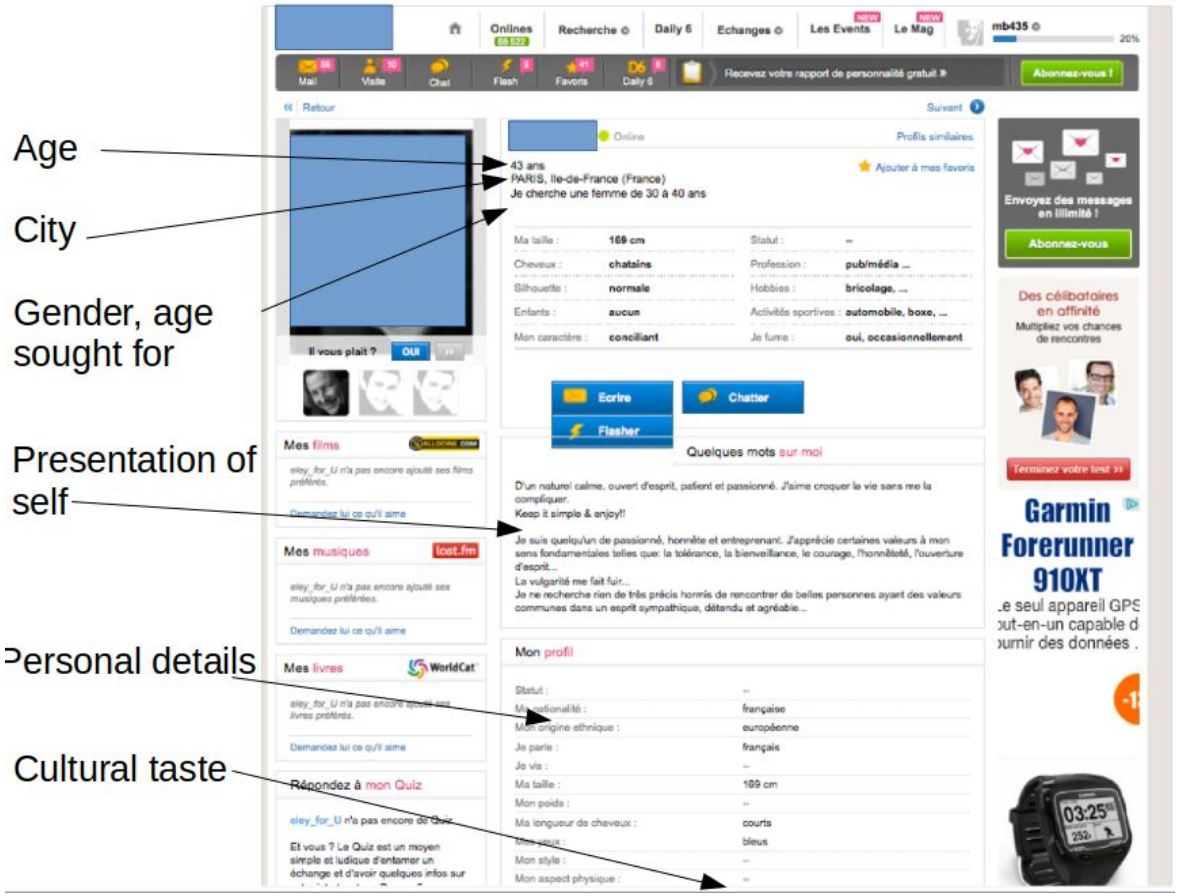
Empirical

Ex. Studying couple formation in the 21st century

A Threefold Promise

Empirical

Ex. Studying couple formation in the 21st century



A Threefold Promise

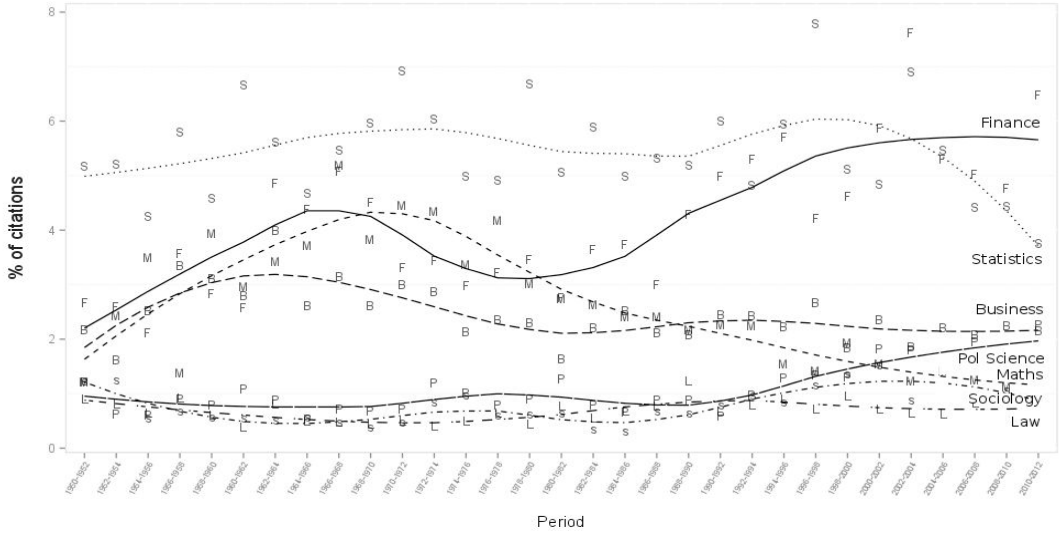
Methodological

- A Classic Distinction: Sample, and Population
- But what if you could collect all data in the time it takes to collect a sample?
- If your data is digitized, well-organized, this could be possible

A Threefold Promise

Methodological

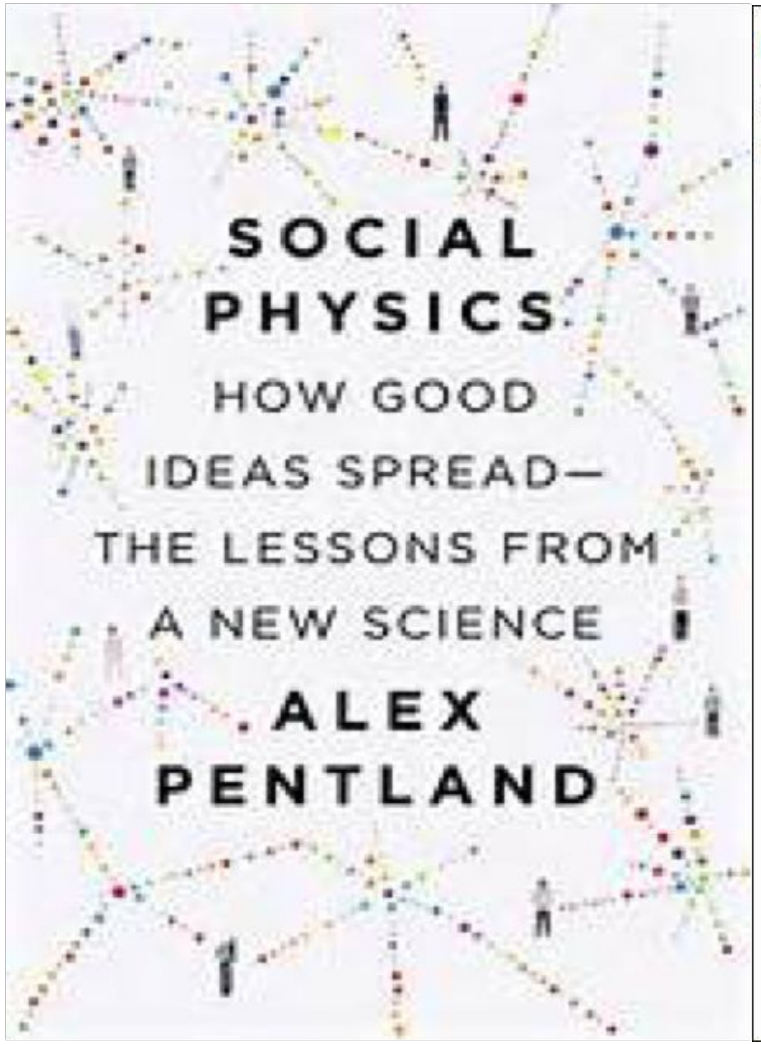
- Ex. A study on interdisciplinarity in Economics
  - Idea: Looking at citations
  - Data: 5 journals, over a century
    - 24,500 articles
    - 600,000 references

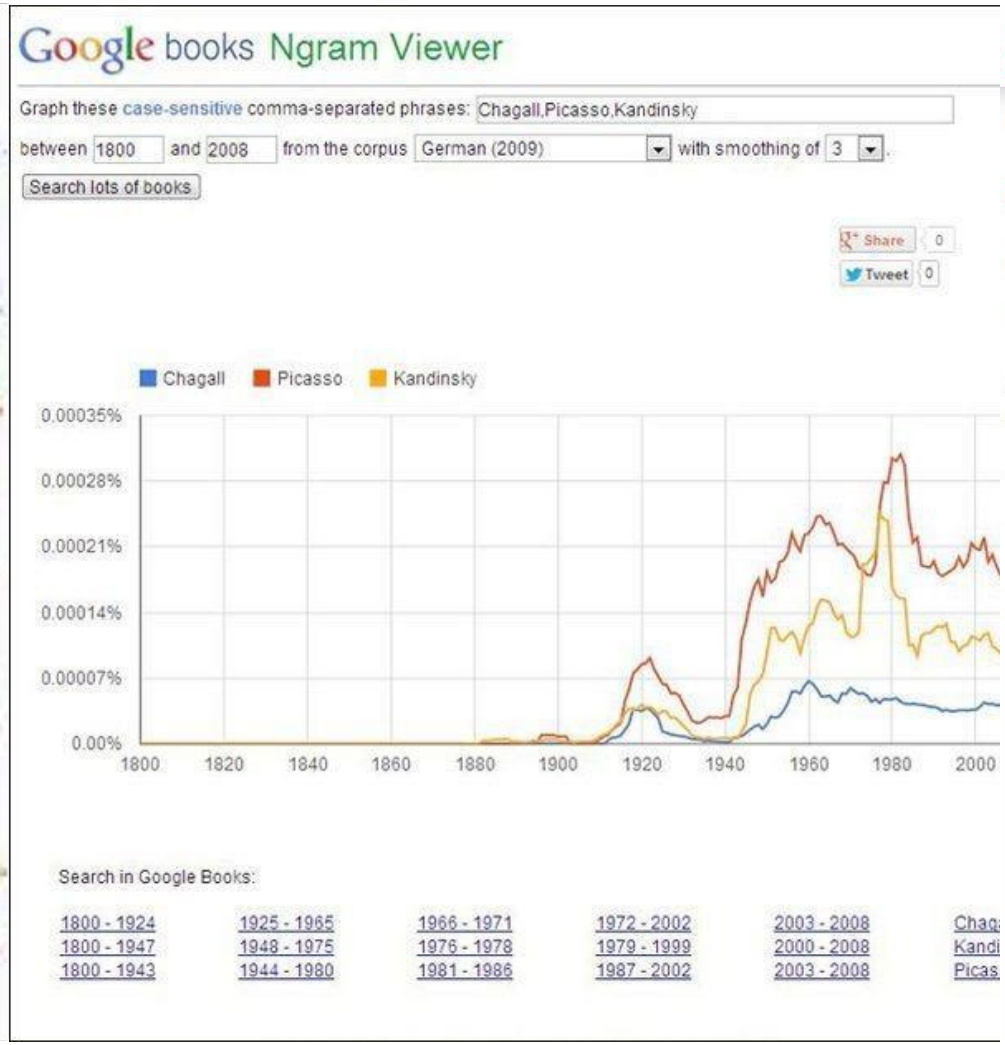


in Fourcade, Ollion & Algan, “The Superiority of Economists,” *Journal of Economic Perspectives*, 2015.

A Threefold Promise

Theoretical





A Threefold Promise BUT

Lots and lots of NA

Who doesn't like reading, hiking, seeing their friends?

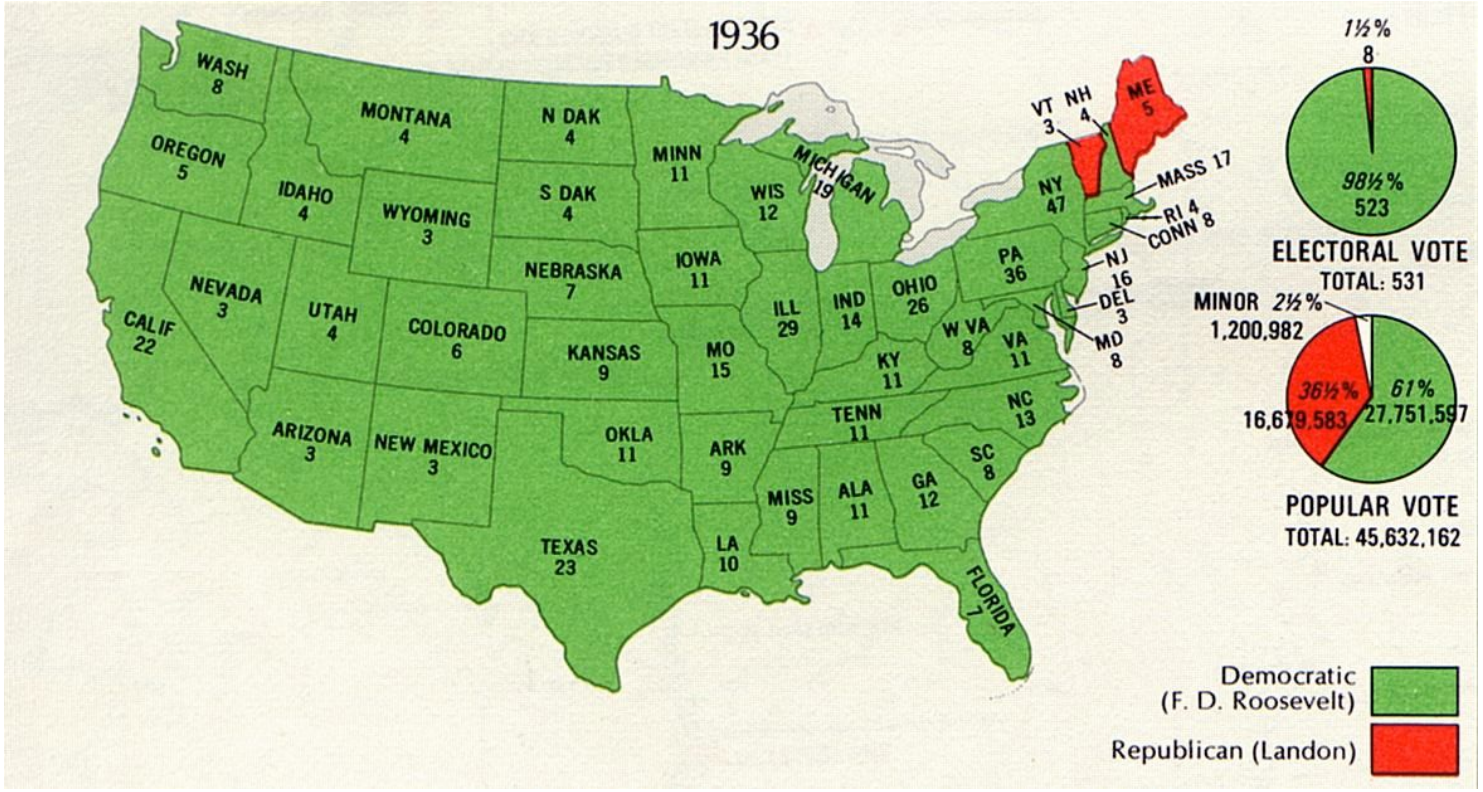
Everyone's taller and younger than they should be

Is the astro sign really useful?

A Threefold Promise

Methodological

N = All, a rather rare case



A Threefold Promise

Theoretical

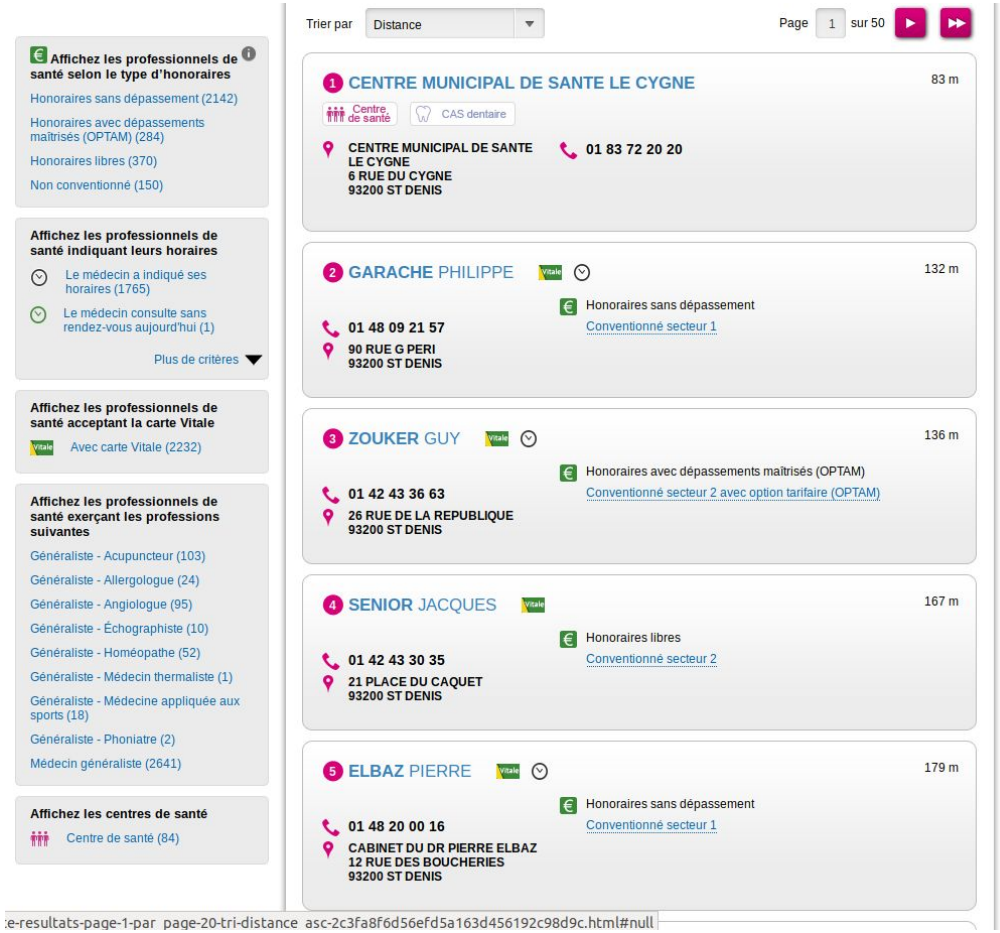
- Promises are still in the waiting
- The lessons of the history of science need to be heeded
    - “Social physics”?
    - Does more data lead to more “theory”?

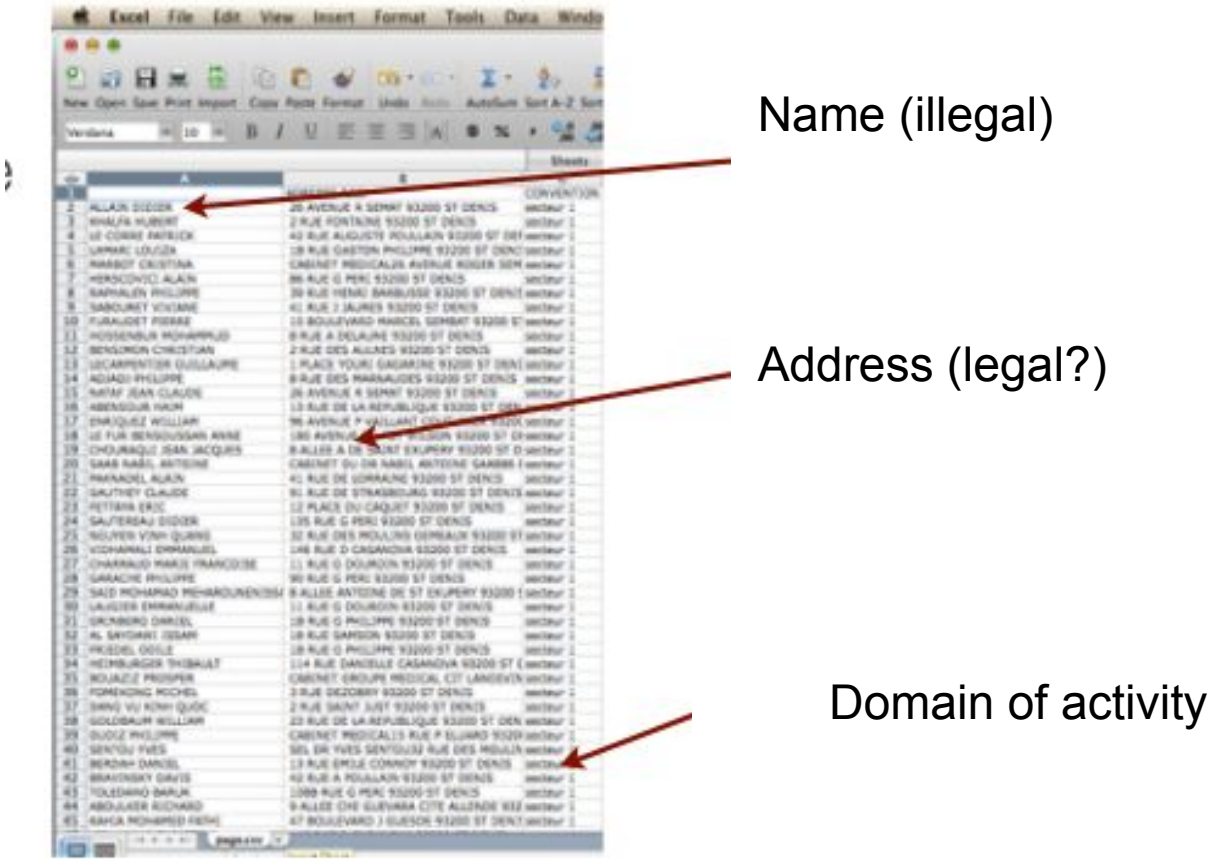
CSS: making the most of the new opportunities, while heeding the lessons of the past.

Making the Most of these Opportunities

Collecting data

Ex. Medical density / localization in a given town





Name (illegal)

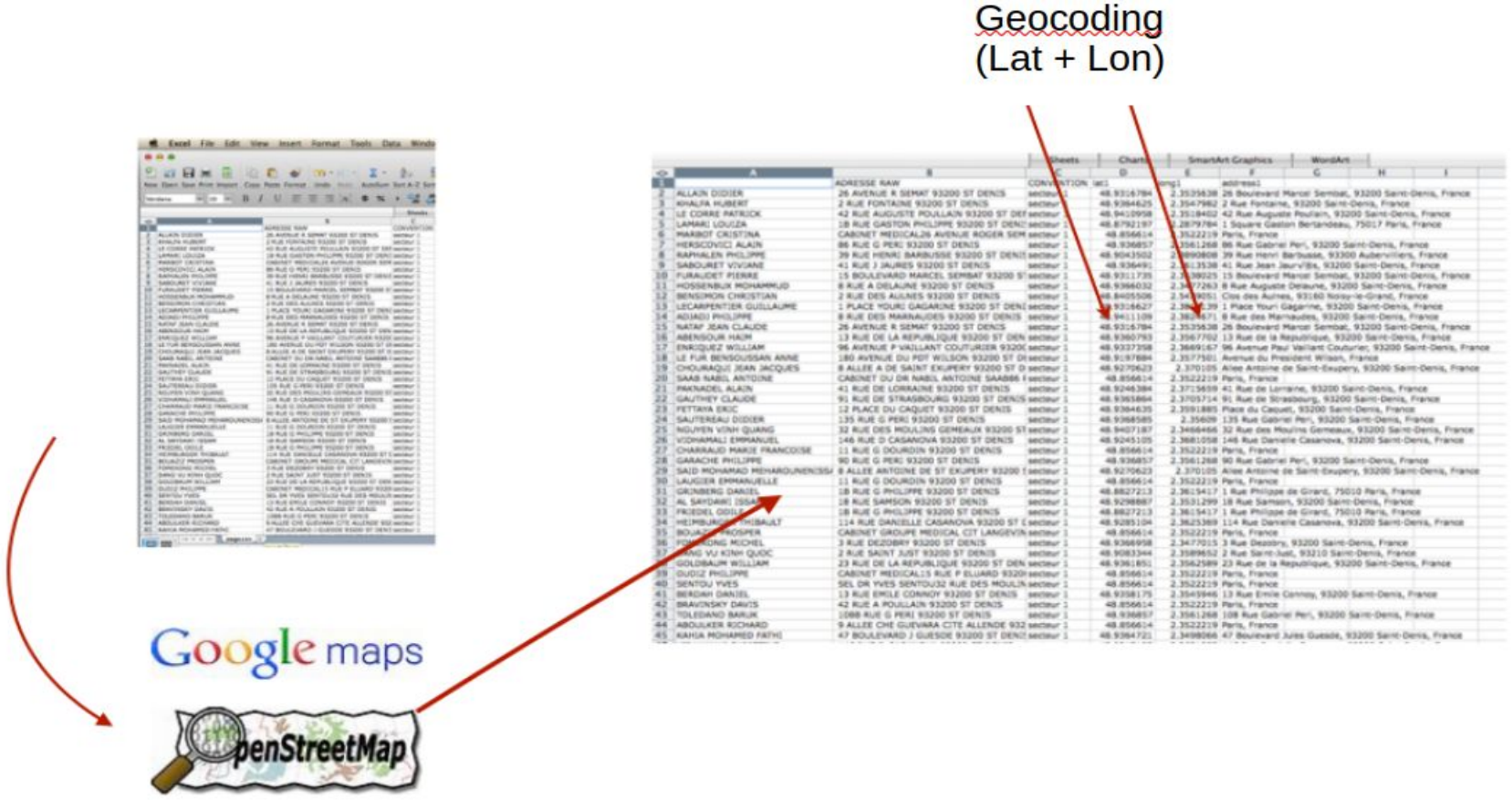
Address (legal?)

Domain of activity

Making the Most of these Opportunities

Collecting data

Ex. Medical density / localization in a given town



Making the Most of these Opportunities

Collecting data

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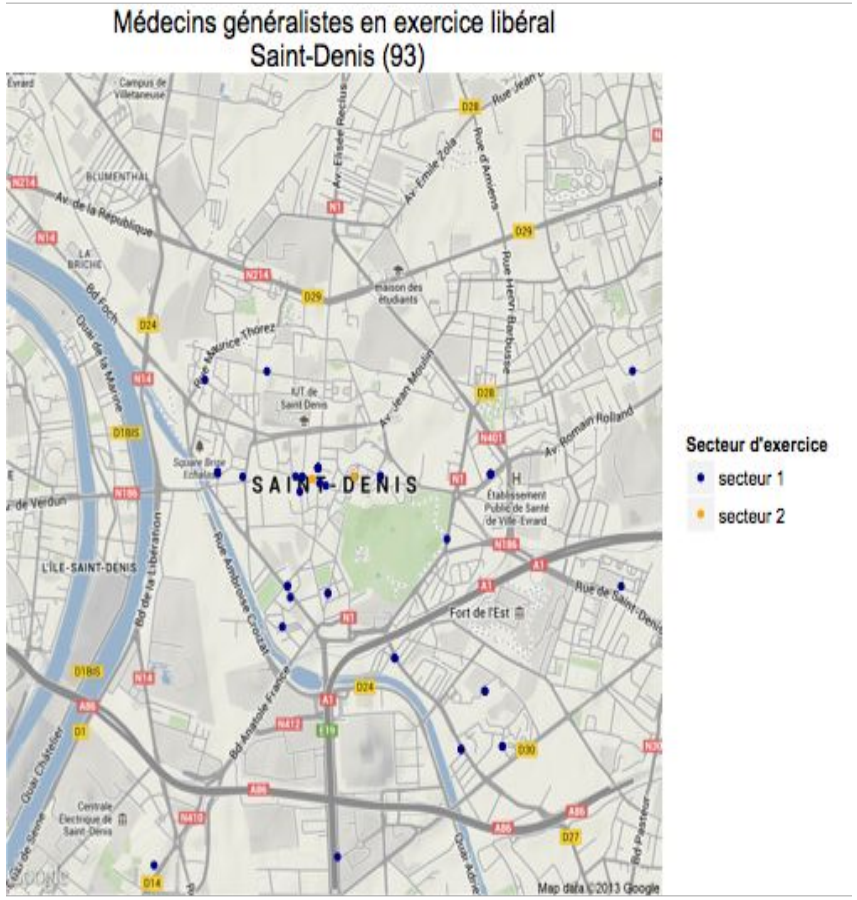
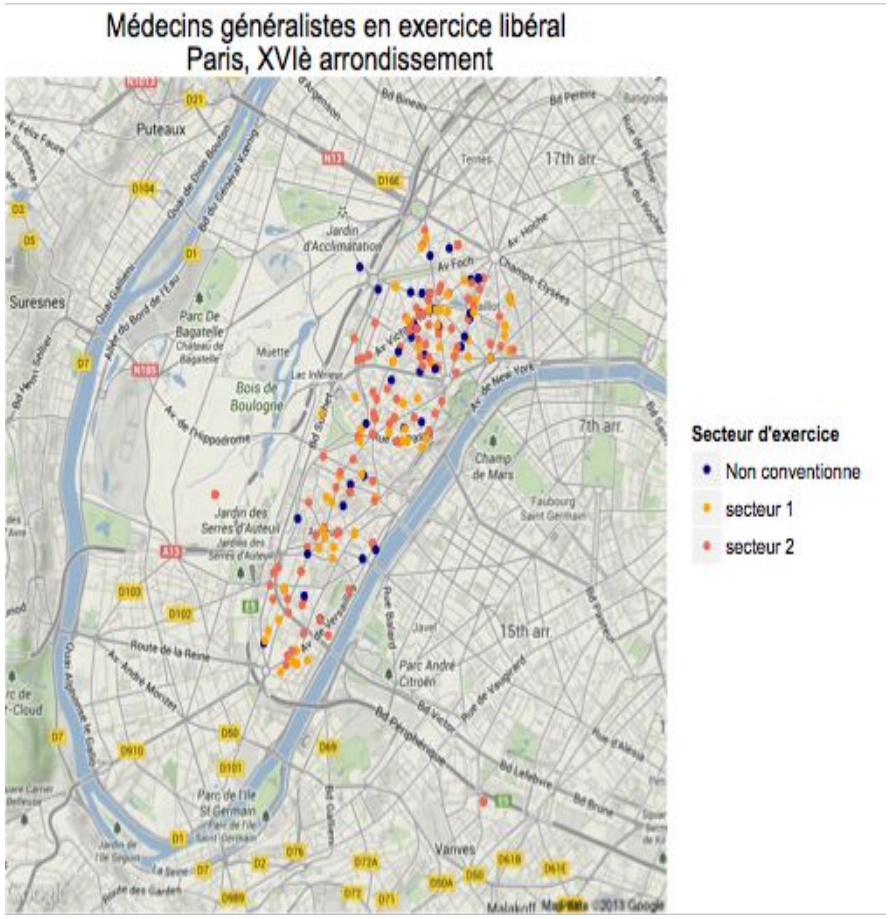




Making the Most of these Opportunities

Collecting data, sometimes in real time

Nowcasting

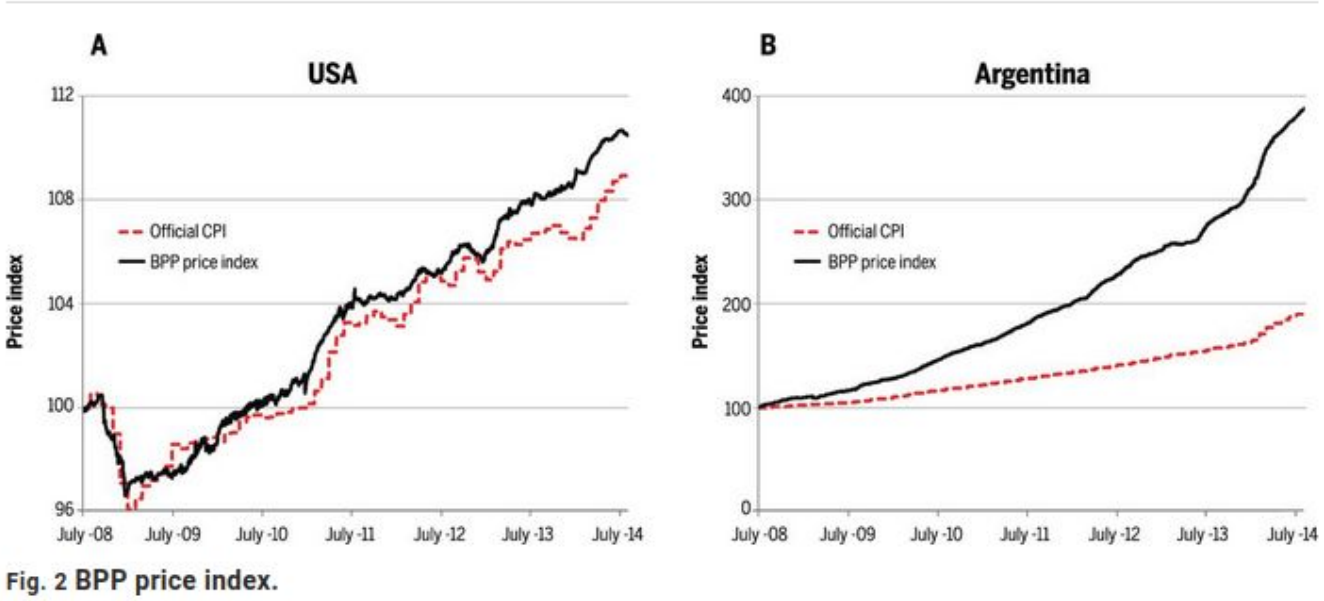
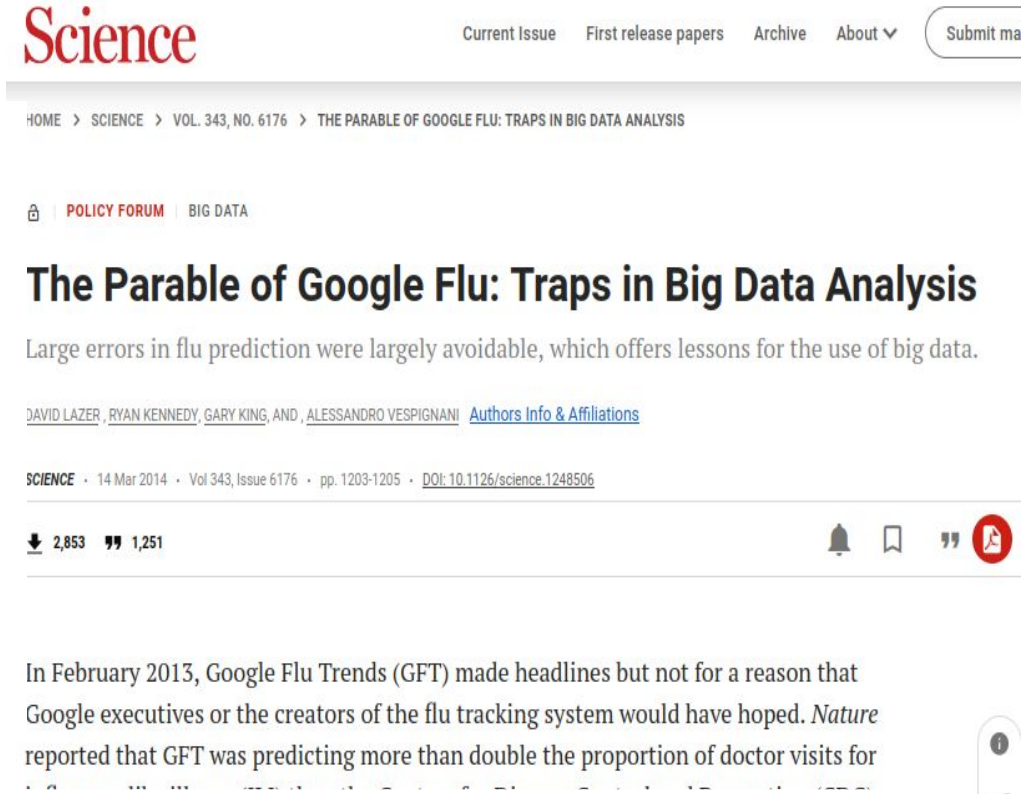


Fig. 2 BPP price index.

(Cavallo & Rigobon, Billion Prices Project, 2011+)



Making the Most of these Opportunities

Collecting data sometimes in real time

Producing data: Experiments

Making the Most of these Opportunities

Collecting data sometimes in real time

Producing data: mass collaboration

Measuring the predictability of life outcomes with a scientific mass collaboration

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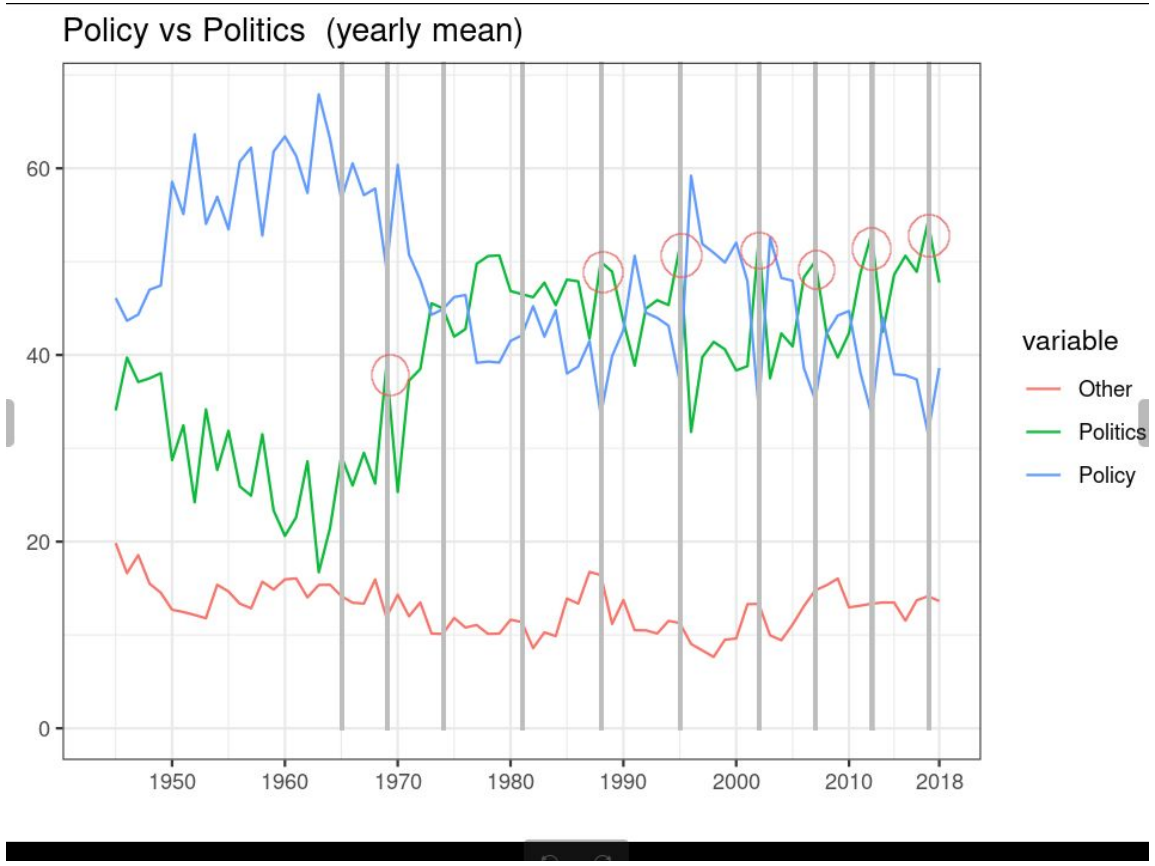
Making the Most of these Opportunities

Collecting data sometimes in real time

Producing data: artificial intelligence



Do, Shen & Ollion, « The Augmented Social Scientist »

Using AI to extract sentence-levels forms of narration in politics

Conclusion

- CSS: making the most of a socio-technological change while avoiding unfettered techno-enthusiasm

- A wide gamut of methods

  ==> C’est parti!