

How to crowdsource behavioural data in the social sciences

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Today's workshop

About Us

Why run experiments online?

CrowdFlower & Mechanical Turk

Ethics & Payment

Web Programming Basics

Live Demo & Hands-on

Question & Answer

What shapes language?

Language

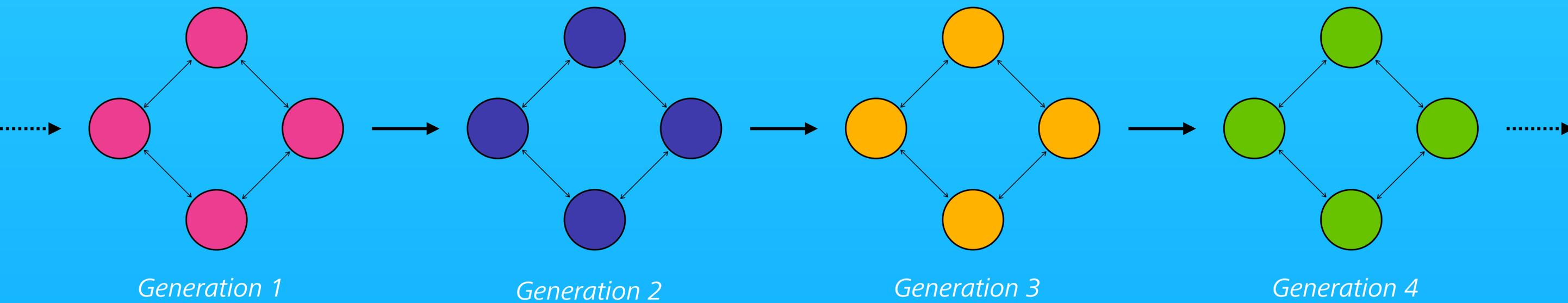
What shapes language?



What shapes language?



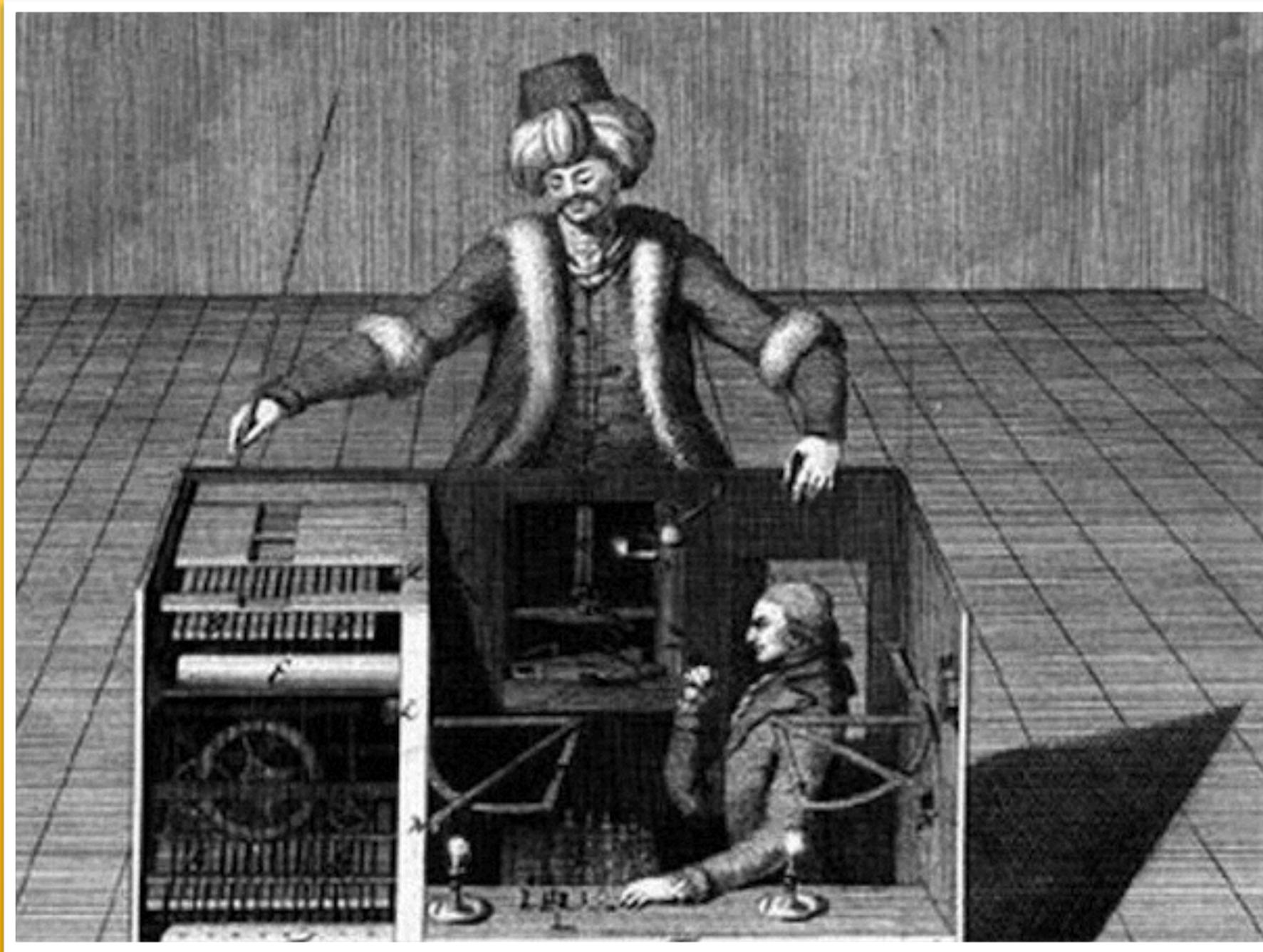
Language Evolution in the Lab



Why Run Experiments Online?

- Get results fast. You can have a few hundred people do your experiment within half an hour.
- Save time. You don't need to spend weeks in the lab explaining the task over and over to participants.
- Cheaper. Each participant spends less time because they don't need to come into the lab.
- More diverse population. Not as WEIRD?
- As good as lab results. Reproduce classic results.

Mechanical Turk



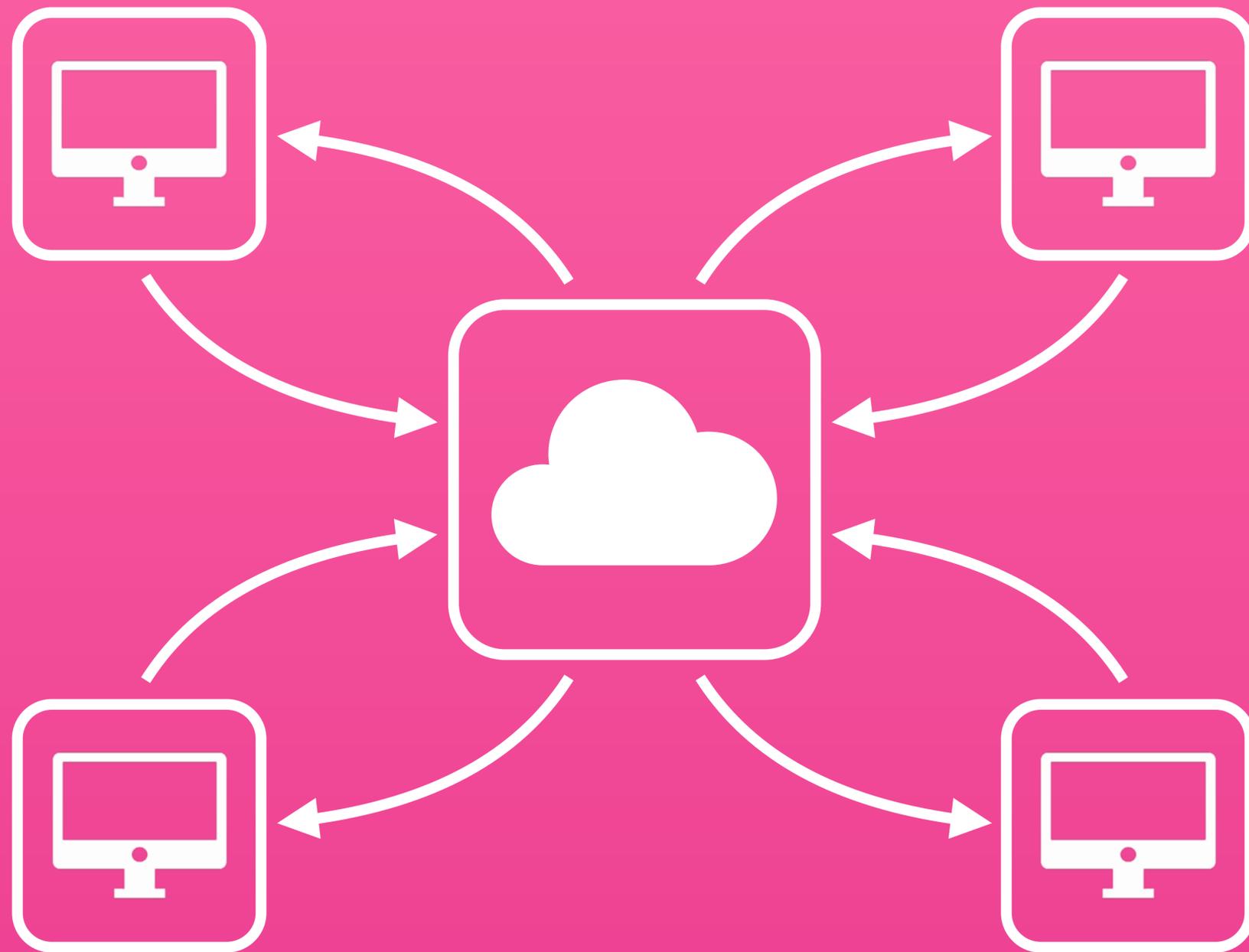
CrowdFlower

- Open to people outside US
- Participants from all over the world, so potentially a more diverse population than MTurk
- CF mostly outsources to other (possibly questionable) companies, and the fee taken by these companies is not transparent
- The platform is not ideal for running your own custom experiments, so you have to resort to slightly hacky methods to get it to work

Ethics & Payment

- Standard ethics apply. You still need to get ethical approval.
- Store online participants data securely and anonymously just like you would with lab participants.
- Set wages equivalent to minimum wage or minimum wage set by your ethics body.
- Generate a completion code and give it to your participant, so that you can verify that they completed the task.
- Be aware of potential payment issues.

Server-Client Basics



Web Programming

Client-side

Server-side

HTML ↔ CSS

Perl Java

Go Ruby

Python PHP

JavaScript



JavaScript



Client-Side

HTML: Markup language describing the elements of the page (DOM)

CSS: Markup language describing how things should be styled (colours, sizes, positions, etc)

JavaScript: Programming language where you do the client-side logic

Subitizing

Rapid, accurate, and confident estimation of numerosity, especially for small numbers

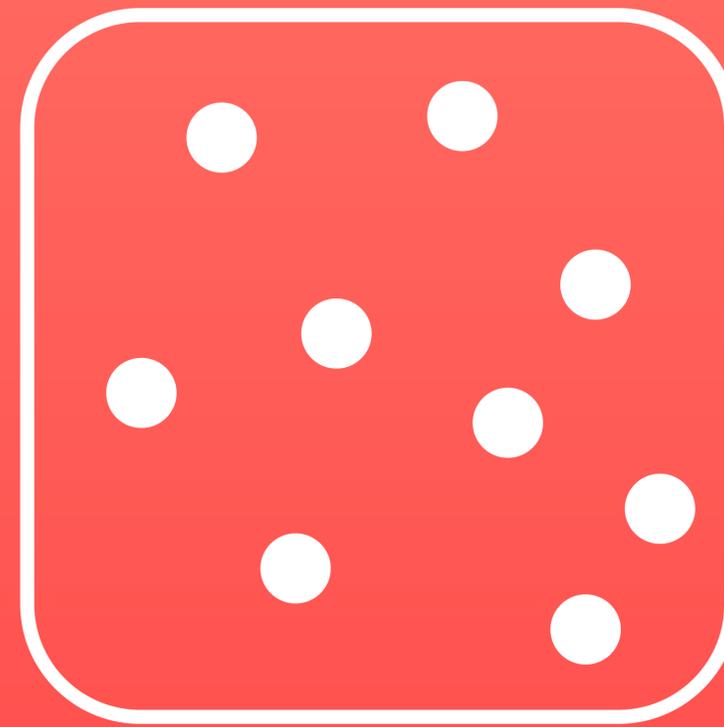
Subitizing

Rapid, accurate, and confident estimation of numerosity, especially for small numbers

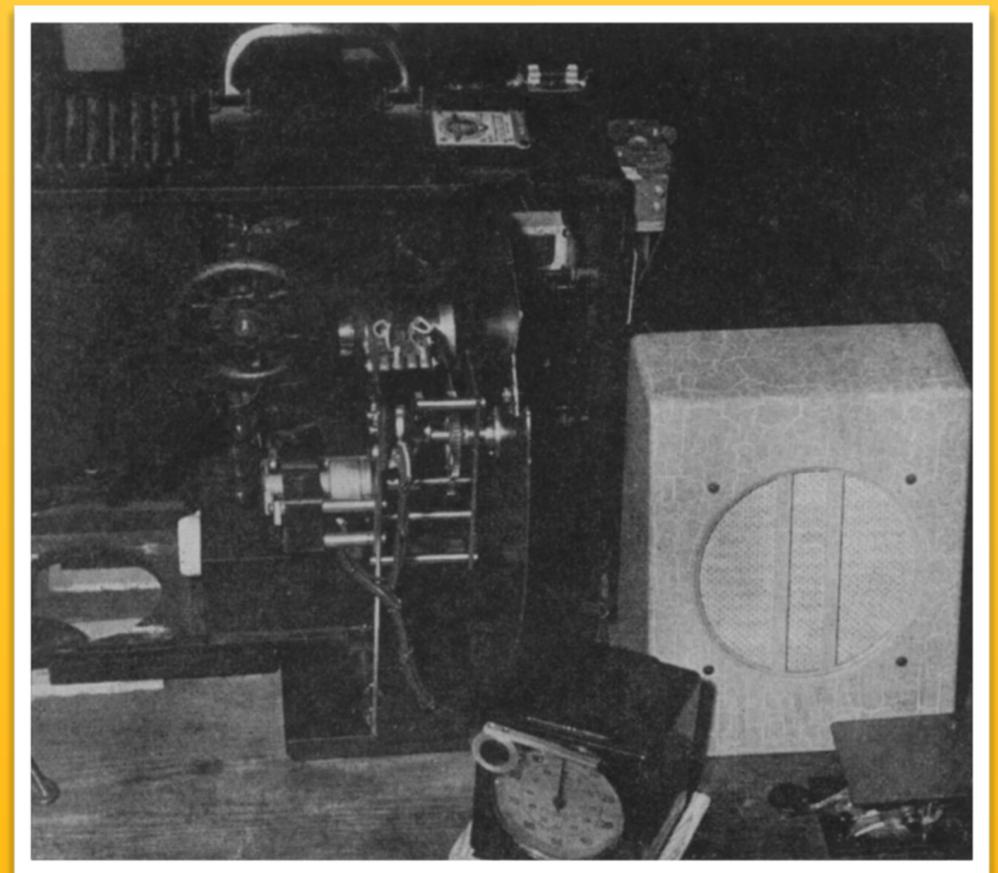


Subitizing

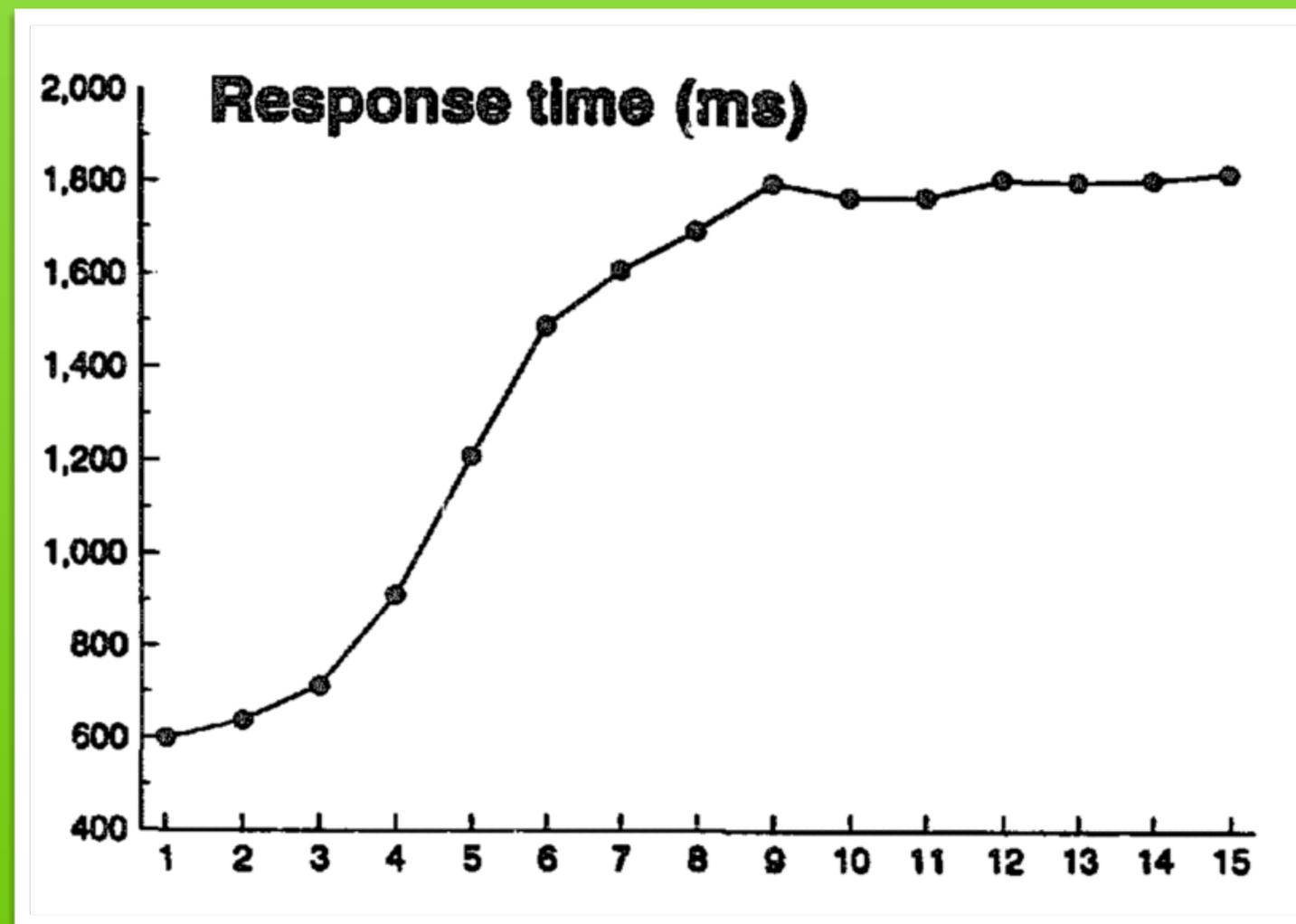
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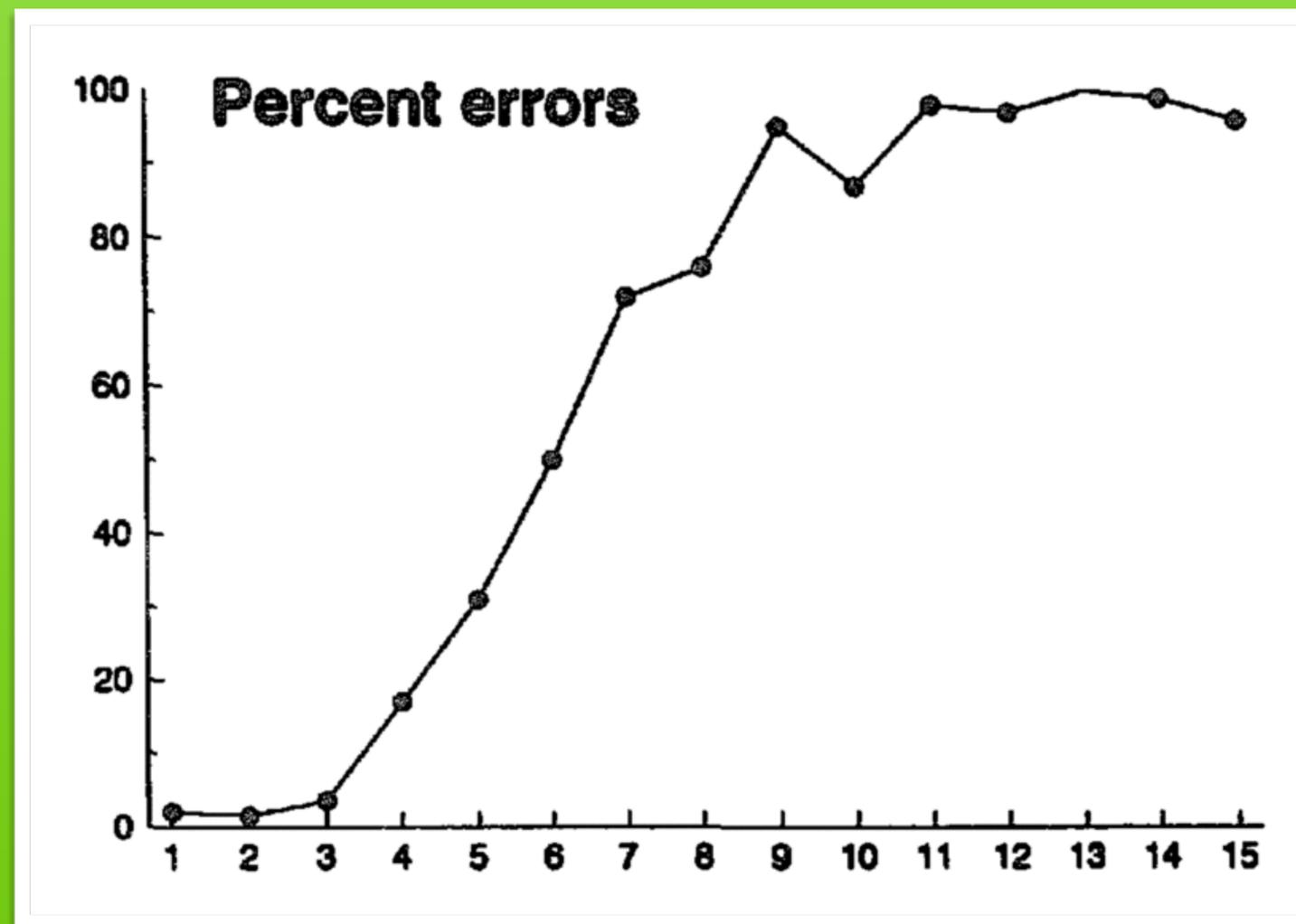
Subitizing



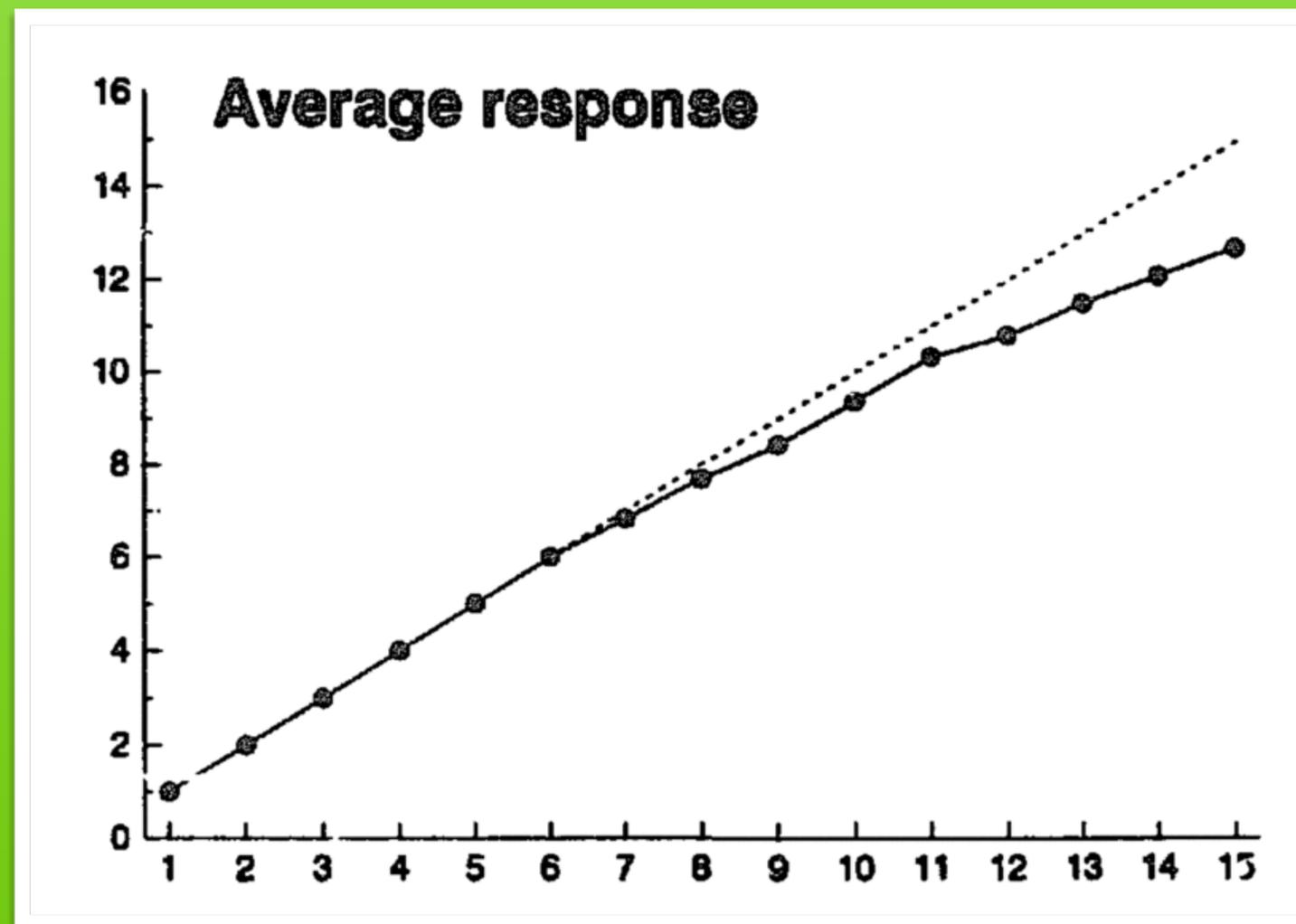
Subitizing



Subitizing



Subitizing



Hands-on

Try the experiment

blake.ppls.ed.ac.uk/~s1153197/sub/cf.php

Then set up the task

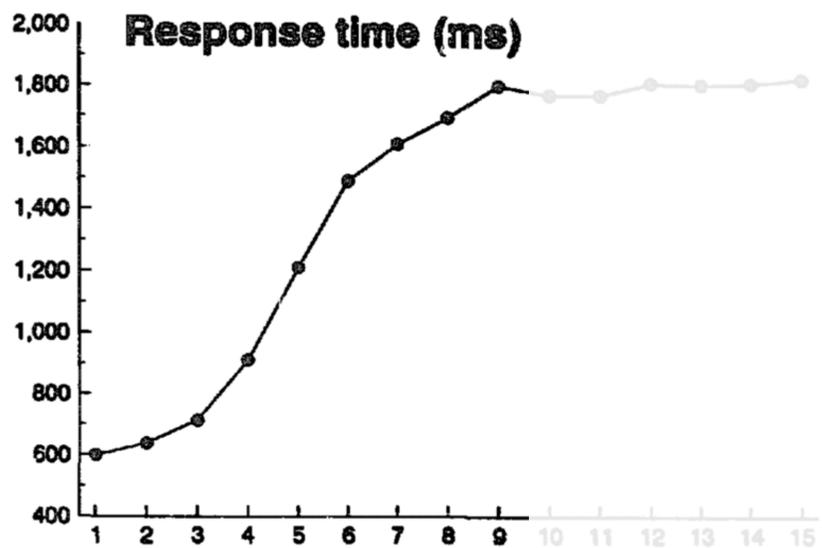
crowdfunder.com OR mturk.com

If you're feeling adventurous... play with the code

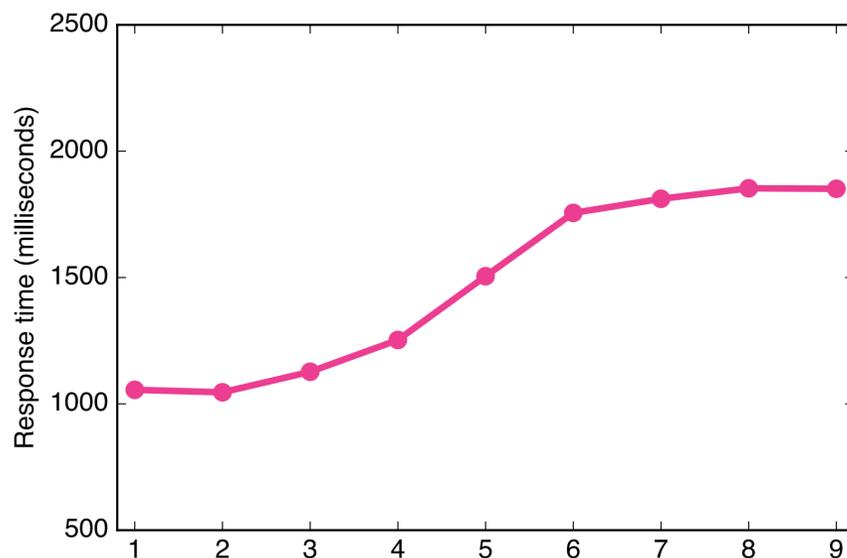
github.com/jwcarr/subitizingOnline

Results...

Results reported in Dehaene (1992)



Our CrowdFlower results



Our Mechanical Turk results

