

Agenda

Theme 2:
*Scientific research
is social*

1. Administrative
2. Studying scientists & laboratories
3. Small-group discussions

Notes

Perusall scoring

- ∴ Sign up for Perusall if you haven't already! Instructions are available on the Teams site
<https://kutt.it/rlCvKy>
- ∴ Check your scores on Perusall
1 point = full credit
- ∴ No exact threshold for full credit, but 5–10 annotations is a good, rough target
<https://soci325.netlify.app/pages/perusall.html>

Contributing to class Teams site

- ∴ Students are encouraged to post to the Teams site
- ∴ Channels on the left for Q and A, Items of interest etc.

Group sign-up

- ∴ Remember to sign up for a group using the "Group sign-up" tab on Teams or <https://kutt.it/lCuc22>
- ∴ *Students who do not sign up for a group before September 19 will be randomly assigned to a group*

Studying scientists & laboratories

STUDYING SCIENTISTS & LABORATORIES 4

1 Individuals'
context

2 Negotiation of
findings

3 Communication

1 Individuals' context

2 Negotiation of findings

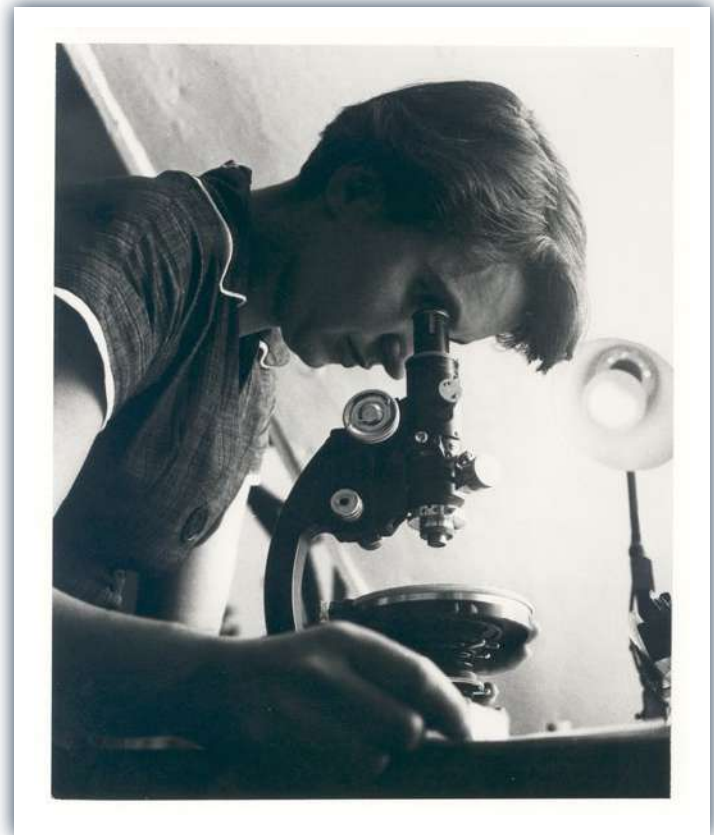
3 Communication

Individuals' traits matter

- ∴ Scientists' personalities, goals, history, ego, and ideology alter scientific practice.
- ∴ The questions one asks, the methods one uses, and the answers one comes up with are influenced by individual traits

The way one is seen matters

- ∴ The respect of colleagues, the power of certain positions, gendered expectations, and 'star' power change the course of science.
- ∴ Who gets credit; who is forgotten?



Rosalind Franklin, pioneer in the discovery of the structure of DNA, did not receive credit in her lifetime.

1 Individuals' context

2 Negotiation of findings

3 Communication

Methods and techniques are not clean-cut

- ⋮ Creating images, making and tuning equipment, refining techniques, ...
- ⋮ Scientist must *learn* to, e.g. make visualizations for publication.

Skills are embedded in people

- ⋮ Scientists have skills, honing certain techniques.
- ⋮ They may keep methods secret to maintain a competitive edge.
- ⋮ Reproduction is not always straightforward

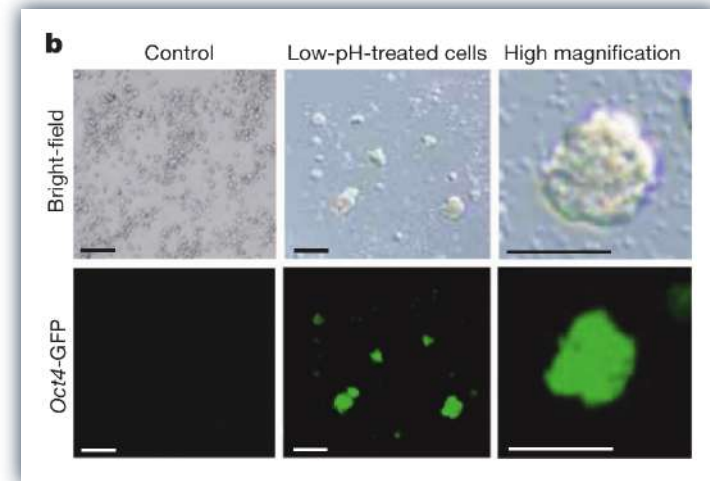


Figure 1b from retracted article: Obokata, Haruko, Teruhiko Wakayama, Yoshiki Sasai, Koji Kojima, Martin P. Vacanti, Hitoshi Niwa, Masayuki Yamato, and Charles A. Vacanti. 2014. "Stimulus-Triggered Fate Conversion of Somatic Cells into Pluripotency." *Nature* 505 (7485) (January): 641–647.

1 Individuals' context

2 Negotiation of findings

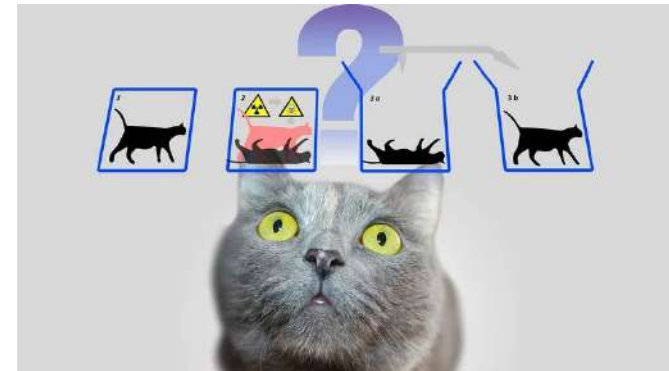
3 Communication

Data are messy

- ⋮ Data rarely tell a clear story
- ⋮ Scientists must construct a narrative to turn *data* into a *finding*

Interaction

- ⋮ Narrative is often resolved through interaction of multiple scientists.
- ⋮ Different members of the same lab, or different research groups, may advocate for competing interpretations



Experimental data in quantum mechanics supports many competing interpretations (e.g. the “Copenhagen” and “many-worlds” interpretations).

1 Individuals' context

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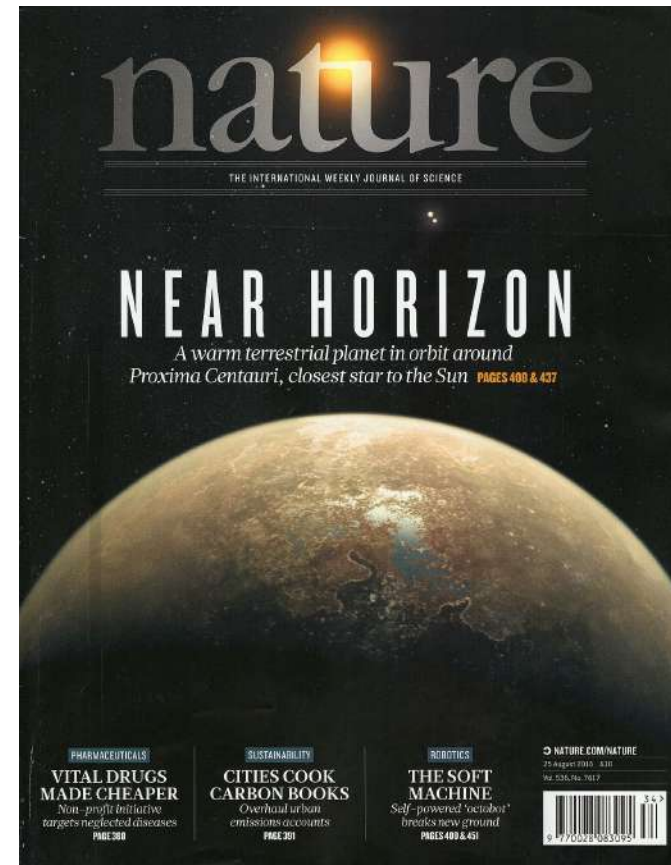
Journals

- ⋮ Prestige of publication venue influences impact of findings.
- ⋮ High-profile journals have incentive to make a 'splash'.

Scooping

- ⋮ Credit within scientific institutions awarded to first recognized finding.
- ⋮ Scientists feel push to finalize research quickly.

Broadly: incentive to hide messiness of scientific process



Discussion

In person



Form groups of 4–5

- ⋮ At tables or outside of the classroom. Join a Teams room for your table

Online



Form groups of 4–5

- ⋮ Choose a "discussion room" channel on Teams

Small-group discussions:

- ⋮ Choose **one facilitator** who will keep the discussion focused and make sure everyone is able to participate.
- ⋮ Choose **one secretary** who will take notes and summarize the group's responses for submission.
- ⋮ Type your responses directly in the document in Teams—there is no need to submit the document.

Notes:

- ⋮ You do not need to reach consensus on the questions. Your write-up should mention the different points your group thought were relevant. **One or two paragraphs** worth of text per question should be sufficient.
Please avoid bullet-point format.
- ⋮ You can discuss the questions in **any order** you like, and you do *not* need to respond to all of them. Read over them before you begin!
If responding to fewer prompts, your responses should reflect more in-depth discussion.

Image credit



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[Wikimedia](#)