



OPEN SCIENCE

my own views,
as a scientist,
about the importance
of open science

A VIEW FROM THE BENCH

@guillaumelobet 
www.guillaumelobet.be

 bit.ly/lobet-open-be

WHO I AM ?

2000 MASTER IN BIO-ENGINEERING

UNIVERSITÉ CATHOLIQUE DE LOUVAIN

2008 PHD AGRONOMICAL SCIENCES

UNIVERSITÉ CATHOLIQUE DE LOUVAIN

2013 POST-DOCTORAL FELLOW

UNIVERSITÉ DE LIÈGE

2016 VISITING SCIENTIST

FORSCHUNGSZENTRUM JULICH

FNRS

BELSPC

FNRS

• YOU

• YOU

• YOU

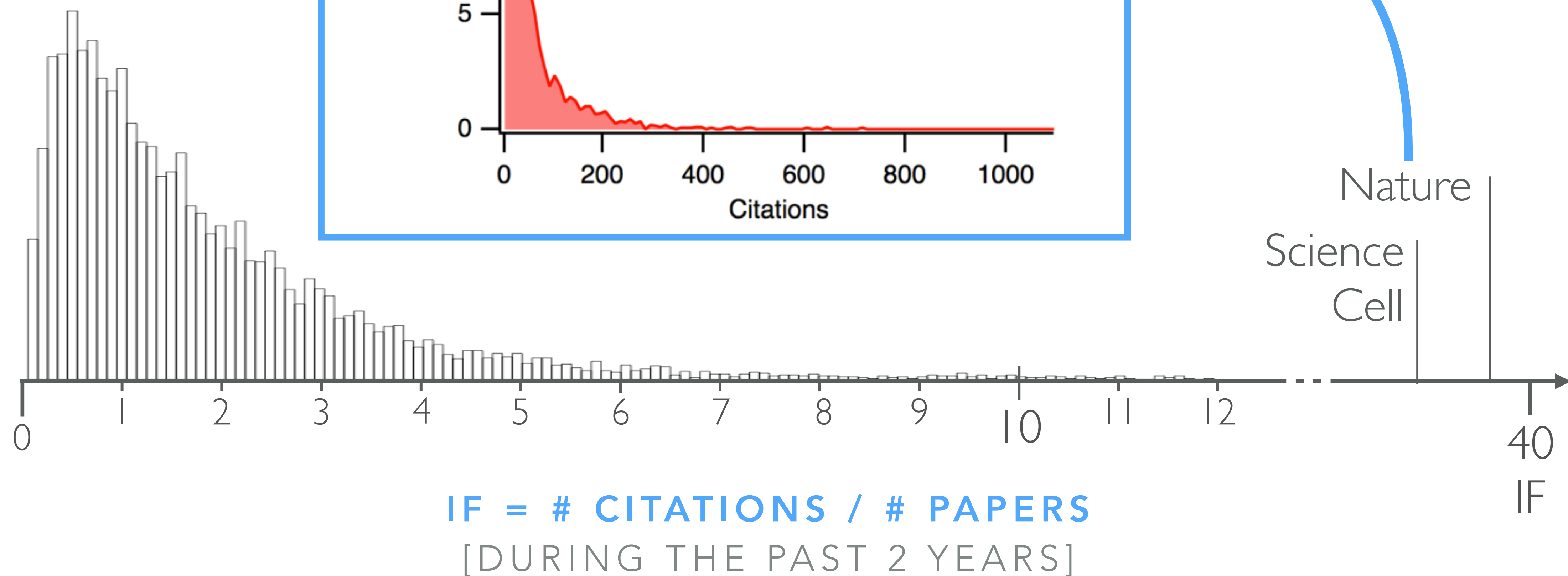
THANK YOU

SCIENTIFIC PIPELINE

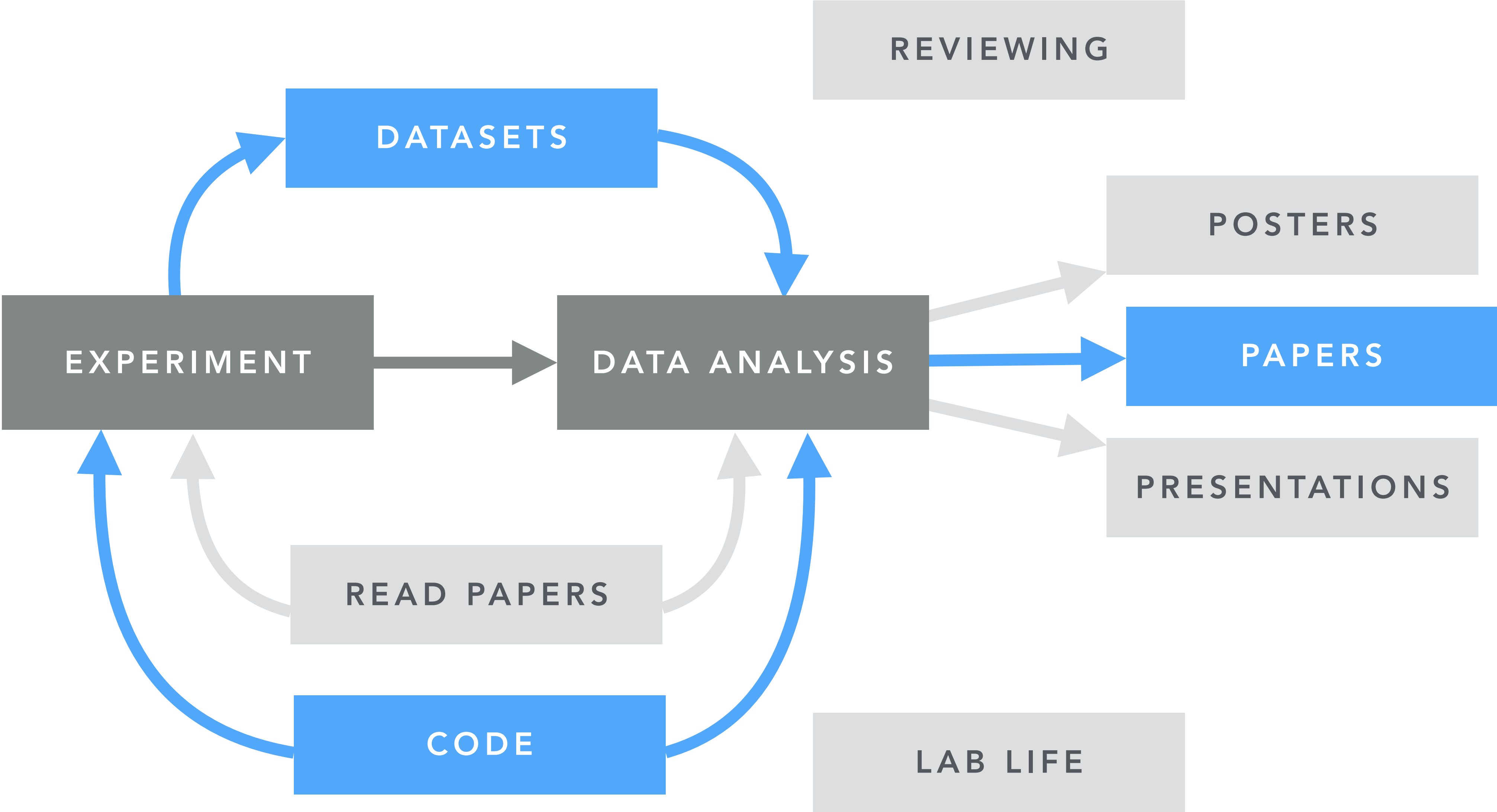


THE JIF CHURCH

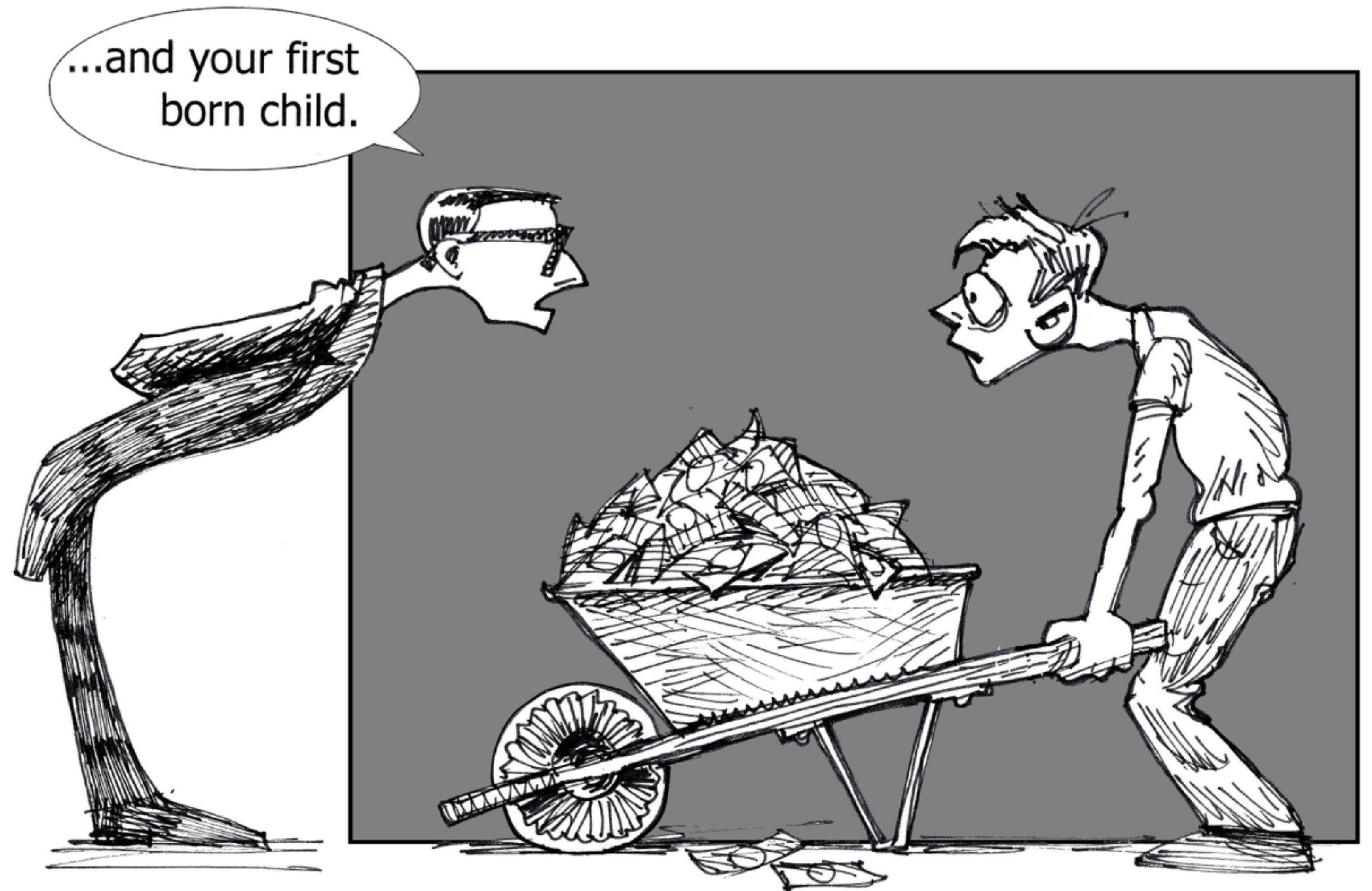




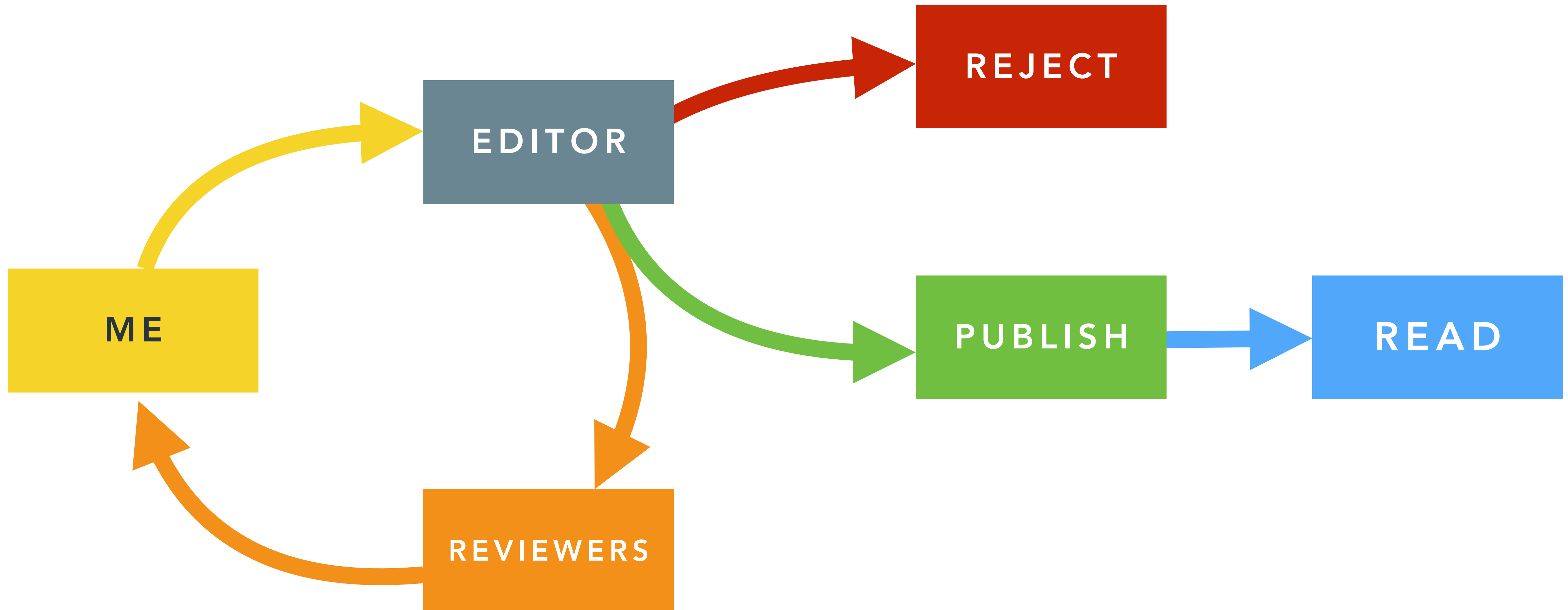
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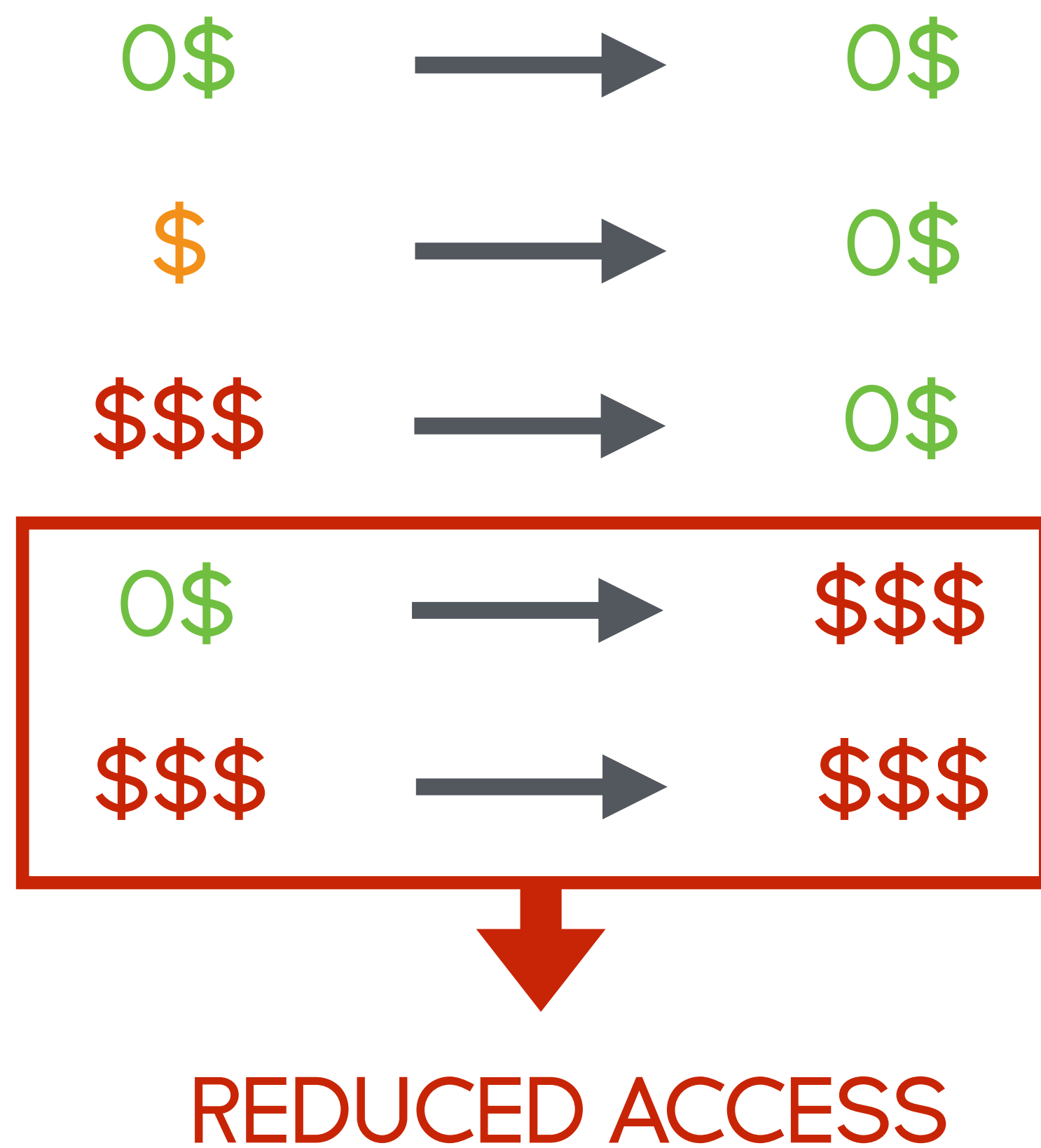
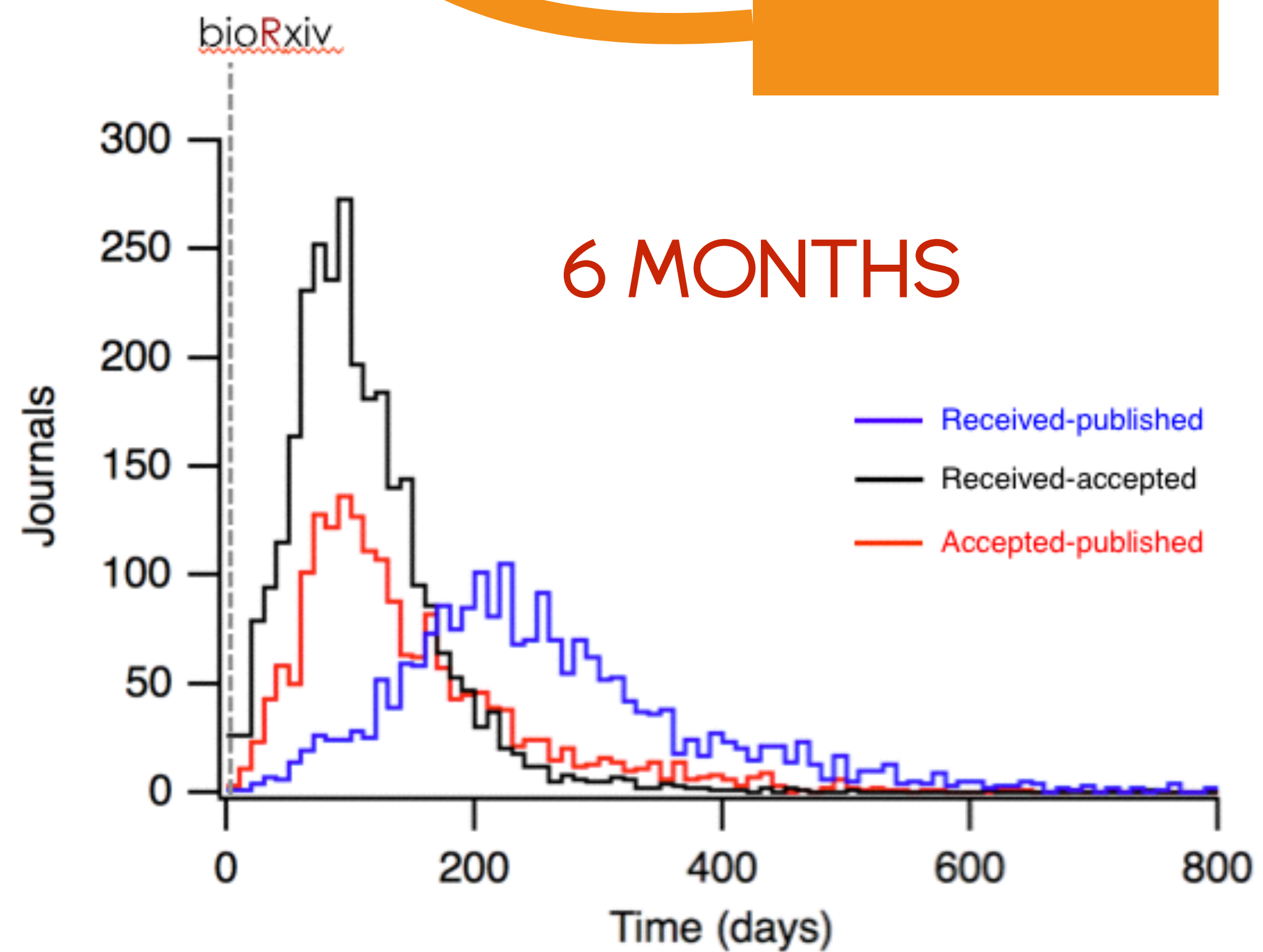
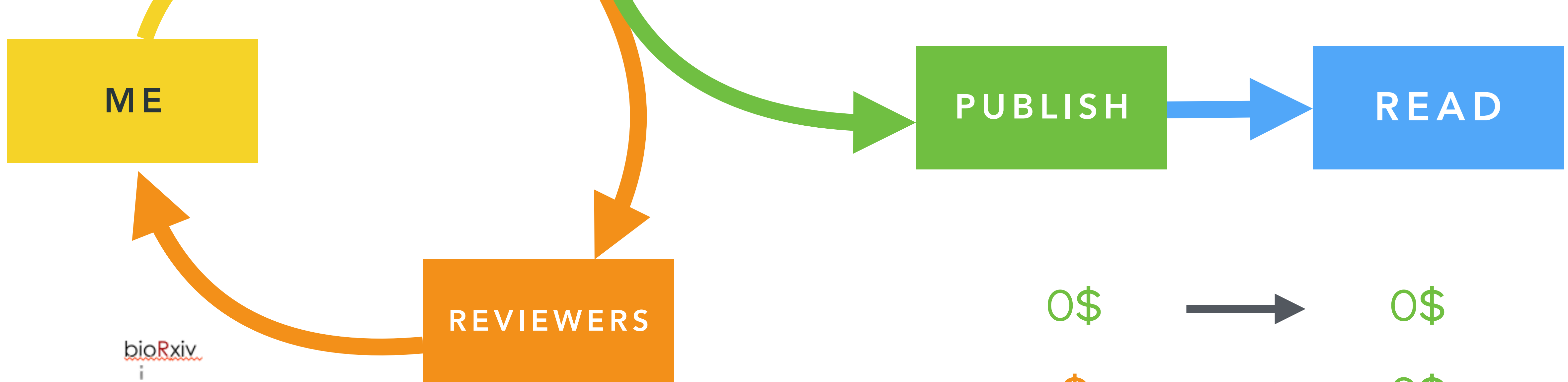


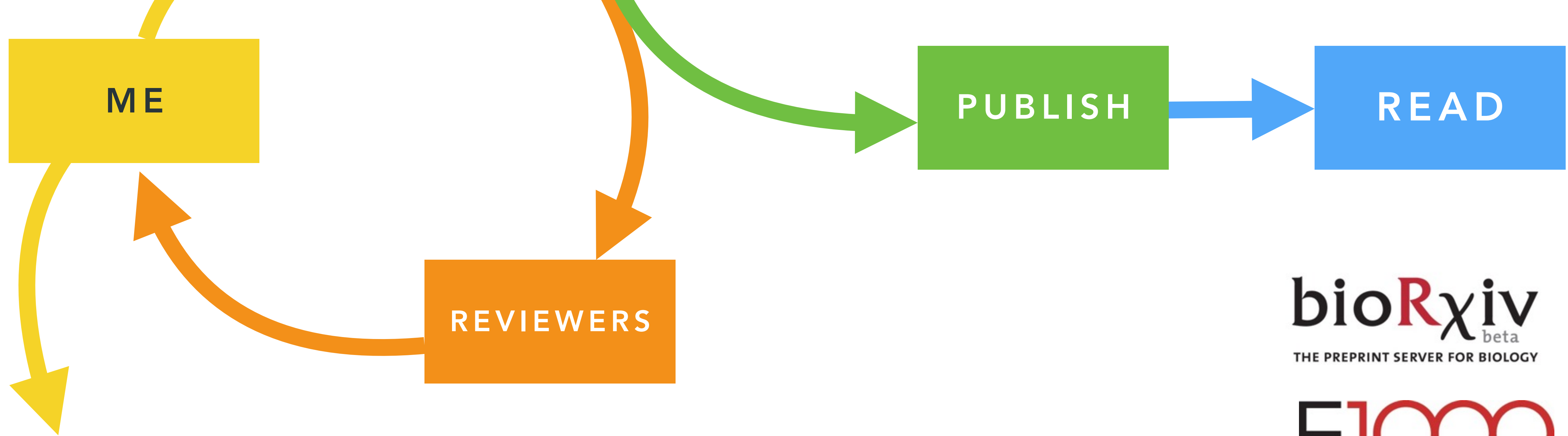
1 OPEN PAPERS



PUBLISHING PIPELINE







PREPRINT SERVERS

- archive while submitting
- **directly** available
- **freely** available
- **check specific journal policy...**

 <http://www.sherpa.ac.uk/romeo/search.php>

bioRxiv
beta
THE PREPRINT SERVER FOR BIOLOGY

F1000
FACULTY of 1000

PeerJ



...

2 OPEN DATA



Hi Guys!
I'm Sucky,
the research parasite.
I'm going to **STEAL**
all your data and
take **ALL** the credit!

@redpenblackpen

LET'S TALK ABOUT YOUR DATA



EXPENSIVE



TIME
CONSUMING



CONTAINS
MISTAKES



ARE NOT 100%
EXPLOITED

DATA REPOSITORIES / JOURNALS

- Decrease the **cost of data**
- Increase **reproducibility**
- Allow **new findings**
- Get **more citations** for your work



...

1. **Data** should be made publicly available.
2. **Stimuli and materials** should be made publicly available.
3. In case some data or materials are not open, clear reasons should be given why.
4. Documents containing details for interpreting any files or code, and how to compile and run any software programs should be made available with the above items.
5. The location of all of these files should be advertised in the manuscript, and all files should be hosted by a reliable third party.

“We will not offer comprehensive review for, nor recommend the publication of, any manuscript that does not meet the following minimum requirements.”



<https://opennessinitiative.org/>

RESEARCH PARASITES

“people who had nothing to do with the design and execution of the study but **use another group’s data for their own ends**, possibly **stealing** from the research productivity planned by the data gatherers, or even use the data to try to **disprove** what the original investigators had posited”

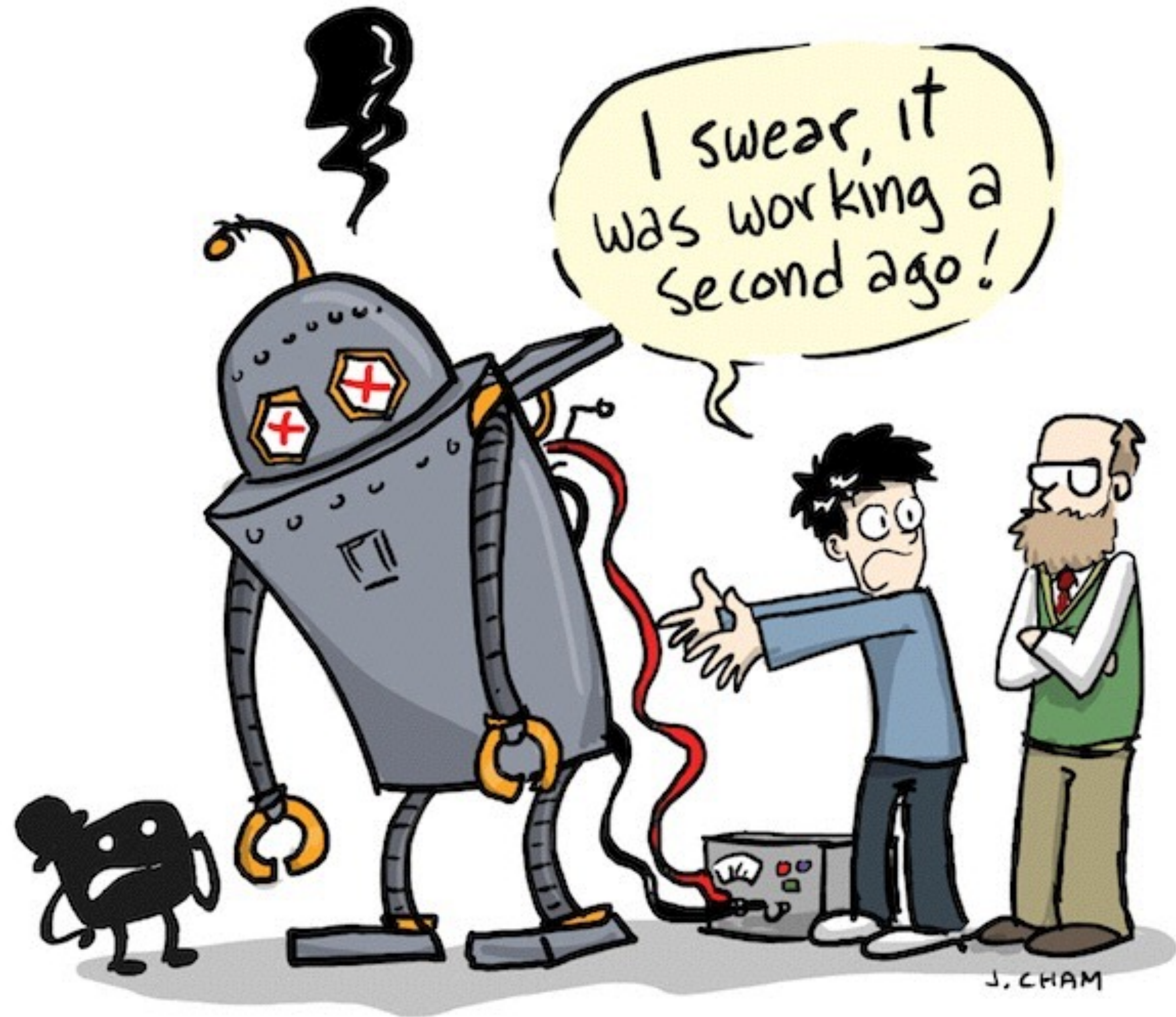
Research Zombie: attacks the living projects, devouring their PIs and making them into research zombies



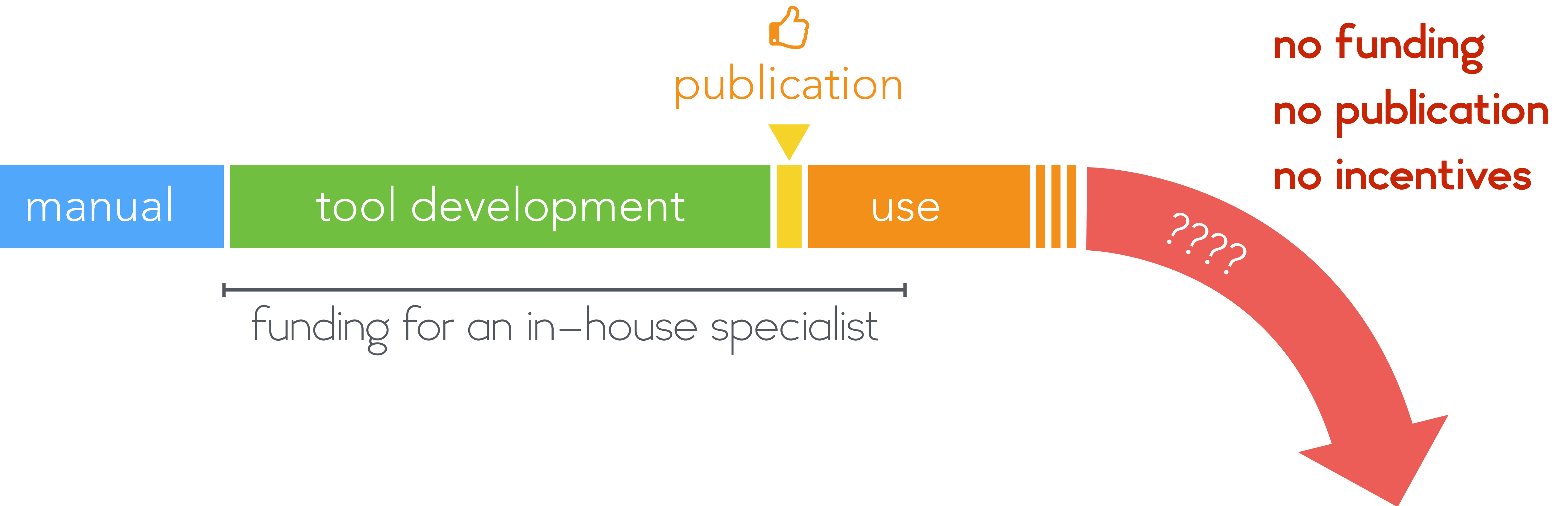
Data Sharing. Longo and Drazen
N Engl J Med 2016; 374:276–277

 **#RESEARCHPARASITES**

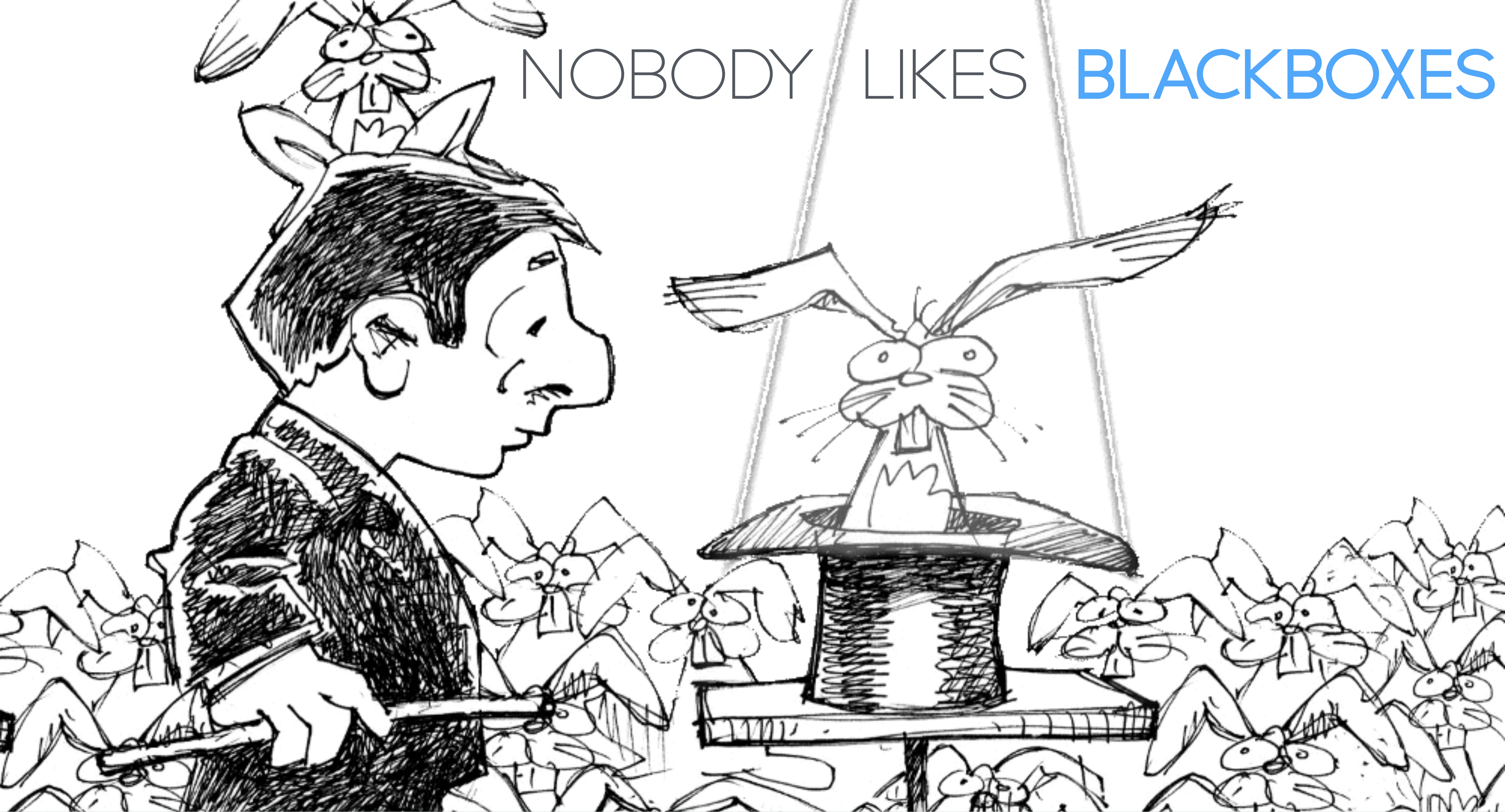
3 OPEN CODE



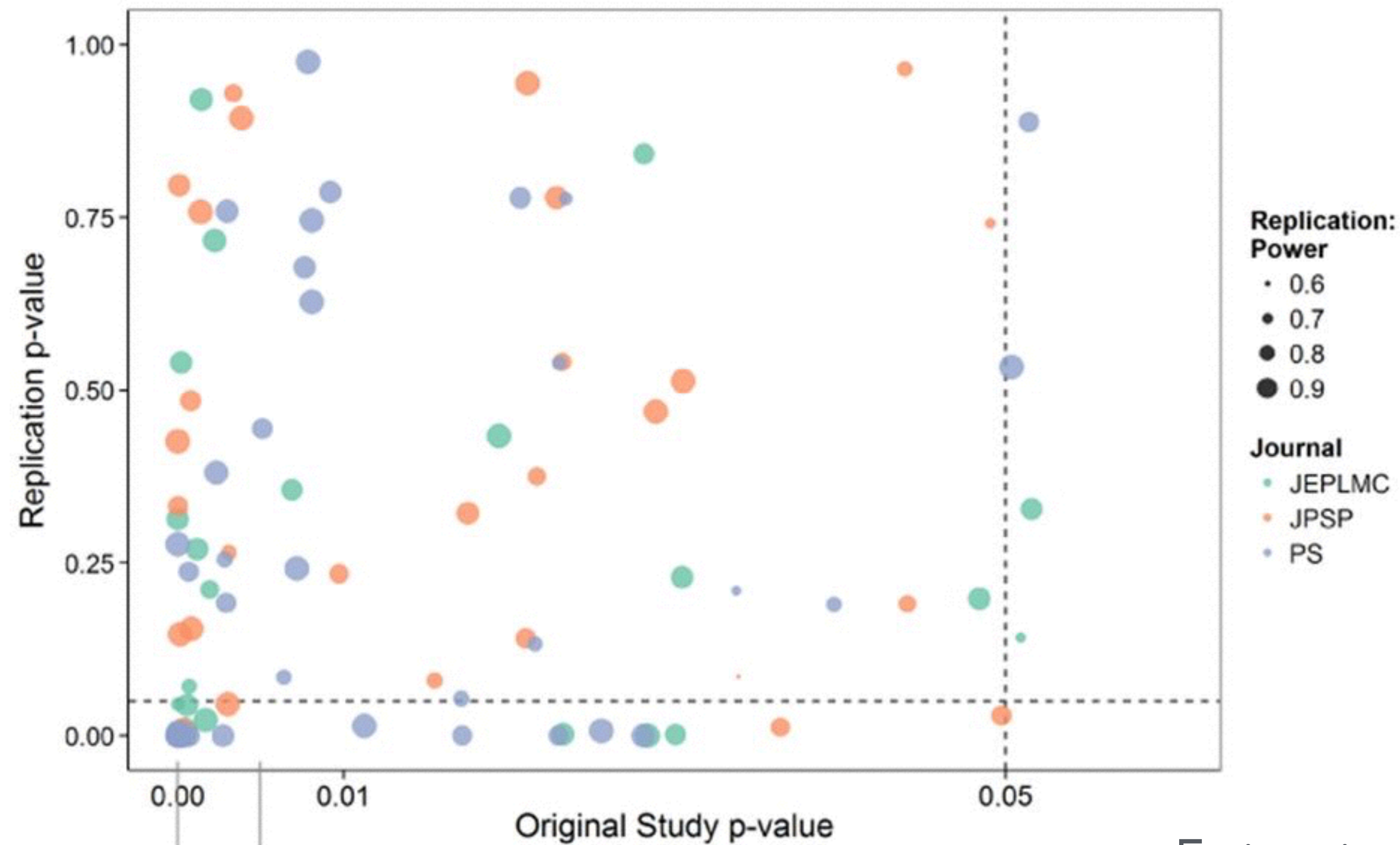
THE FAITH OF ACADEMIC SOFTWARES



NOBODY LIKES BLACKBOXES



REPRODUCIBILITY IS CRITICAL



Estimating the reproducibility of psychological science

Open Science Collaboration

Science 28 Aug 2015:Vol. 349, Issue 6251, pp.

CODE REPOSITORIES

- **Collaboration** → long term maintenance
- **Open source** → better debugging
- **Version control** → archiving





4 OPEN EVERYTHING

Picture from Pedro Albuquerque

EVERY STEP CAN BE OPEN

READ PAPERS



REVIEWING



LAB LIFE



WRAPPING UP



GOOD FOR SCIENCE

Reproducibility
Long term vision
Error proofing

GOOD FOR YOU

Visibility
Valorise everything
More citations

GOOD FOR THE PUBLIC

Better use of
public money
Access

Everything can be shared!

**“The internet was built
in the first place to
share scientific data”**

Mark Hahnel
figshare founder



Presentation on figshare
bit.ly/lobet-open-be