Open source software is the best path to clinical translation

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Sharing is caring

For academic research

- As a research enabler
  - Sharing code for reproducibility
  - To enable sharing of ideas

- Not a business plan
  Most of it will die, that's fine
  better open source that dies
  than closed source that dies

Open Innovation

- Disassembling to understand
- Reusing parts in surprising ways
- Enabling education

Openness for trust & control

Health = Private, sensitive data

- Own the technological stack

Health = High-stake decisions

- Inspecting the decision-making

The lure of software profits

Software seldom makes money

by itself

Network effects
Platform business
Scale economies

Most software never makes it

Software = capture economy

Once you become
dependent on software
the vendor milks you

The old game
of vendor lock in

The unsustainability insurance

Research seldom creates products
so let's be open source

Not disenfranchise the stakeholders

We are researchers,
closed source kills us long term

The long haul

Long term strategy
for open source

- A strategy of commons
- Sharing the common cost
  - Much software is infrastructure
  - It needs to be a common

Sustainable software business
dilute costs via open source

Communities

Two kind of open source

- Open as disclosure & transparency
- Community-driven shared objects

Commons

Complementary benefits to the field

Open source is the game that gives us a shared benefit

as opposed to a bet on an individual win

Messy, imperfect

But can be beautiful

- Organic
- But requires process

  open source should not mean amateur

Many failures, granted

True also of closed-source

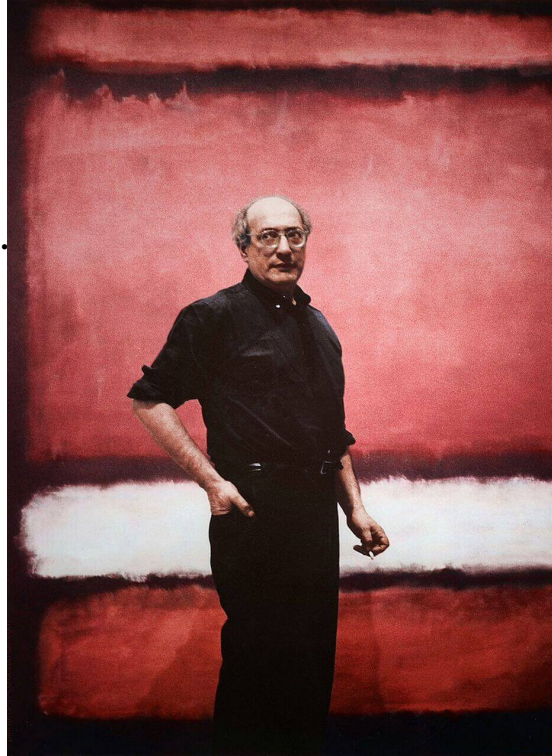
(winners curse)

Simple is beautiful

- But the demands of the real world...
  - Feature creep
  - Product vision 👍

    Not a strength of “design by comittee”

Software is about managing complexity



Closed does not make safe

- “Many eyes make bugs shallow”
- Better a known bug than an unknown one

Battle of narrative

More scrutiny on open
= more criticism

log4j failure:
a testimonial to open source adoption

Maintenance

- To fix bug
- To adapt to a changing reality
  touch screens, GPUs, AI, data integration

Back to process
and the need for scrutiny
Due diligence

Easier with open
liability & competition are drivers

Supply chain

- Software does not sit in vaccum
- But builds on shoulder of giants

linux, python, pytorch

Open standards

- Phasing out obsolete systems
- Avoiding lock in

The battle against standards is ugly

Counter narrative: Go fast alone

Data
is the new oil

The era of AI

A trained model is tied legally to
the data it was trained on

The capture game
is moving to a new field

Privacy at tension with openess

People

technology is a social endeavor

Data, software

the endgame is sharing effort

and distributing control

Challenge: aligning individuals

IT ≠ manufactory

No scarcity economy

Open source is the long run

imperfect, but enables anyone to improve