Rethinking Power & Decoloniality in Open Science

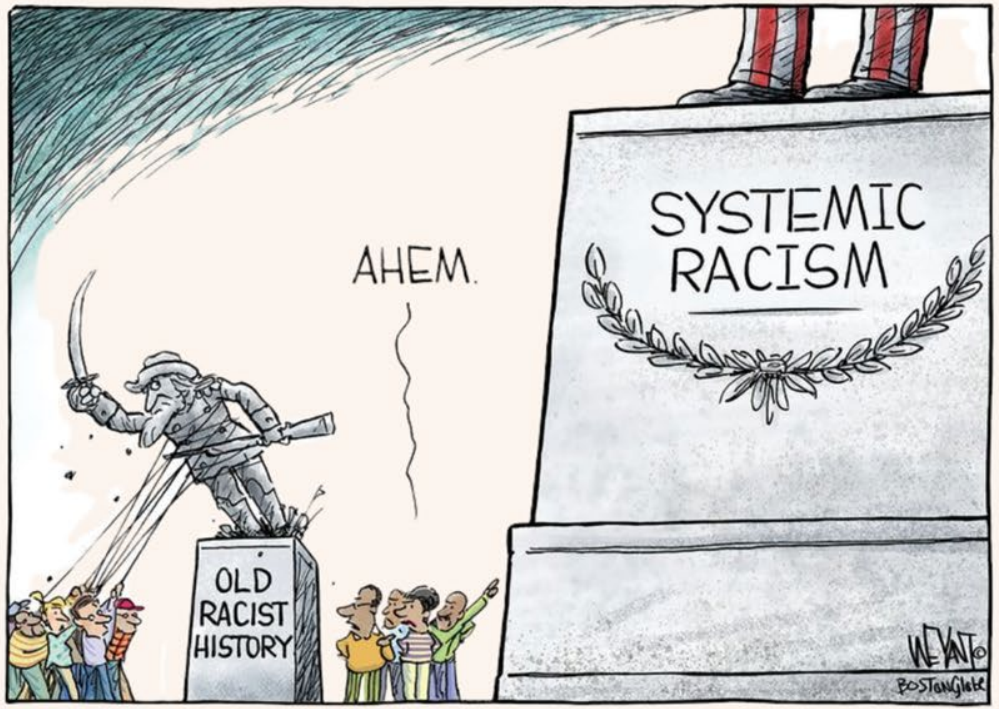

Image credit: Christopher Weyant | Copyright 2020 Cagle Cartoons

THE UNIVERSITY of EDINBURGH

Batool Almarzouq

Edinburgh Open Research Conference 2026

16 June 2026 | 2 Muharram 1448 Hijri

The Promise of Open Science (and the Tools We Build)

Open Science Practices ————→

The Promise of Open Science (and the Tools We Build)

Open Science Practices ——→



The Promise of Open Science (and the Tools We Build)

Open Science Practices ————→

- Help **solve complex** social, environmental challenges
- **Reducing the existing inequalities** in STI
- **Promote** inclusiveness, **equity**, and participation in scientific discoveries

The Promise of Open Science (and the Tools We Build)

- Open access
- FAIR principles
- Open Peer Review
- Open Source
- Open infrastructure

...etc

——→

- Help **solve complex** social, environmental challenges
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The Promise of Open Science (and the Tools We Build)

- Open access
- FAIR principles
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- Open Source
- Open infrastructure
  ...etc

We monitor these objects/practices/tools

————→

- Help **solve complex** social, environmental challenges
- **Reducing the existing inequalities** in STI
- **Promote** inclusiveness, **equity**, and participation in scientific discoveries

This is the goal /outcome

Open Science Practices are a Response to Northern-Created Norms

What the Global North frames as "open science" — including open access, open data, and open source — is a reform movement **responding to the very system that the North built**: the research university career structure, the Anglophone publishing industry, and the publish-or-perish logic. **These elements were not part of many other knowledge systems.**



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The Structure of Knowledge in Westernized Universities
Epistemic Racism/Sexism and the Four Genocides/Epistemicides of the Long 16th Century

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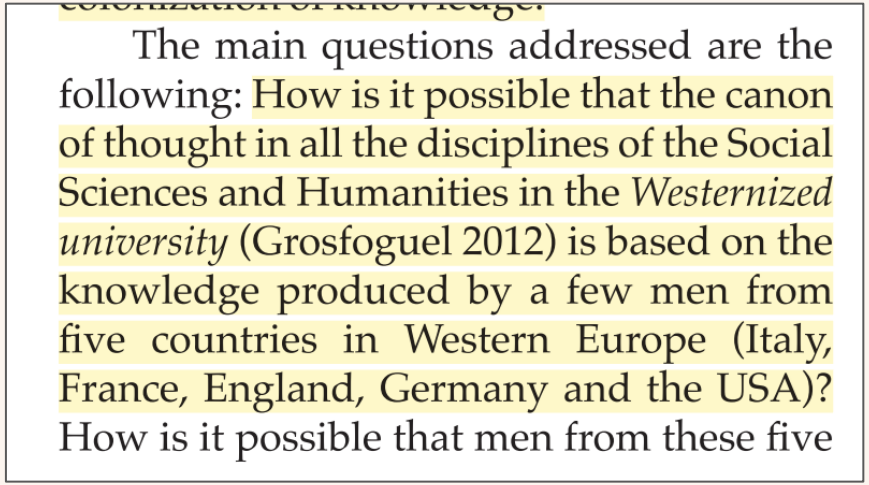


colonization of knowledge.

The main questions addressed are the following: How is it possible that the canon of thought in all the disciplines of the Social Sciences and Humanities in the *Westernized university* (Grosfoguel 2012) is based on the knowledge produced by a few men from five countries in Western Europe (Italy, France, England, Germany and the USA)? How is it possible that men from these five

Paper: https://www.niwrc.org/sites/default/files/images/resource/2%20The%20Structure%20of%20Knowledge%20in%20Westernized%20Universities_%20Epistemic.pdf

The open science movement is meant to reduce inequity and create more inclusive knowledge system. **But when its practices are:**

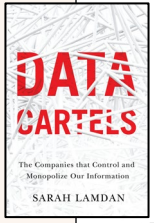
- *Implicitly prescribed as a universal blueprint for the globe*
- *Monitored through tools and metrics largely in the North*

It can unintentionally ***replicate the same problems it was designed to fix*** *— creating new dependencies, extending surveillance, and excluding knowledge systems that do not fit the model.*

Monitoring and open practice should **never reinforce the very problems** it aims to solve

Rethinking Publisher Surveillance

- Publishers use surveillance publishing: collecting detailed authorship and readership data to fuel analytics, control, and profits.
- According to Sarah Lamdan (*Data Cartels*, 2022): publishers act as “data brokers,” monetizing data beyond publishing.
- Example: Elsevier and Thomson Reuters helped U.S. Immigration and Customs Enforcement (ICE) build surveillance networks to identify and deport immigrants, revealing ethical breaches of academic data use.



Source: https://www.bostonglobe.com/opinion/2013/06/13/editorial-cartoon-nsa-surveillance/LIlHam6LVuAMg23Eg9OOYL/story.html

Monitoring and open practice should **never reinforce the very problems** it aims to solve.

Research | Open access | Published: 14 November 2021

A billion-dollar donation: estimating the cost of researchers' time spent on peer review

Balazs Aczel, Barnabas Szaszi & Alex O. Holcombe

Research Integrity and Peer Review **6**, Article number: 14 (2021) | Cite this article

67k Accesses | **183** Citations | **2437** Altmetric | Metrics

Monitoring and open practice should **never reinforce the very problems** it aims to solve.

Re-thinking inclusion in Journal peer review

4,701,988 submissions accepted after peer-review x 3 reviews / submission	3,847,081 submissions rejected after peer review x 2 reviews / submission
14,105,964 reviews	7,694,162 reviews

⬇

Total number of reviews:
21,800,126

6 hours / review

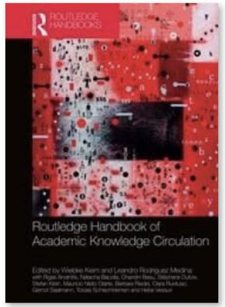
⬇

Total hours of labor spent on reviewing:
130,800, 757 hours



Image Credit: English School (20th century)

Reflection on the Digital Object Identifier (DOI) history



Chapter

Digital Object Identifier

Privatising Knowledge Governance through Infrastructuring

By Angela Okune, Leslie Chan

Book Routledge Handbook of Academic Knowledge Circulation

DOI became the ISO international standard in 2012 due to intense publisher lobbying, Registration agencies charge significant fees, limiting participation of smaller publishers.

"At a minimum, the DOI helps ensure that publishers will dance to the same rhythm. […] Adopting electronic-publishing solutions based on common open standards ***increases the likelihood that publishers' capital investments will pay off. It helps ensure that publishers will be able to extend their franchises into cyberspace, where much of the world of information is surely going"***

- Rosenblatt wrote in 1997 in The Journal of Electronic Publishing

Mainstream Open Science tries to address equity by:

- Building capacity in the Global South
- Adding more representation in the system
- Offering grants and aid as "EDI" interventions

This narrative implicitly assumes it is a problem of resources, infrastructure and skills.



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This narrative implicitly assumes it is a problem of resources, infrastructure and skills.



BUT...

How was inequity created and sustained in the first place?

And if the foundation itself is flawed:

- Can more technology, aid, and EDI really decrease inequity?



UNEQUAL EXCHANGE 1965 - 1995

WORLD TREND AND WORLD TABLES

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November 1998

actionaid

How Tax Havens Plunder the Poor

Financial Flows and Tax Havens

Combining to Limit the Lives of Billions of People



Centre for Applied Research, Norwegian School of Economics
Global Financial Integrity
Jawaharlal Nehru University
Instituto de Estudos Socioeconômicos
Nigerian Institute of Social and Economic Research

December 2015

UNEQUAL EXCHANGE AND NORTH-SOUTH RELATIONS:

EVIDENCE FROM GLOBAL TRADE FLOWS AND THE WORLD BALANCE OF PAYMENTS 1800-2025

GASTÓN NIEVAS
THOMAS PIKETTY

'This book will radically change the way in which you understand the workings of the global economic system.'
HA-JOON CHANG

The DIVIDE

A Brief Guide to Global Inequality and its Solutions

Jason Hickel

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Centre for Applied Research, Norwegian School of Economics
Global Financial Integrity
Jawaharlal Nehru University
Instituto de Estudos Socioeconômicos
Nigerian Institute of Social and Economic Research
December 2015

Global North



$2 trillion

(aid, loans, foreign investments, ..etc)

Global South

Sources: Bretton Woods Project (2025), Hickel et al. (2023) Plunder in the post-colonial era [doi:10.1016/j.ecolecon.2022.107623]

Centre for Applied Research, Norwegian School of Economics
Global Financial Integrity
Jawaharlal Nehru University
Instituto de Estudos Socioeconômicos
Nigerian Institute of Social and Economic Research
December 2015

Global North



$5 trillion

(unequal trade, debt repayments, profit repatriation …etc)

$2 trillion

(aid, loans, foreign investments, ..etc)

Global South

Sources: Sources: Hickel et al. (2023) Plunder in the post-colonial era [doi:10.1016/j.ecolecon.2022.107623]

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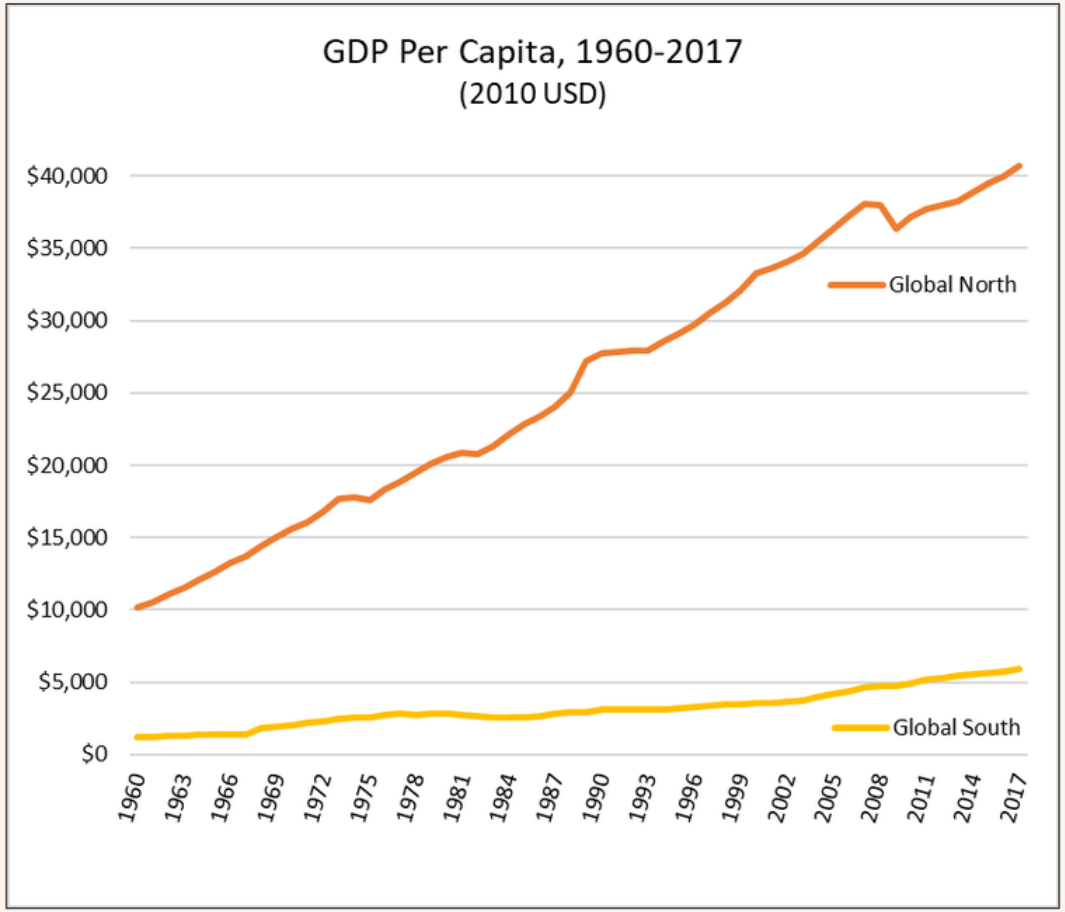

Inequality gap is only tripled despite decade aid and technology

GDP per capita (2010 USD) in the Global North and Global South, 1960–2017. Created by Huzaifa Zoomkawala for Jason Hickel, using World Bank national accounts data. First published in Jason Hickel (2019).

Takeaway 1: Countries in the Global Majority are NOT a pre-image of the Global North waiting to “develop”

Many of these nations **are not poor in resources**, they are impoverished by global structures and policies.

“The structures of the periphery are shaped so as to meet the needs of accumulation at the center, that is, provided that the development of the center engenders and maintains the underdevelopment of the periphery.”

— Samir Amin, *Unequal Development: An Essay on the Social Formations of Peripheral Capitalism* (1976)



Credit: https://parish-without-borders.org/cditt/jp/poornations.htm

*“When I give food to the poor, they call me a saint; when I ask **why the poor have no food**, they call me a communist”*

- Ha-Joon Chang, quoting Dom Helder Camara



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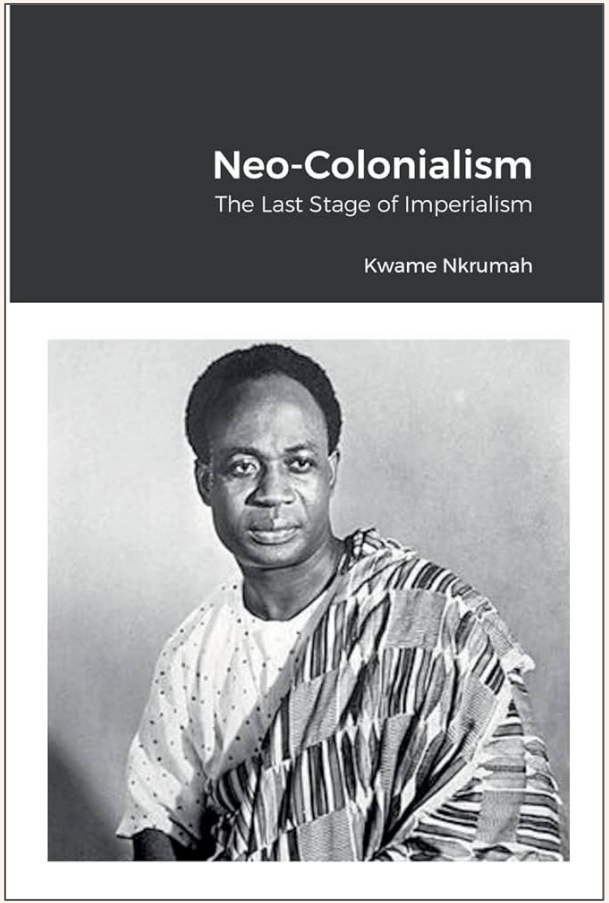

Released while **Nkrumah was Ghana's sitting president**, the book drew an immediate reprimand from the US State Department and led to the withdrawal of $25 million in American "aid" to the country.

Source: Kufakurinani, U., Kvangraven, I. H., Santanta, F., & Styve, M. D. (Eds.). (2017). Dialogues on Development Volume 1: Dependency [E-book]. Institute for New Economic Thinking.

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Takeaway 2: The goal of open science is **NOT openness itself**, it's about redistributing power in knowledge production—challenging the extractive systems that enrich the Global North at the expense of the Global South



Image Credit: https://imperialismshowcasejanetterivera.weebly.com/imperialism-cartoon.html



“Ideas, cultures, and histories cannot seriously be understood or studied **without their force, or more precisely their configurations of power**, also being studied”

Edward Said - Palestinian philosopher and academic

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Open Science Depoliticises Inclusion

Open Science often **shies away from systemic issues** by separating itself from economics and politics. Science as an enterprise is still Eurocentric, played by Eurocentric rules.

The Global Majority may be invited to the table under the banner of "inclusion," but **never allowed to rewrite the rules of the game.**



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WORLD VIEW | 16 September 2025

Equity in science is a beautiful lie — and I'm done pretending

Science isn't really moving towards equity; institutions are just perfecting the appearance of equity. We need to build an alternative system.

By Dolors Armenteras

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To ask harder question, we should acknowledge that Science is NOT neutral

Open Infrastructure is NOT neutral

Our knowledge production system is **rooted in our economic system**

Countries in the global Majority **are not late-commerce, pre-image of what the advanced countries**

The North-South wealth divide was never accidental — it was engineered

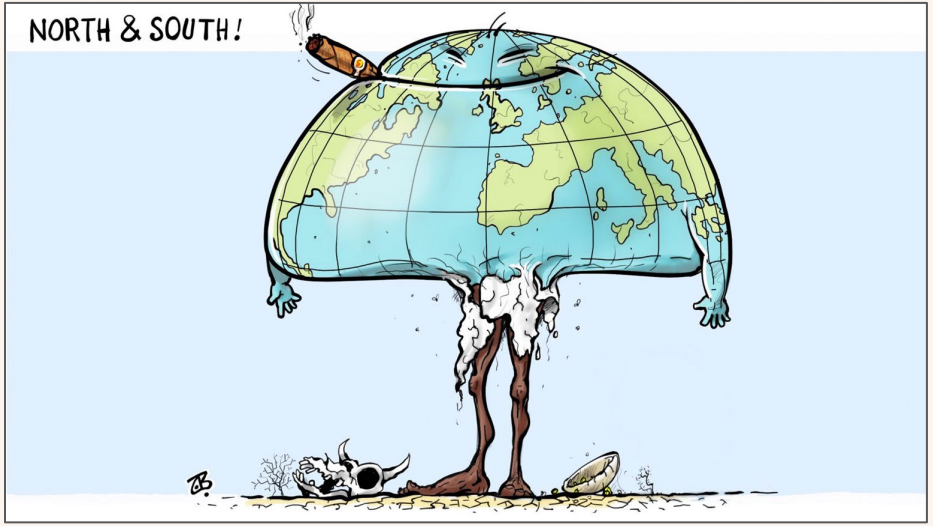

Image Credit: Emad Hajjaj https://x.com/EmadHajjaj/status/846674592060096512

Rethinking the Economic Backbone of the Modern Academic Institution



More UK universities cutting ties with fossil fuel industry

Student pressure pushes higher education institutions to commit to divesting from fossil fuels



Cambridge University students protesting in 2018 to demand the university divest itself from arms and fossil fuels holdings. Photograph: Robert Evans/Alamy

Source: https://aoav.org.uk/2021/uk-universities-funded-190-million-from-major-arms-manufacturers-since-2013/

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If our systems, infrastructures, or institutions are sustained by:

- Labor exploitation in the Global South
- Surveillance industries that harm communities
- Arms industries that destroy vulnerable regions

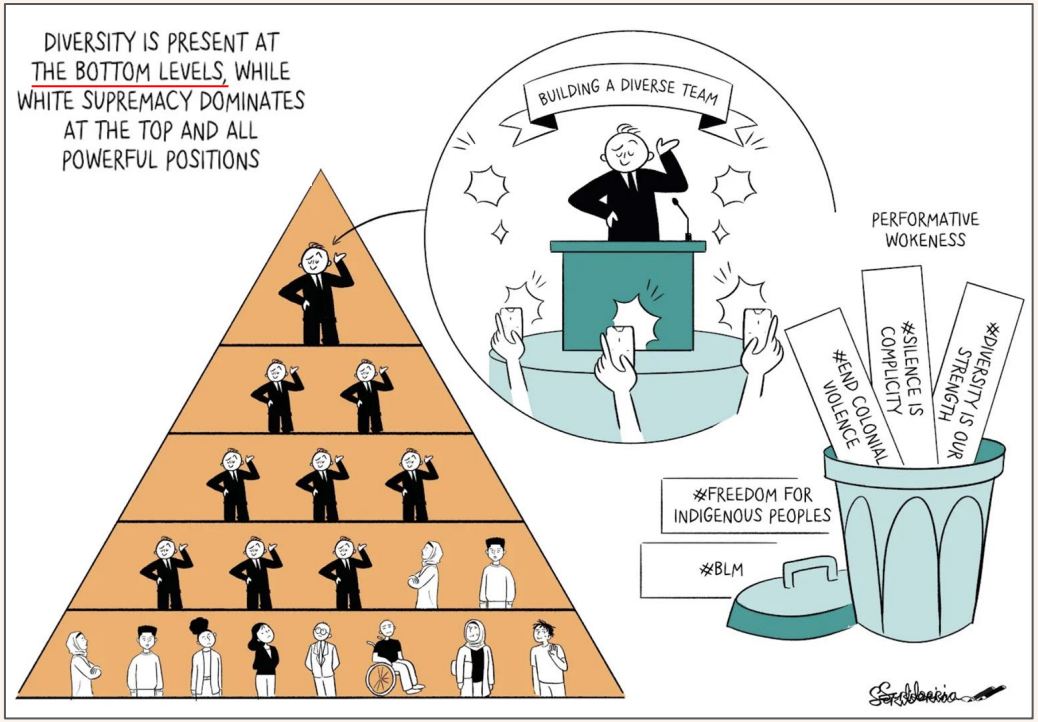
Then Open Science tools and practices **fail their fundamental purpose**.

For whose benefit are these conversations left out from OS discourse and spaces?"

Arun Kundnani argues that these structures **produce racism as an effect, not a cause.**

Many OS initiatives merely treat bias and racism as attitudes or beliefs and **ignore the structural foundations of exploitation**.

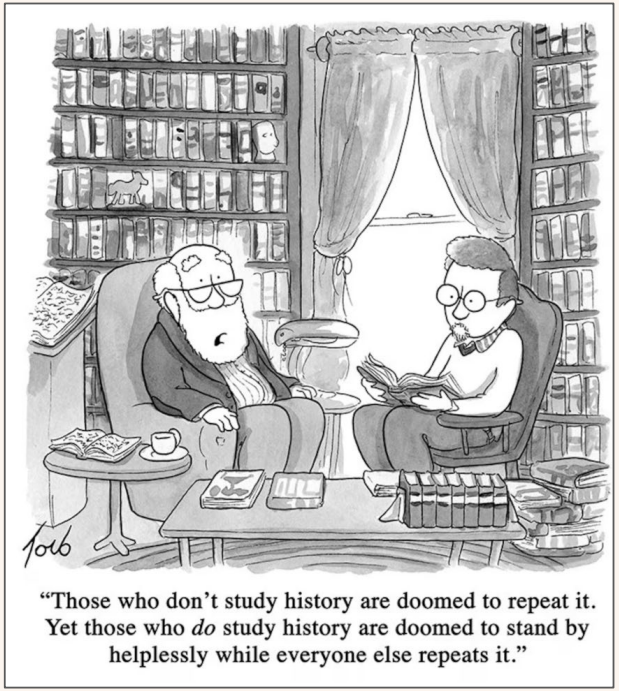
Racism is not only about ideas or prejudice. **It is about social rules and policies that make exploitation possible.**



The Turing Way project illustration by Scriberia. Zenodo. The Turing Way Community & Scriberia (2024)

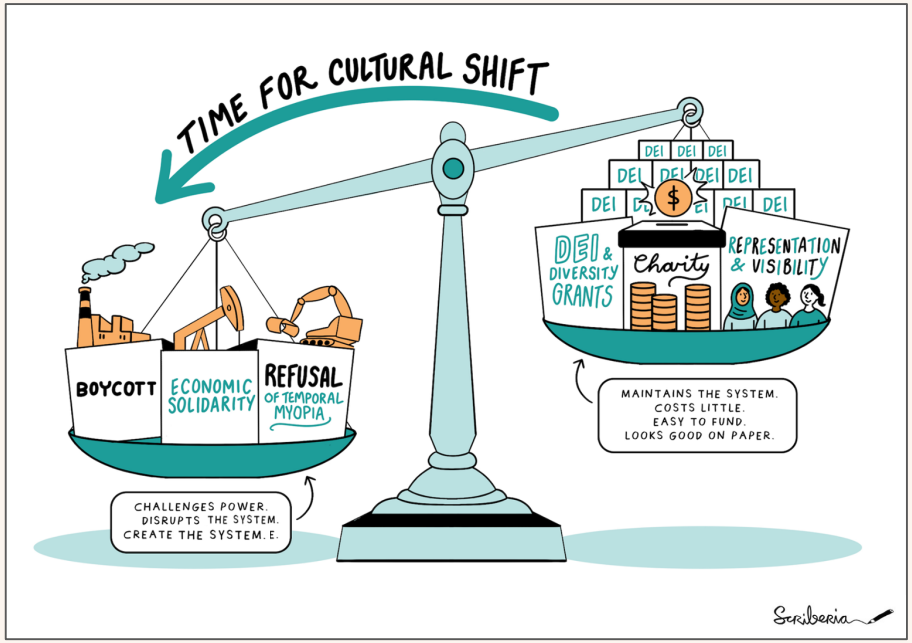
Summary & Reflections

- Open Science must be about creating conditions for equity and pluralism. This means:
  - First, OS is accountable for **how we shape the narrative**. When we frame inequity as a lack of skills or resources, **we direct interventions to the wrong places—treating symptoms rather than causes.**
  - Second, **we cannot reduce Open Science to a checklist of practices**. It is not a homogeneous set of tools to be applied universally.
- Finally, more studies are needed to explore:
  - What **foundational drivers** are we overlooking?
  - What is **the "invisible hand"** in the knowledge ecosystem?
  - Where should **interventions be directed**?
  - What forms of economic solidarity are more effective?



Cartoon originally appeared in the June 25, 2012 issue of Litro (UK).

“As academics, intellectuals and scholars, our role is to make these invisible structures visible, refusing to accept the current system as inevitable.”



“We understand that another world is possible—not because we believe in utopias, but because we refuse to accept dystopia as our only destiny” - Adam Lantz

The illustration is designed by Batool and drawn by a Scriberia artist - it can be re-used with citation under All illustrations can under CC-BY license.

Resources and extra readings:

- Rethinking Open Science Through Dependency Theory
- ***The Fragility of Responsibility: Norway's Transformative Agenda for Research***, Innovation and Business (Cham: Springer, 2024) by De Grandis and Blanchard.
- **The Divide: A Brief Guide to Global Inequality and Its Solutions** by Jason Hickel
- ***What is anti-racism? And why it means anti-capitalism by Kundnani***, A. (2021). Pluto Press
- INET's Young Scholars Initiative (YSI) e-book, Conversations on Dependency Theory

Videos:

- Short video: Why Foreign aid is myth: https://www.youtube.com/watch?v=PfnojfvwY5Q
- Playlist of videos from Ha-Joon Chang in Institute for New Economic Thinking https://www.youtube.com/watch?v=qaNTRFOkp0Q&list=PLmtuEaMvhDZbNVIDHA-MTVH0sLb5HP7Pn

