



Hacettepe University
Department of Information Management

iSchools



Open Access: The Key Driver To Address Grand Challenges

Ашық қолжетімділік:
үлкен мәселелерді шешуге арналған негізгі драйвер

Yaşar Tonta

Hacettepe University Department of Information Management

<https://yunus.hacettepe.edu.tr/~tonta/>

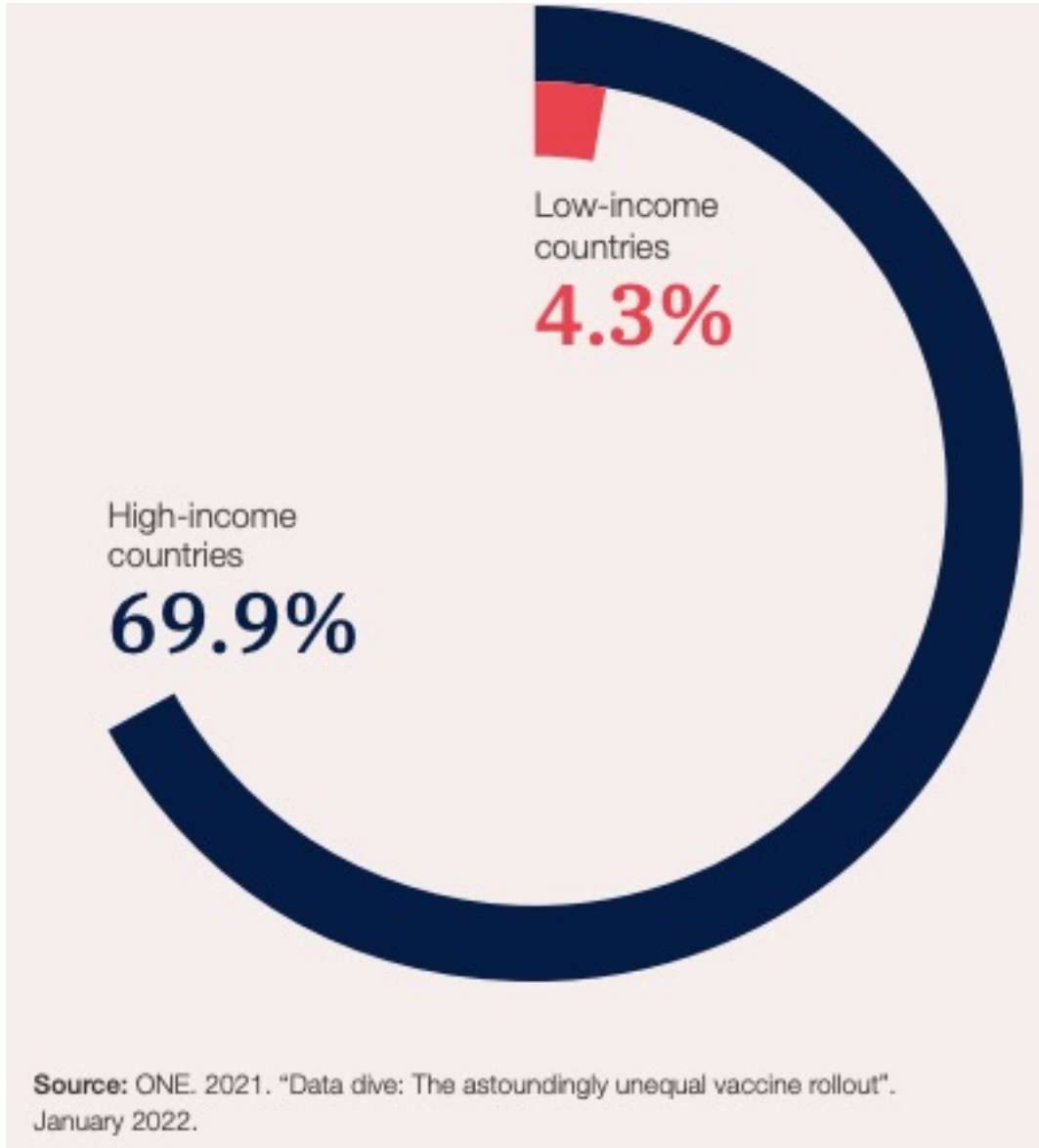
yasartonta@gmail.com

@yasartonta

Plan

- Covid 19 Vaccine and Open Access
- Knowledge as a Commons
- Relationship between Science and Property
- Vicious Circle of Affordability, Replication, and Functionality Crises
- The Way Forward: Open Science and Open Access

% of the Population Who Are Fully Vaccinated



Source: The Global Risks Report, 2022, p. 83.
https://www3.weforum.org/docs/WEF_The_Global_Risks_Report_2022.pdf

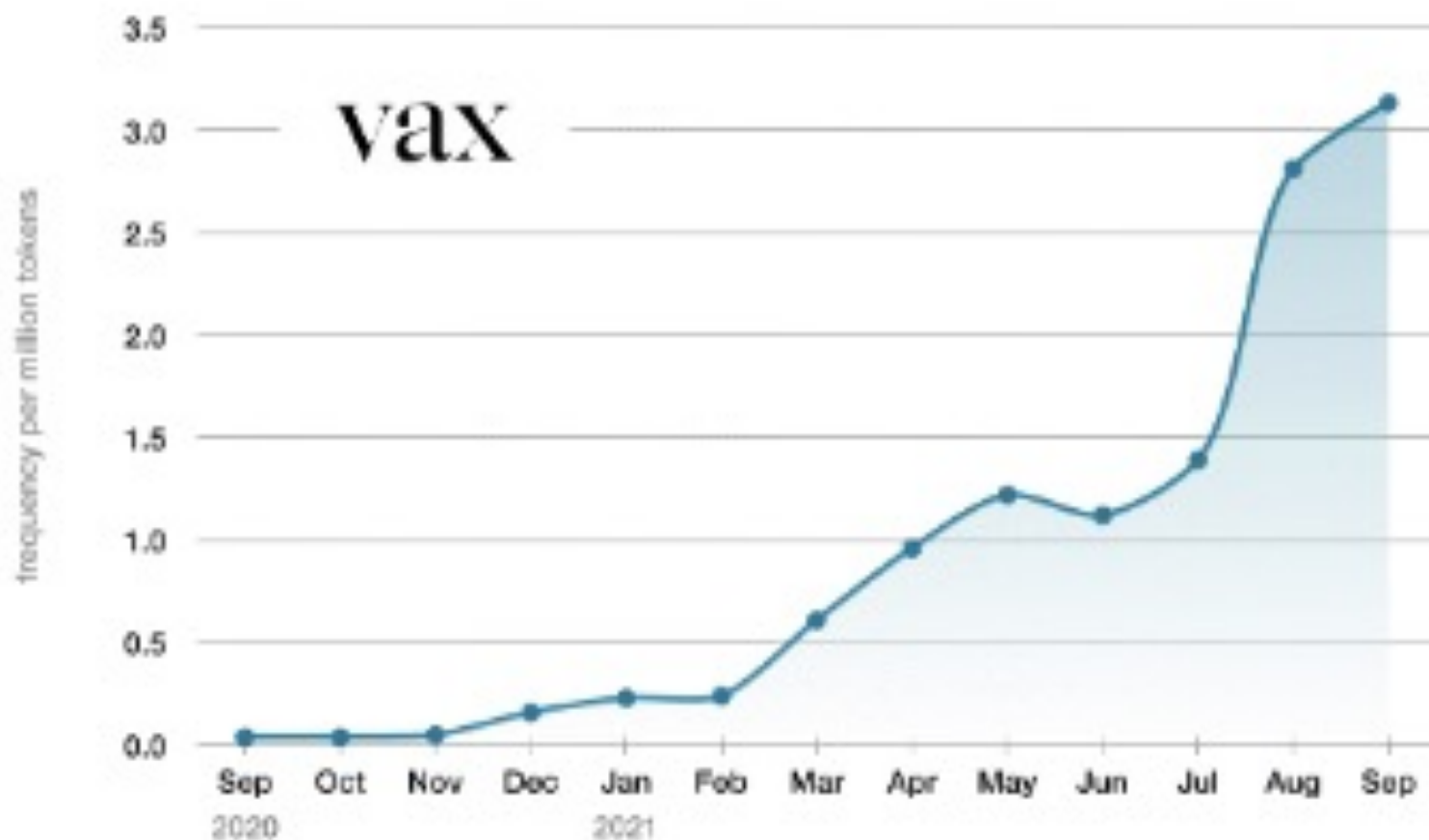
Open Access (OA) Week 2022: Open for Climate Justice

- . . .the impacts of the climate crisis are “not be[ing] borne equally or fairly, between rich and poor, women and men, and older and younger generations”
- It affects “communities’ abilities to produce, disseminate, and use knowledge around the climate crisis”
- “Openness can create pathways to more equitable knowledge sharing and serve as a means to address the inequities that shape the impacts of climate change and our response to them”



Source: <https://ae2022.acikerisim.org/>

Word of the Year 2021: “vax”



Source: <https://languages.oup.com/word-of-the-year/2021/>



Source: Shutterstock

Time it Took to Develop Vaccines for Diseases

Disease agent	Year identified	Year licensed (FDA)	Time to develop vaccine in year(s)
Smallpox	300 AD	1796	c . 2100
Haemophilus influenza	1933	1985	52
Influenza	1933	1945	12
Hepatitis A virus	1973	1992	19
Rotavirus	1973	1998	25
Ebola virus	1976	2019	43
HPV	1983	2006	23
COVID-19	2019	2020	<1

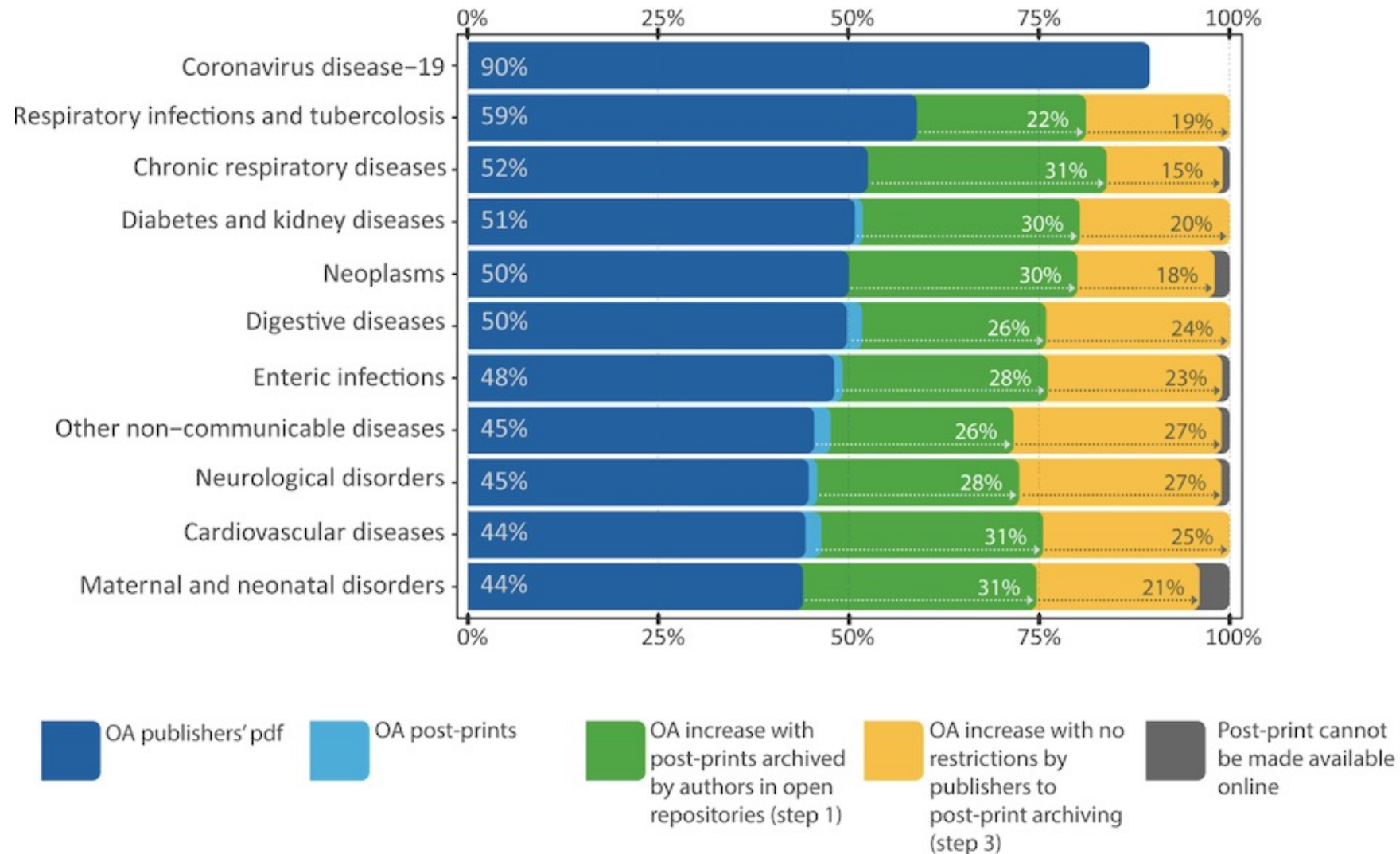


Open access logo, originally designed by
Public Library of Science

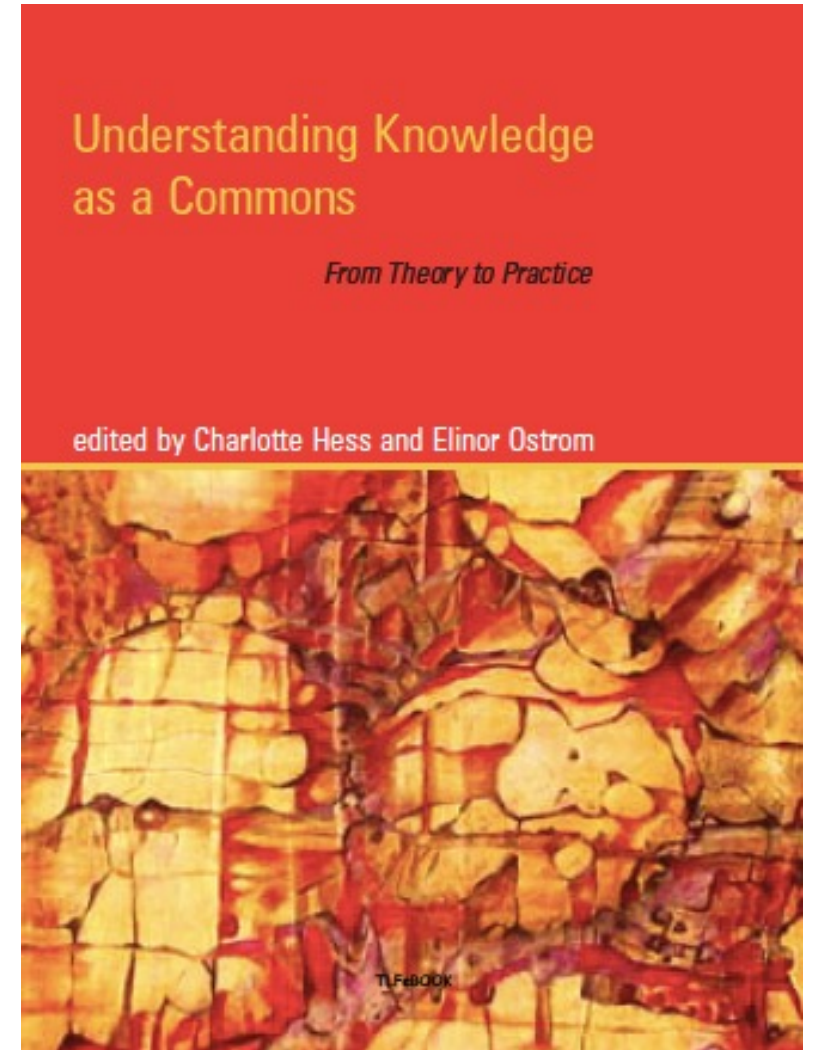
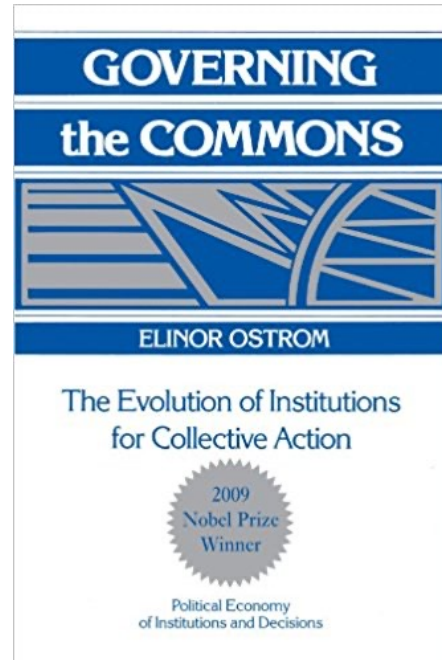
Source: Adapted from Table 1 in: Saleh, A. et al. (2021, July 26). Vaccine Development Throughout History. *Cureus*, 13(7):e16635. doi: 10.7759/cureus.16635.

Source: https://www.wikiwand.com/en/Open_access

OA Rates for Papers on Covid 19 & Other Diseases



Elinor Ostrom (1933-2012)



Source: <http://www.bollier.org/category/tags/commons-theory>

Knowledge as a “Commons”

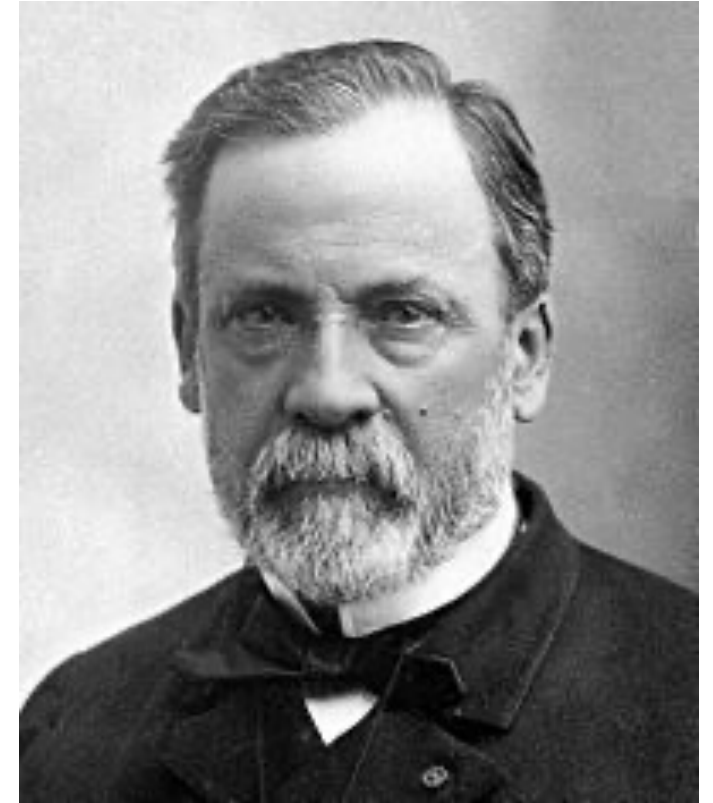
- The amount and value of knowledge is not diminished when shared (**non-subtractable, non-rivalrous**)
- Excluding a certain person or a group is difficult and costly (**non-excludable**)

Types of Resources

		SUBTRACTABILITY	
		<i>Low</i>	<i>High</i>
EXCLUDABILITY	<i>Difficult</i>	Commons Useful knowledge	Common-pool resources Irrigation systems
	<i>Easy</i>	Paid resources Licensed journals	Private resources Personal computers

Louis Pasteur (1822-1895)

“Science knows no bounds,
because knowledge belongs to
humanity, and it is the torch
that illuminates the world.”

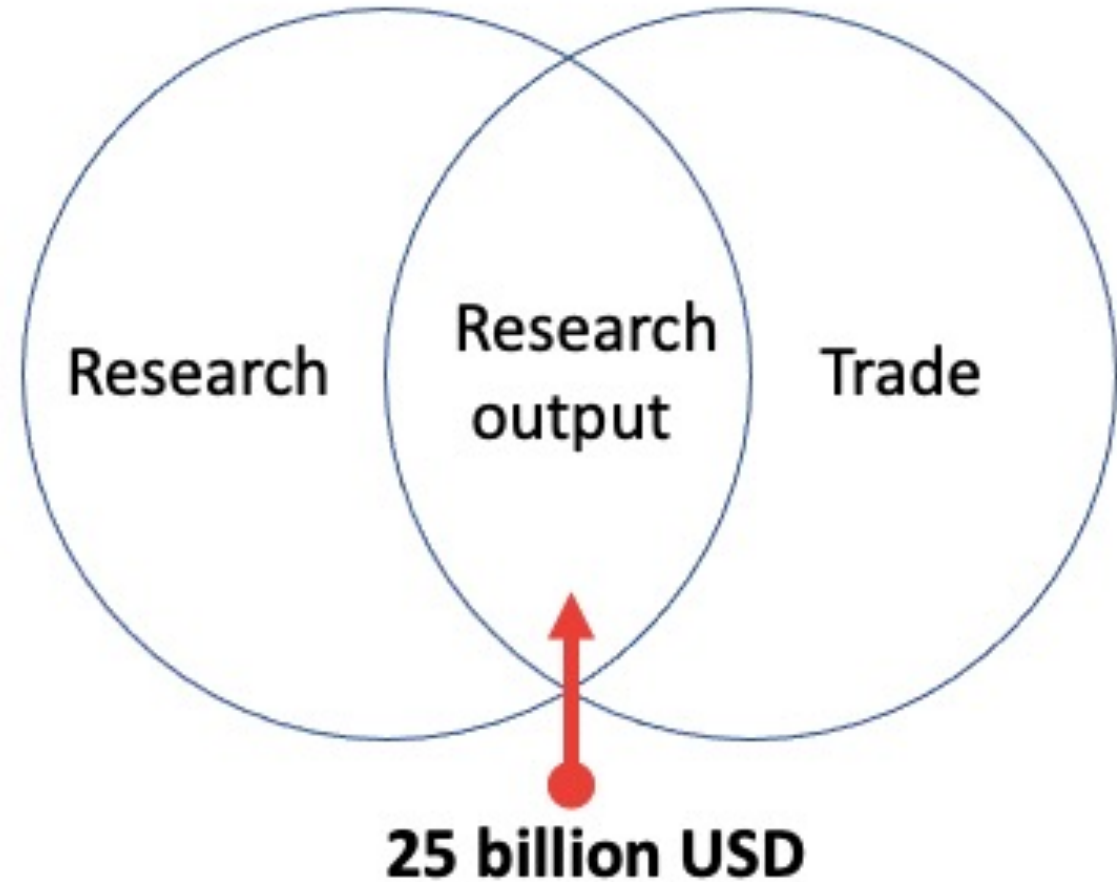


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Relationship between Science and Trade



paywallthemovie.com

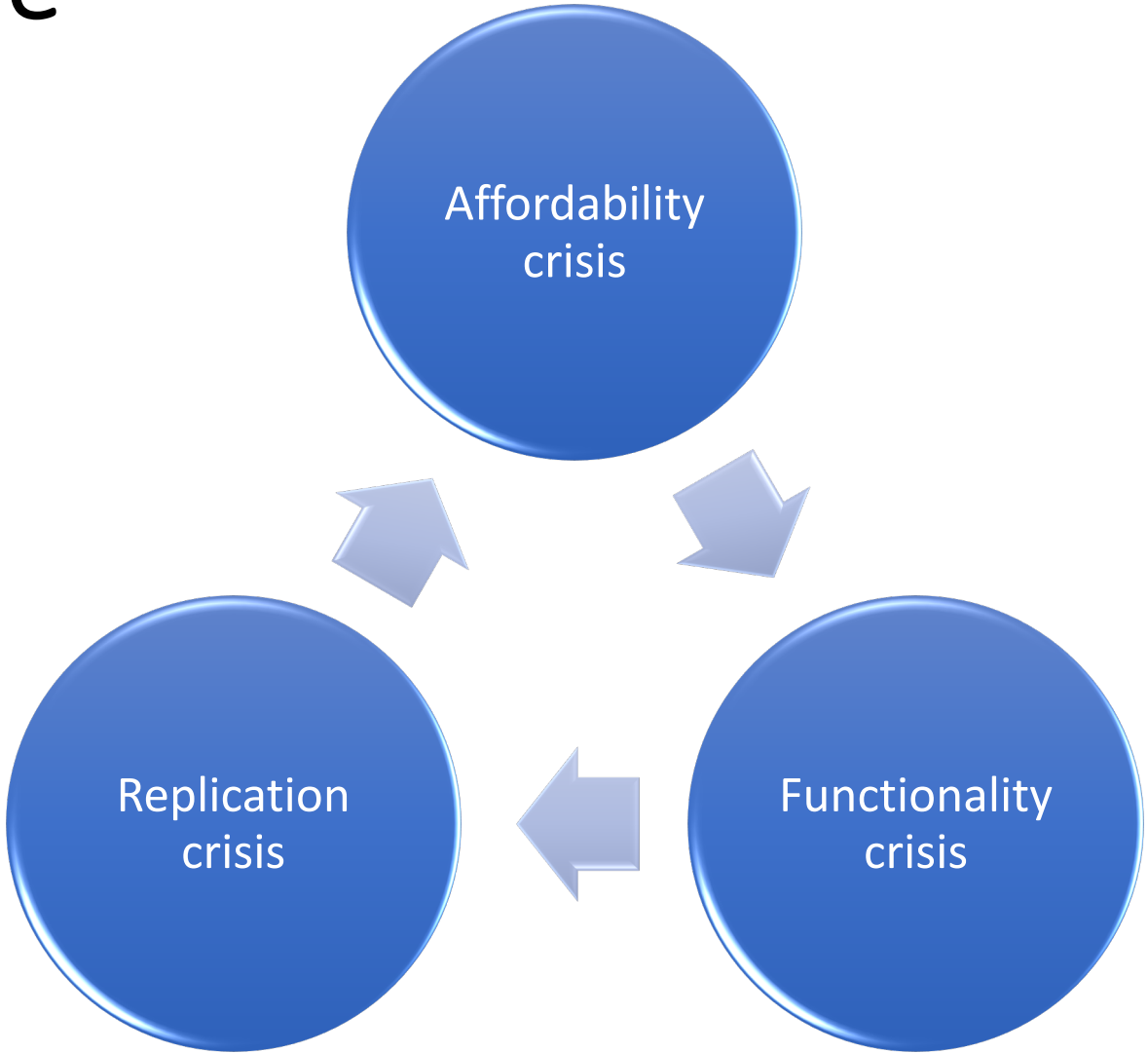


Source: Adapted from: Regazzi, J.J. (2015). *Scholarly communications: A history from content as king to content as kingmaker*. Rowman & Littlefield. p. 1

Relationship between Science and Property

- Intellectual property rights (IPR) cause a decrease of 30% in scientific research and product development
- Curtails the knowledge use and innovation creation
- Traditional IPRs based on copying hinder the use of digital information
- How should IPR work for digital commons (scientific knowledge and inventions) that can be shared with others without diminishing their value and are not restricted to use of a particular group?

Vicious Circle

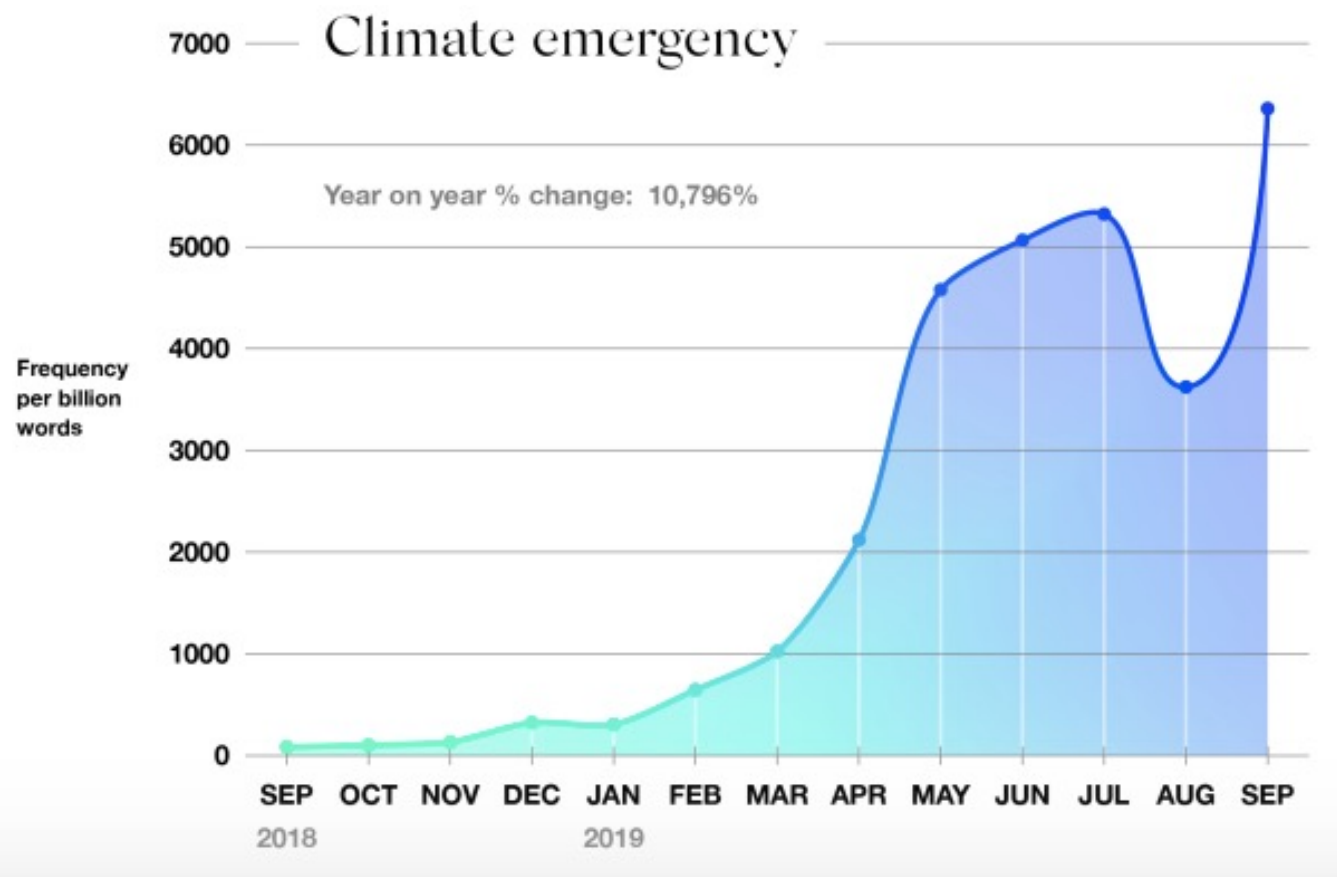


Source: Brembs, B. et al. (2022). Replacing academic journals. <https://zenodo.org/record/5793611>

OA thru Transformative Agreements vs OA Archives

- TAs (Licensed access to journals + OA publishing):
 - “shift costs from authors to institutions”
 - provide additional revenues to publishers
- OA Archives (aka “Green Road”)
 - “does not risk increasing the costs that should be paid by institutions to publishers”
 - “does not suffer from the uncertainties and latency of negotiation processes”
 - “poses no equity problem, whereas transformative agreements can be more or less advantageous, depending on the negotiating strength of institutions or their consortia with the publishers”

Word of the Year 2019: “climate emergency”



Source: <https://languages.oup.com/word-of-the-year/2019/>

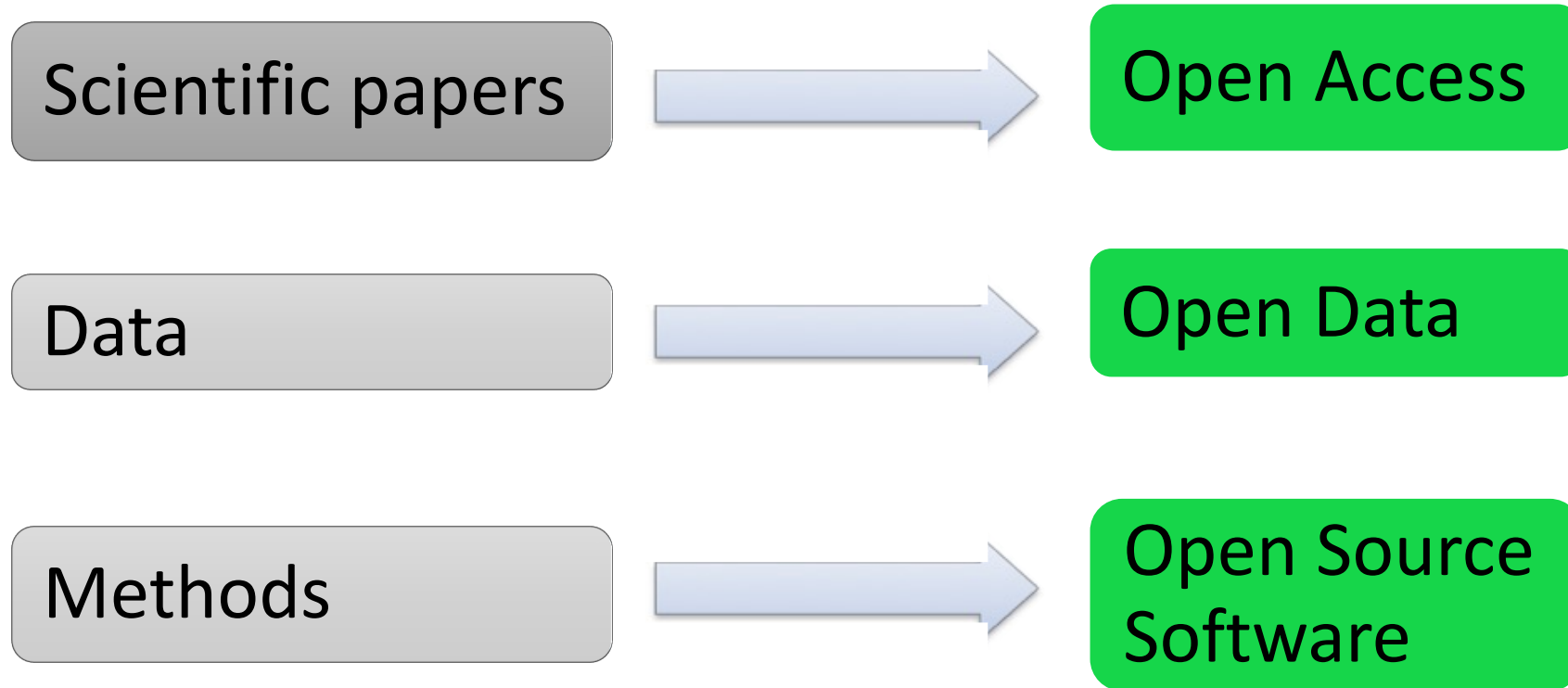


Source: Shutterstock

“Identify the most severe risks on a global scale over the next 10 years”



The Way Forward: Open Science





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