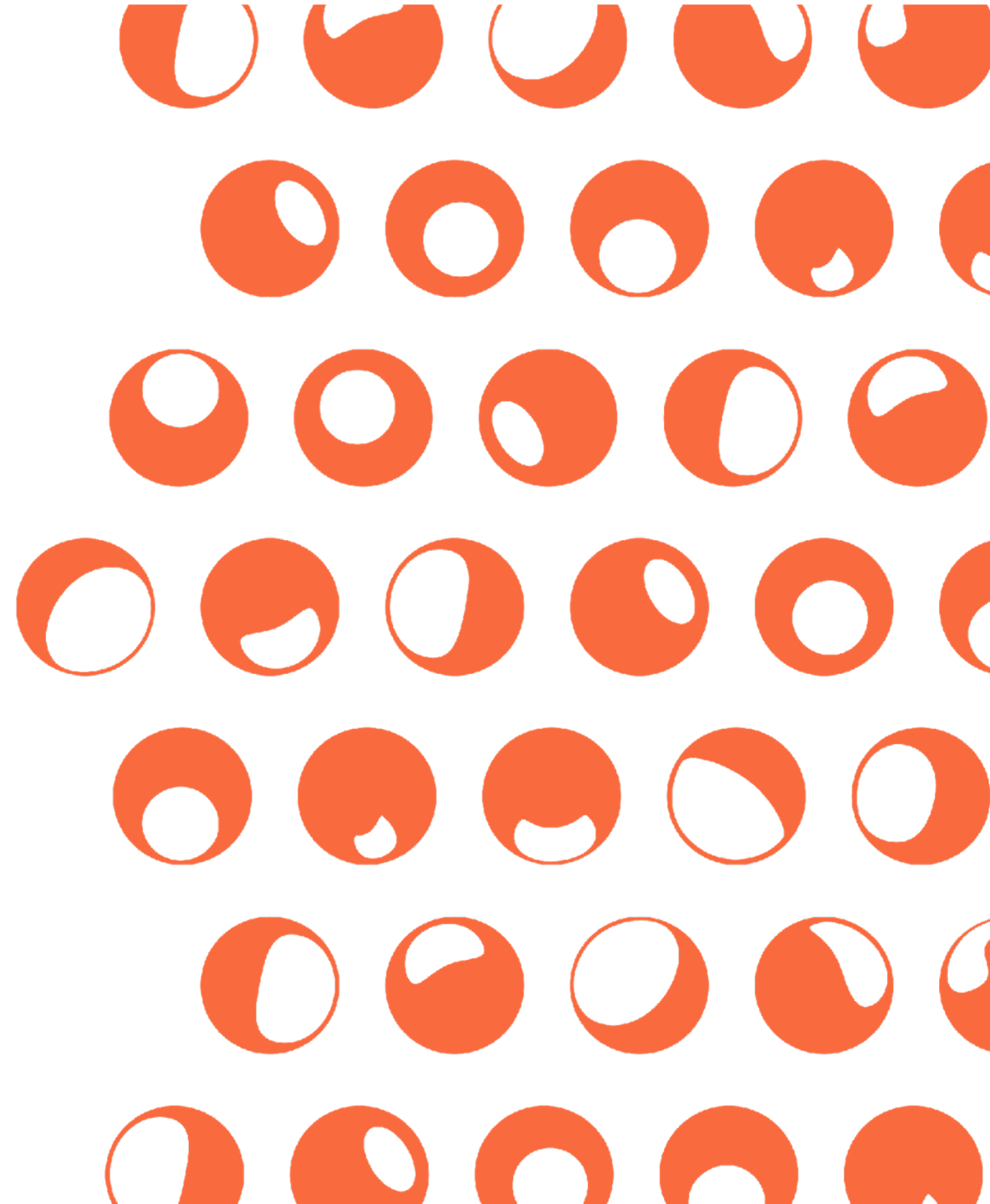




**COHERENT
DIGITAL**

Metrics & Incentives

Stephen Rhind-Tutt
Fiesole 2025



How do we differentiate?

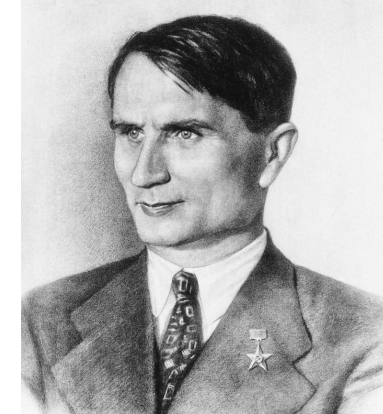


Jennifer Doudna & Emmanuelle Charpentier

Co-invented CRISPR gene editing

Impact

- Enable precise, fast, and affordable editing of DNA
- **Transformed medicine, agriculture, and research**



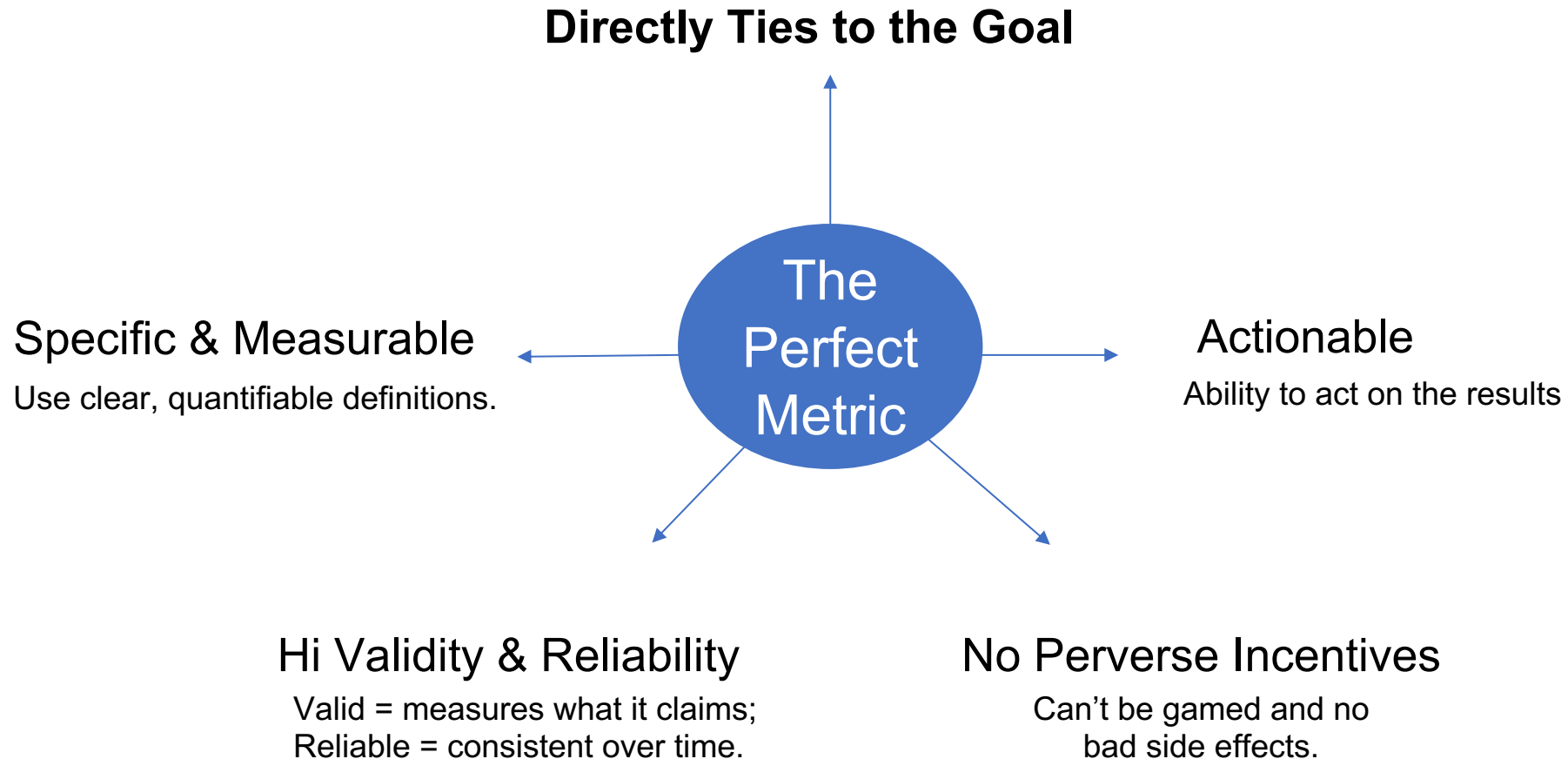
Trofim Lysenko

Rejected genetics and promoted pseudoscientific agricultural ideas

Impact

- His policies contributed to **massive crop failures** and famine in the USSR.
- Silenced and persecuted real scientists like Nikolai Vavilov.

There's no perfect metric – it's a balance



What is the core goal of research?

Purpose	Description
Advance Knowledge	To build on what we already know and push the boundaries of understanding.
Preserve Knowledge	To document science, culture, history, and thought for future generations.
Understand Reality	To discover how things work—whether it's nature, society, or the mind.
Understand and Celebrate Humanity	To discover, understand and celebrate what it means to be human
Inform Decisions	To provide evidence for policies, education, business, and personal choices.
Challenge Assumptions	To question existing beliefs, theories, or systems.
Solve Problems	To address challenges in health, technology, environment, economics, etc.



solve real-world problems and advance humanity

Funder Metrics

Return on Investment (ROI)

Real World Impacts on Policy or Society (e.g. Policy Changes)

Commercial Outcomes

Research Outputs (publications, data sets, patents)

Citation Impact of Funded Research



Core Goal

Example: Funding humanities digitization



UCLA

- Project to document places and communities in Los Angeles
- Practical benefits to the urban landscape and communities.
- Collaborative and learning focused

Traditional Metrics

- # of items digitized
- # of items preserved
- Website usage

Potential Metrics

- Community engagement
- Change in Urban Spaces
- Student ratings

Researcher Metrics

Number of Patents and Inventions

Funds raised

Awards

Citation Count (h-index)

Altmetrics (e.g., social media, news mentions)

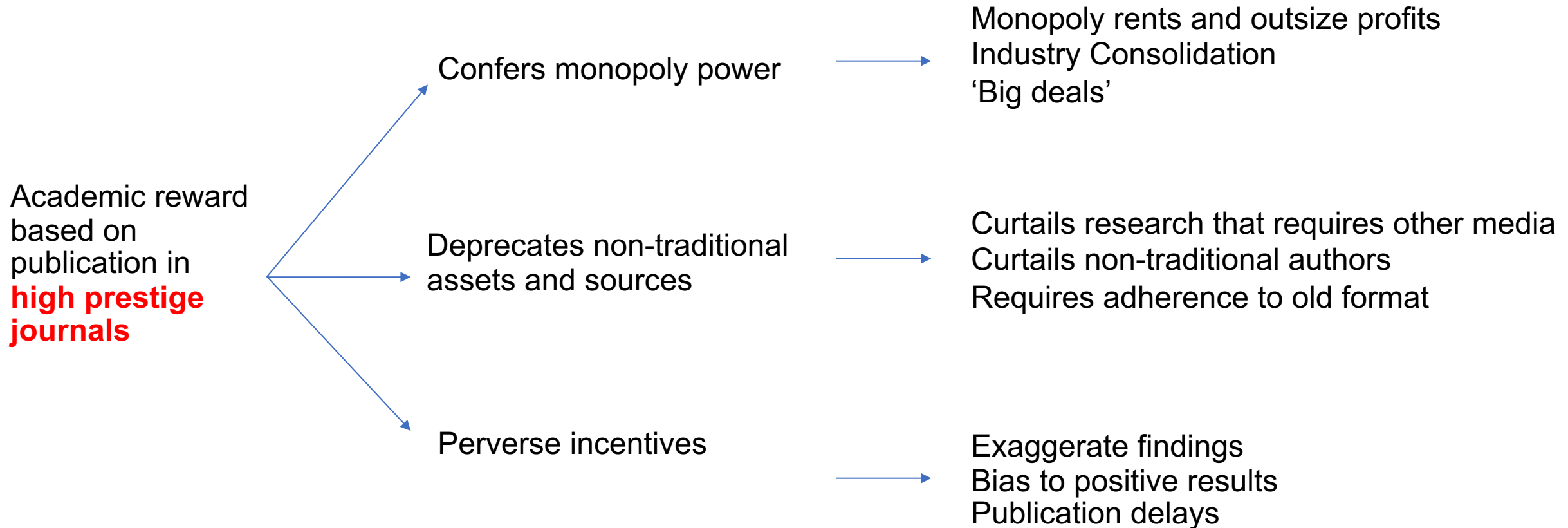
Speaking engagements

Number of Publications

Prestige of Publications



Example: Prestige Journals



Example: A YouTube Academic



Károly Zsolnai-Fehér

- Researcher in AI
- Multiple awards, grants, and speaking engagements
- Created *Two Minute Papers*, summarizing research

Traditional Metrics

- Speaking
- Funds raised
- # of citations
- h-factor

Potential Metrics

- Website traffic
- 1.58 million subscribers
- 200,000 views per video
- Syllabus citations

Library Metrics

User Satisfaction

of unique high value items preserved

Collection Size and Growth

Instruction and Reference Activity

Usage Stats. (e.g., downloads/checkouts)

Cost per download



Example: Institutional Repository



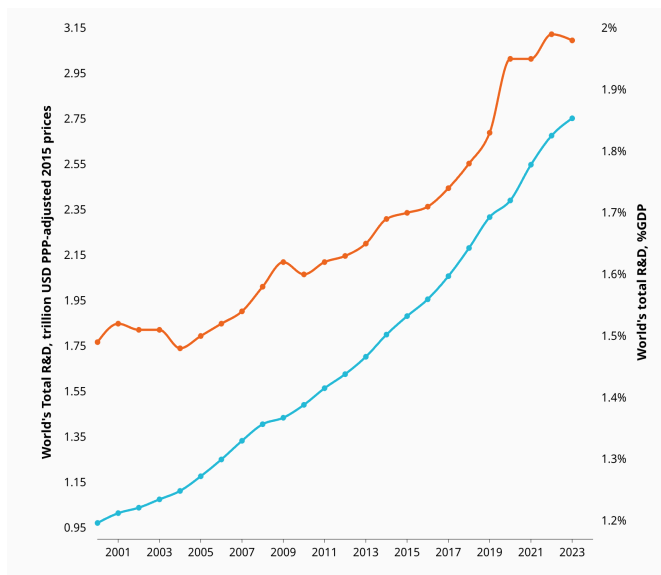
Traditional Metrics

- # of items digitized
- # of items preserved
- # of items used

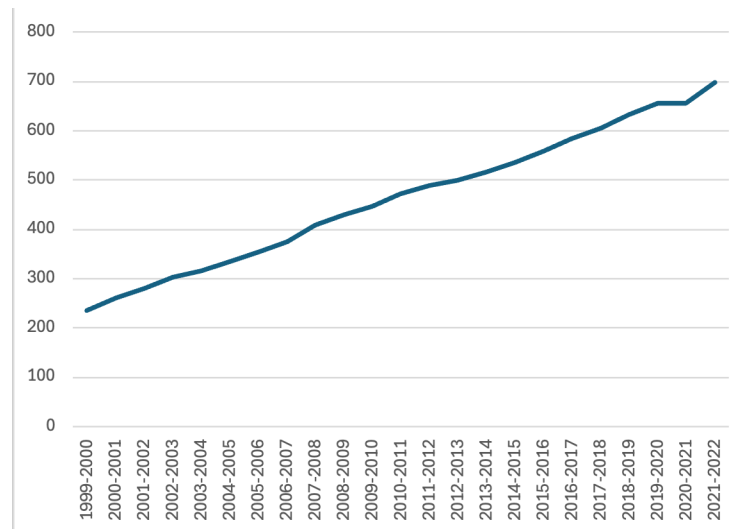
Potential Metrics

- # of unique items
- Community engagement
- Saving APCs

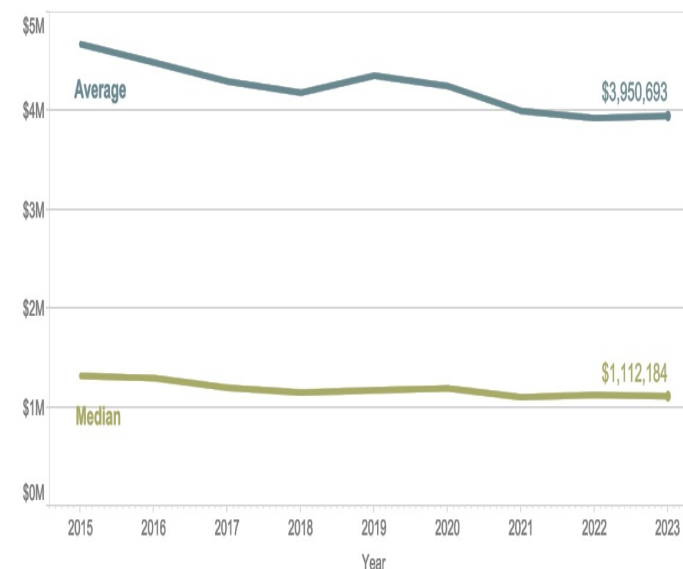
The metrics we choose help drive the funding we get



Global R & D
175% growth
(2000-2022)



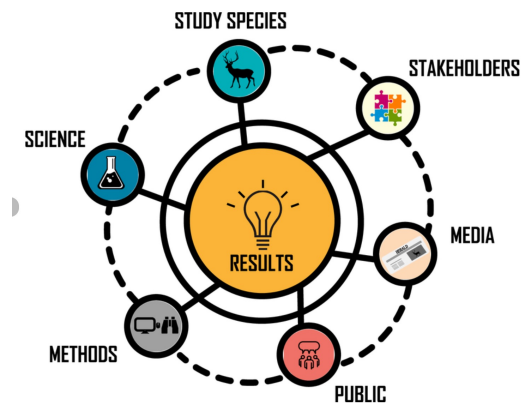
US Higher Ed. Expenditure
160% Growth
(2000-2022)



US ARL Library Expenditure
Flat/Declining
(2015-2023)

Why isn't there more spending on libraries?

Changing goals require changing metrics



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?

Book & Journal
focused metrics

Impact
metrics