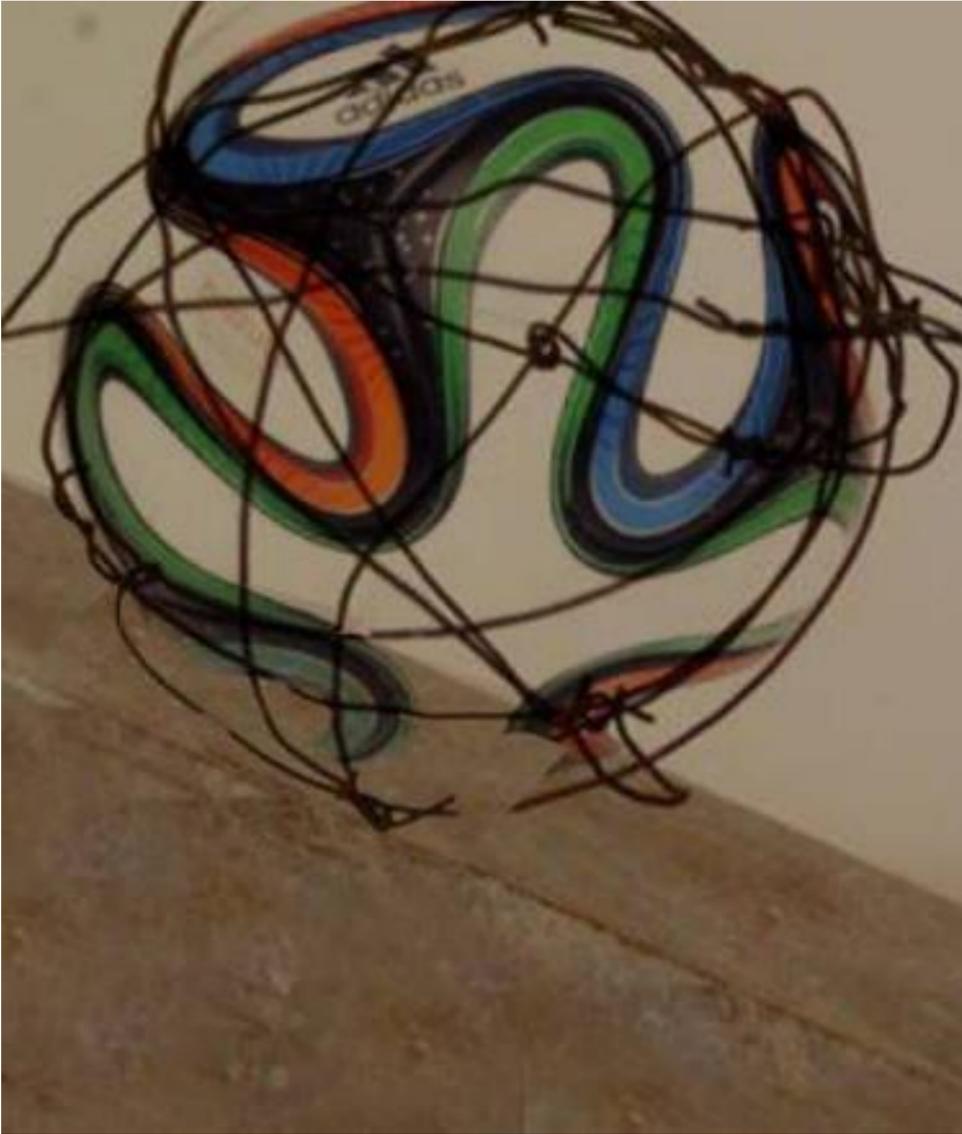


THE ASSESSMENT OF THE  
QUALITY OF  
SCIENTIFIC PUBLICATIONS:  
CONVENTIONAL  
AND ALTERNATIVE METRICS

José Antonio Cerdón-García

Grupo E-Lectra

Universidad de Salamanca



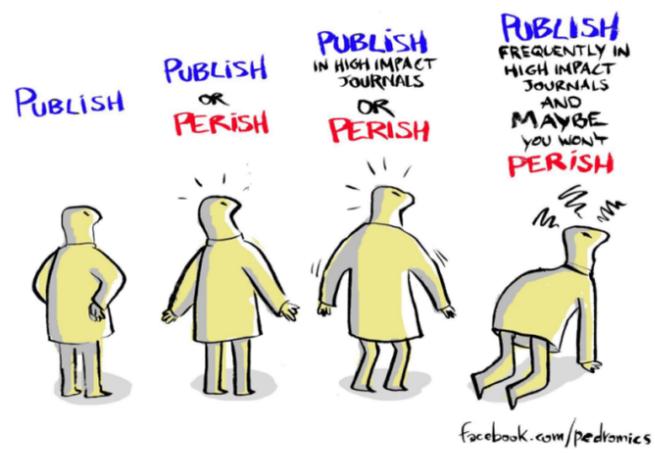
## THE SISYPHUS CONDITION

- For teachers, and researchers in general: writing is part of their DNA.
- Research-Publication binomial
- Publication-Research?
- There is no downtime: when a contribution is finished, you have to start planning the next one.



## SCIENTIFIC POLYGRAPHY

- In 2020, researchers around the world published nearly three million articles.
- Articles are multiplying in geometric proportion. Researchers, in arithmetic proportion.





## EVALUATION NECESSITY

- Intrinsic character evaluation (scientific micro-media) and
- Evaluation of extrinsic character (editorial micro-medium).
- Normative evaluation (institutional micro-medium: sexenios, accreditation, etc.)

## EVALUATION OF SCIENTIFIC PUBLICATIONS

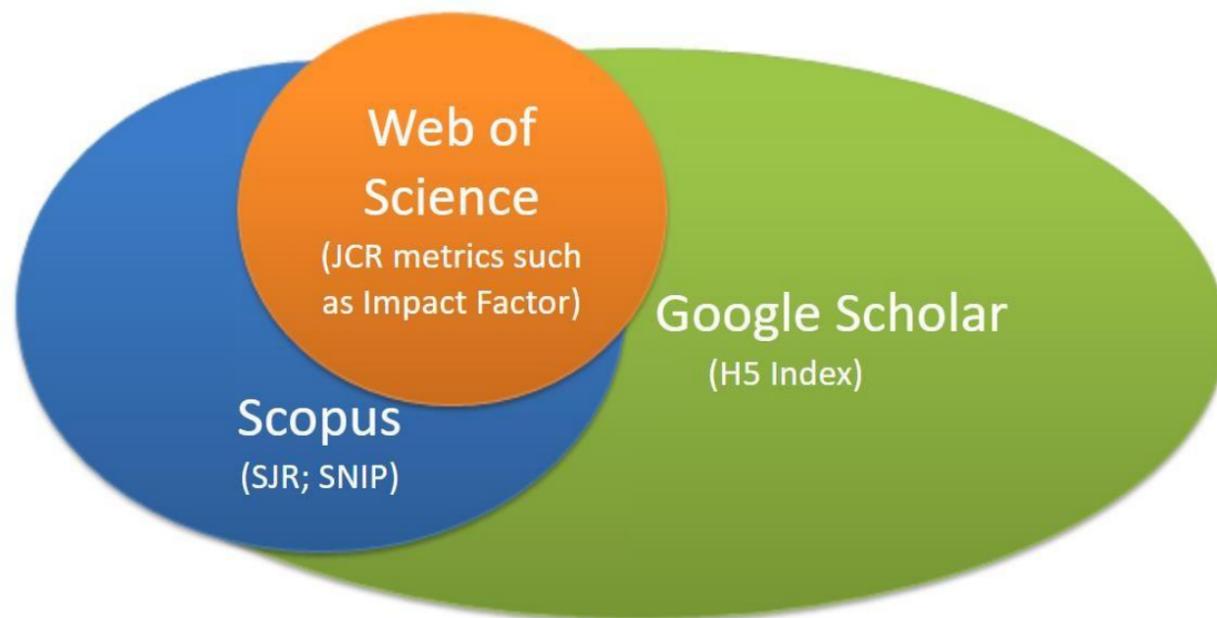


- Who is interested?
- **The researchers** (the quality of the information and easy access allows adequate distribution and academic recognition).
  - **The institution** (consolidation of its scientific policies and strategies).
  - **The society** in general for its requirements of accredited quality scientific information.

DO WE MEASURE  
PUBLICATIONS WELL?

## TRADITIONAL METRICS

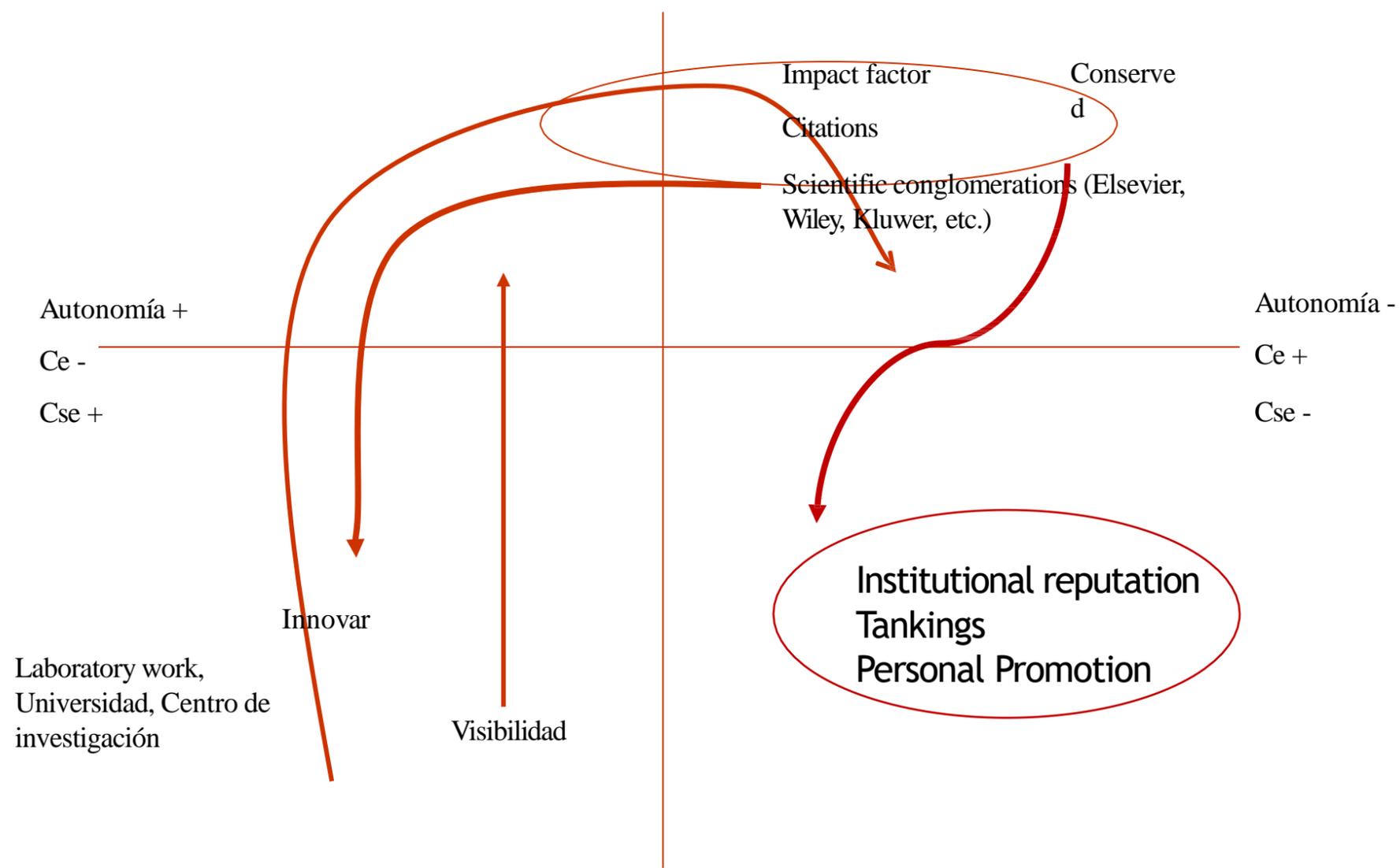
- Everyone knows the benchmarks for measuring the quality and impact of scientific publications: Web of Science and Scopus (2004). Together with Google Scholar (2004) they reigned as the "Big 3" citation indexes for about a decade, more or less unopposed.



# THE IMPACT

- Impact indicators measure the quality of a journal in terms of the number of citations it receives.
- They start from the premise that citations are the most important vehicle for the discovery, dissemination and evaluation of all scholarly knowledge.
- Since the number of scholarly publications is estimated to double every nine years, citations and the systems that track them allow researchers and the public to keep abreast of significant developments in any field.
- But the current system of scholarly communication inadequately exposes the networks of knowledge that already exist in our literature.

# Visibilidad de la investigación: el camino hacia la reputación y la promoción



CE: Capital económico / Cse: Capital simbólico específico / CC: Capital cultural

# NEW METRICS



**Dimensions**

From Idea to Impact —  
The Next Evolution in Linked  
Scholarly Information

Grants  
Data Sets  
Publications  
Online Mentions  
Clinical Trials  
Patents  
Policy documents

Dimensions covers millions of research publications (journal articles, chapters, books, conference proceedings and preprints) connected by more than 1 billion citations, as

The image shows a network diagram with a central purple hexagon labeled 'Publications' and a mouse cursor pointing to it. Surrounding it are other hexagons: 'Grants' (yellow), 'Data Sets' (pink), 'Online Mentions' (blue), 'Clinical Trials' (teal), 'Patents' (green), and 'Policy documents' (light green). Lines connect these nodes, representing a network of scholarly information.

- Around 2015 and in the years since, a new generation of citation indexes began to emerge to challenge the Big 3 in a variety of ways.
- Digital Science, launched Dimensions (2018), which poses a different model to Scopus and Web of Science in the realm of citation evaluation/bibliometrics, just as Scopus, at the time, was a challenge to the old Web of Science in 2004.

# NEW METRICS

- On the other hand, there was the rise of more "open" citation indexes. Microsoft Academic (2016), not only uses web crawling technologies such as Google Scholar, but applies the latest in natural language processing (NLP) / "semantic" technologies, and makes the dataset called Microsoft Academic Graph (MAG) available to researchers under open licenses.



# RESEARCH CONTEXT

- One of the main focuses in some of the new citation indexes is the push toward contextualizing research by tracking links beyond links between articles or even conference papers and books.
- For example, Digital Science's Dimensions tracks links between paper publications, grants, funders, clinical trials, datasets, patents, policy papers, etc.





## SEMANTIC SCHOLAR

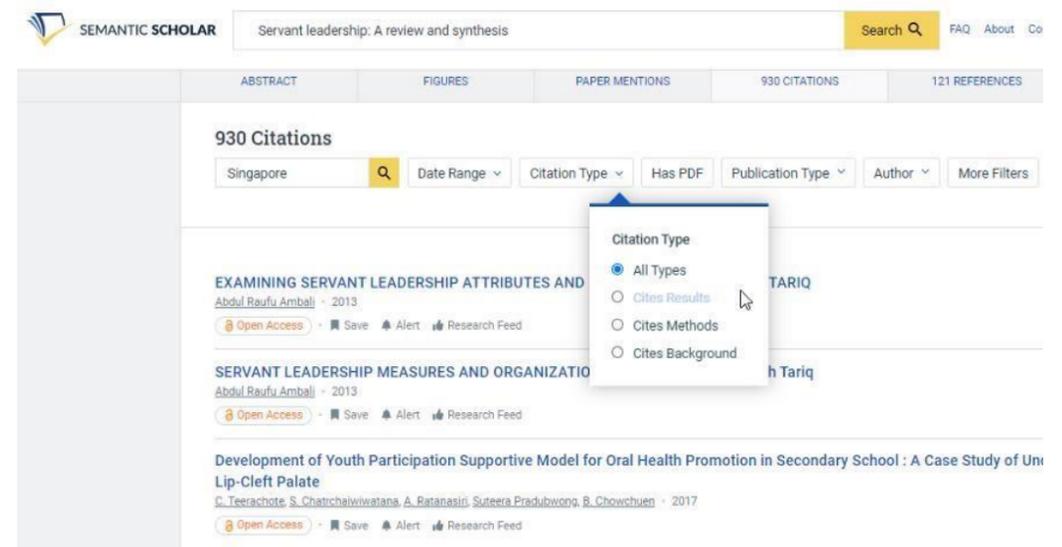
A free, AI-powered research tool for scientific literature

## NEW METRICS

- Semantic Scholar (another Microsoft-linked project) does the same by linking articles with preprints, slides, videos, presentations, code libraries and even online mentions (tweets, blog posts, news).

# NEW METRICS

- Rather than simply counting citations, Semantic Scholar uses NLP techniques to typify citations based on whether the citation refers to methodology, results or background, and also whether a reference in an article is highly influential to the article.

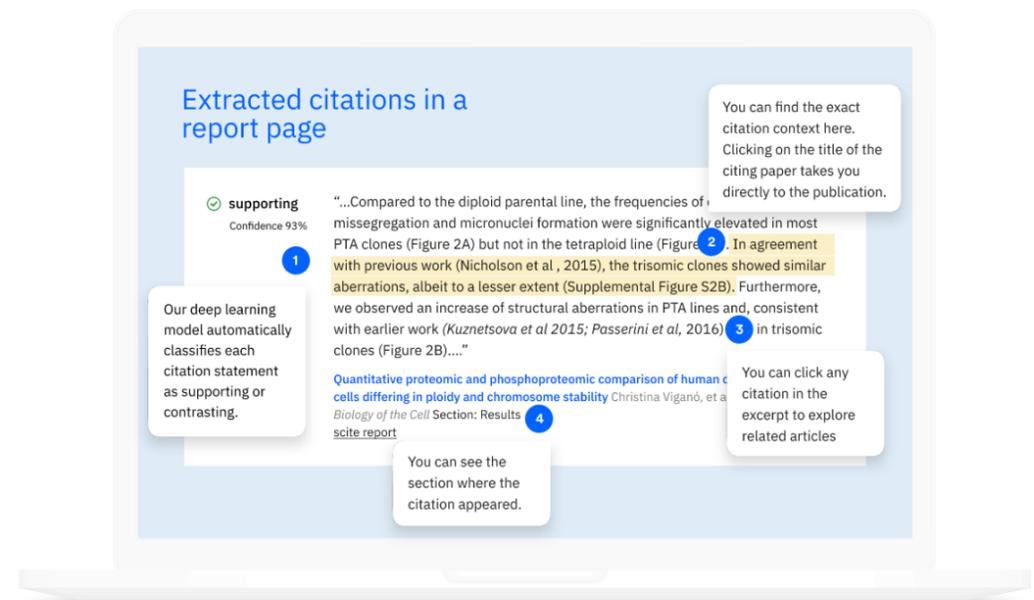


The screenshot displays the Semantic Scholar interface for the article "Servant leadership: A review and synthesis". The top navigation bar includes the Semantic Scholar logo, the article title, a search bar, and links for "FAQ", "About", and "Co". Below the navigation bar, there are tabs for "ABSTRACT", "FIGURES", "PAPER MENTIONS", "930 CITATIONS", and "121 REFERENCES". The "930 CITATIONS" tab is active, showing a list of citations. A dropdown menu for "Citation Type" is open, showing options: "All Types" (selected), "Cites Results", "Cites Methods", and "Cites Background". The list of citations includes:

- EXAMINING SERVANT LEADERSHIP ATTRIBUTES AND...  
Abdul Raufu Ambali · 2013  
Open Access · Save · Alert · Research Feed
- SERVANT LEADERSHIP MEASURES AND ORGANIZATIO...  
Abdul Raufu Ambali · 2013  
Open Access · Save · Alert · Research Feed
- Development of Youth Participation Supportive Model for Oral Health Promotion in Secondary School : A Case Study of Uni...  
Lip-Cleft Palate  
C. Teerachote, S. Chatchaiwattana, A. Ratanasiri, Suteera Pradubwong, B. Chowchuen · 2017  
Open Access · Save · Alert · Research Feed

# NEW METRICS

- Another system is the one developed by Scite (2018), which allows contextualizing research by describing citation relationships. The interesting thing about Scite is that it categorizes citations according to their nature (supportive, discussion, or neutral)



# CITATIONS AND RANKINGS

- Because the use of Scopus and Web of Science as bibliometric sources dominates university rankings (e.g., the THE (Times Higher Education) and QS (World University Rankings) rankings have generally used only Scopus or Web of Science in previous editions), it is believed that the use of these citation indexes alone may not be sufficient to obtain a true picture of research quality and performance.

	N	% of citations found (relative to N)					
		Google Scholar	Microsoft Academic	Scopus	Dimensions	Web of Science	COCI
Humanities, Literature & Arts	89,337	87%	39%	31%	29%	25%	18%
Social Sciences	406,661	88%	47%	40%	36%	33%	20%
Business, Economics & Management	235,338	88%	47%	34%	32%	29%	19%
Engineering & Computer Science	691,164	88%	63%	61%	54%	48%	30%
Physics & Mathematics	317,320	90%	57%	64%	59%	59%	36%
Health & Medical Sciences	1,001,507	85%	63%	59%	58%	51%	27%
Life Sciences & Earth Sciences	571,817	89%	68%	64%	63%	60%	32%
Chemical & Material Sciences	253,990	90%	69%	75%	72%	72%	32%

## ALTERNATIVE METRICS

- Alternative metrics are related to the visibility of an author or a work.
- They are established through indicators of very different types, and with different levels of standardization.
- They range from traditional metrics, related to citations, to projections of a work through social networks or recommendation systems.
- They measure, above all, the degree of interest aroused by a research work.



Usage, Captures, Mentions,  
Social Media and Citations  
beyond Scopus.



[see details](#)

### Citations

CrossRef - Citation Indexes: **25**

### Usage

Bitly - Clicks: **87**  
EBSCO - Abstract Views: **6997**  
EBSCO - Full Text Views: **3804**  
EBSCO - Link-outs: **2251**  
EBSCO - Downloads: **2**

### Captures

CiteULike - Readers: **1**  
EBSCO - Exports-Saves: **542**  
Mendeley - Readers: **289**  
Mendeley - Readers: **5**  
Mendeley - Readers: **2**

### Citations

Citation Indexes: **25**

### Usage

Clicks: **87**  
Abstract Views: **7105**  
Full Text Views: **3931**  
Link-outs: **2280**  
Downloads: **3**

### Captures

Readers: **302**  
Exports-Saves: **550**

### Mentions

Blog Mentions: **9**  
News Mentions: **43**  
Comments: **113**

### Social Media

Shares, Likes & Comments: **2284**  
Tweets: **425**

### Mentions

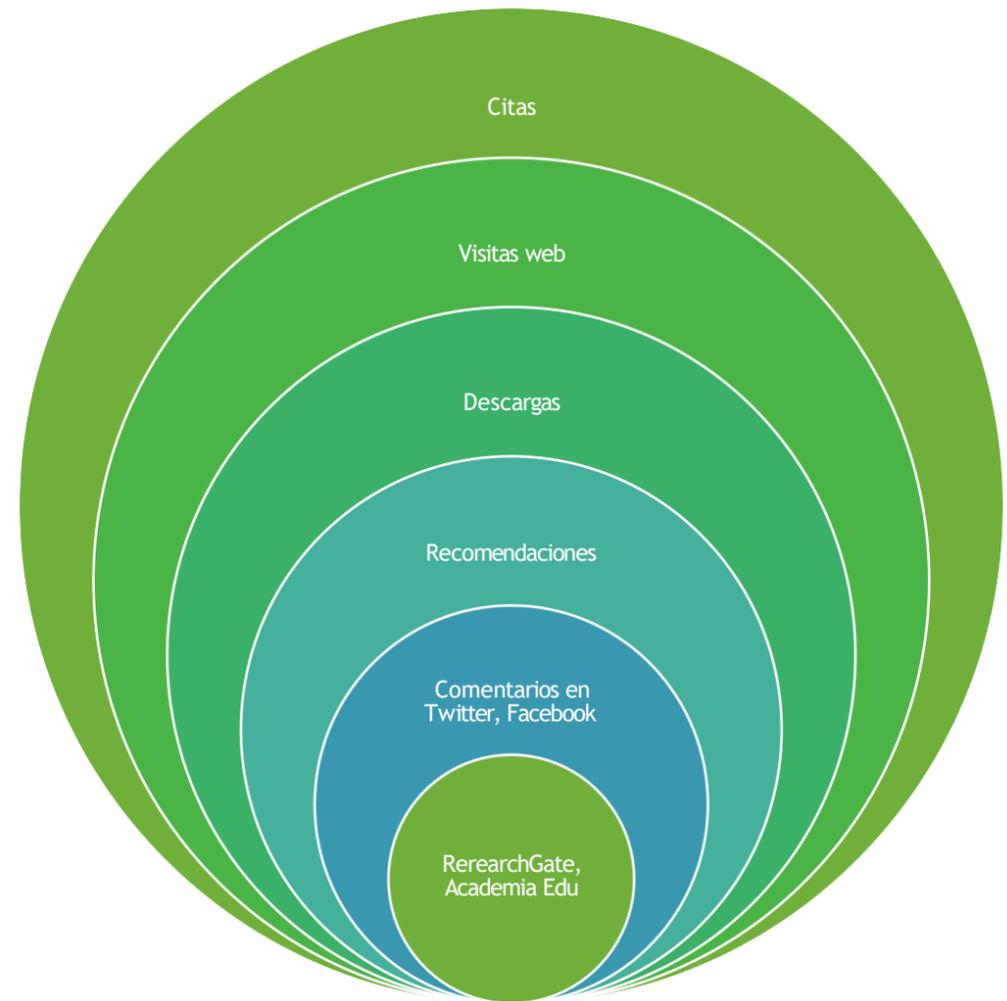
Blogs: **9**  
News: **43**  
Reddit - Comments: **71**  
Reddit - Comments: **29**  
Reddit - Comments: **8**  
Reddit - Comments: **4**  
Reddit - Comments: **..**

### Social Media

Facebook - Shares, Likes & Comments: **2284**  
Twitter - Tweets: **433**

# ALTERNATIVE METRICS

- There has been a shift from the peripheral (contextual and sociological data) to the personal (how one reads, how one intervenes in research).

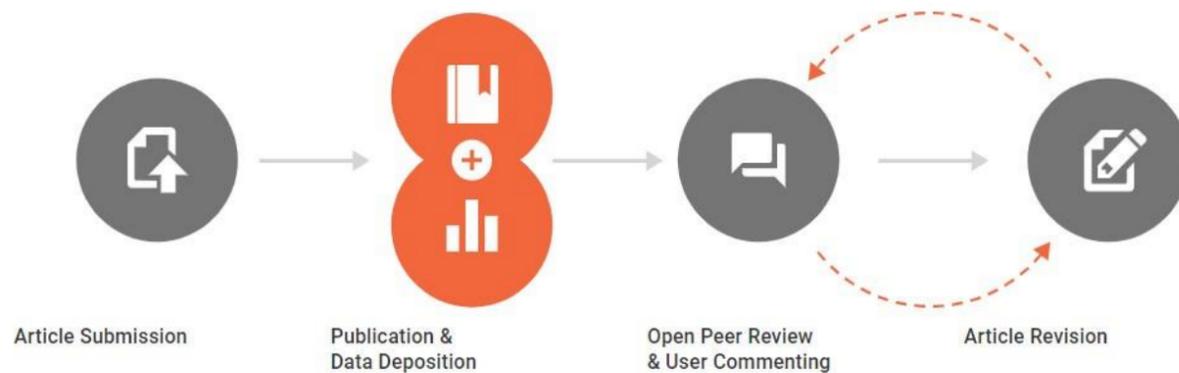


# OPEN REVIEWS (TRANSPARENCY OF THE PROCESS): AGAINST THE HELPLESSNESS OF RESEARCHERS

## F1000 RESEARCH

### Our Publishing Processes

For Articles



countries worldwide. Such geographical extension is already a sign that DSR is a global phenomenon, which can be of particular interest for research acknowledging how the global perspective that many young citizens have (Facebook IQ 2019; Wattpad 2018) is relevant for literary history, literacy pedagogy, and communication studies.

### Why study digital social reading?

There are two main reasons to critically investigate DSR. First, because “the meaning of a work (artistic, literary, philosophical, etc.) changes automatically with each change in the field within which it is situated for the spectator or reader” (Bourdieu 1993, 31-32) and nowadays the reading field has changed drastically for many readers – due to technological and social transformations. Second, because every reading act is valuable and contributes to the personal growth of the reader, both with respect to literacy and cognitive-emotional skills. Sometimes, during presentations and in peer-reviews, I found scholars and students stating with confidence that books published online are quite shallow, and social media celebrities who talk about literature are not worth to be considered when discussing the interpretation of books. On such occasions I realize how judgments of superficiality are often the outcome of a superficial analysis (or sometimes of a refusal to do an analysis at all).

## MIT PRESS

- 2 Iuri Moscardi, Federico Pianzola
- Iuri Moscardi 4 months ago  
I think that this is a very relevant point to highlight: this aspect could indeed link the studies on DSR with studies and other fields of research (I am thinking, for example, to the discussions on World Literature in Comparative Literature departments in the US, relying on literary, philosophical, and sociological assumptions and research).
- Federico Pianzola 4 months ago  
Yes. I think in the 21st century literature is always enmeshed with the digital. Literary studies can't avoid anymore to employ and teach digital methods and digital culture. Cf. Vadde, A. (2021). Platform or Publisher. *PMLA/Publications of the Modern Language Association of America*, 136(3), 455-462. doi:10.1632/S0030812921000341
- Login to discuss

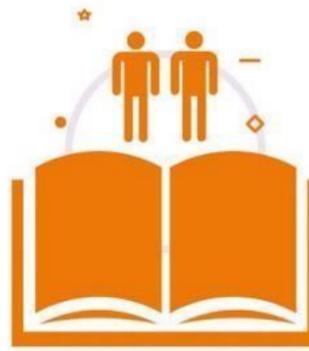
CONVENTIONAL  
METRICS,  
NEW METRICS,  
ALTERNATIVE  
METRICS,  
OPEN REVIEWS  
AND  
ADDITIONALLY....

OPEN ACCESS has  
become more and  
more widespread  
As a scientific policy  
and as a philosophy

## Modalidades del open access



**La vía verde (green access):**  
autoarchivo en repositorios,  
sin edición, sin revisión por pares,  
gratuito, promovido por la comunidad



**La vía dorada (gold access):**  
revistas de acceso abierto,  
con edición, con revisión por pares,  
de pago, promovido por los editores



**La vía diamante (diamond access):**  
mediante trabajo voluntario, con edición,  
con revisión por pares, gratuito

# INITIATIVES FOR OPEN ACCESS: PLANS



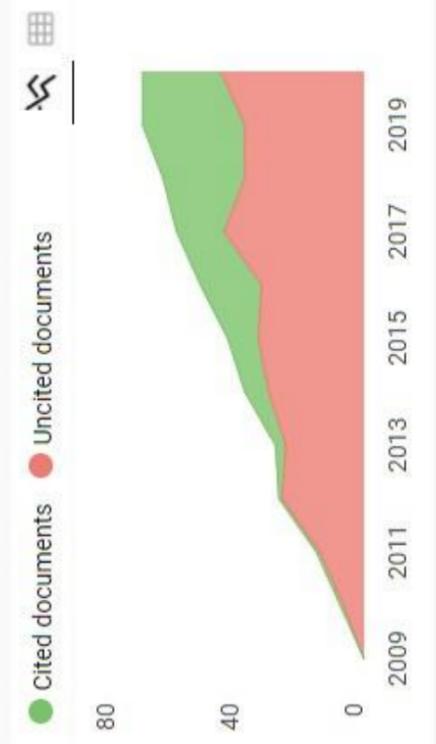
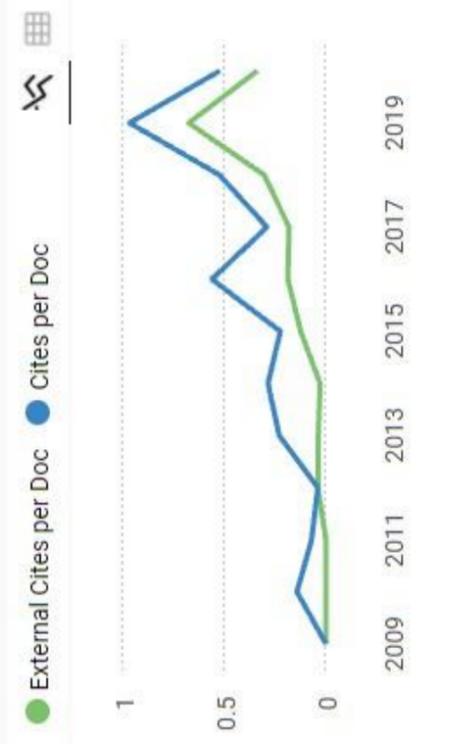
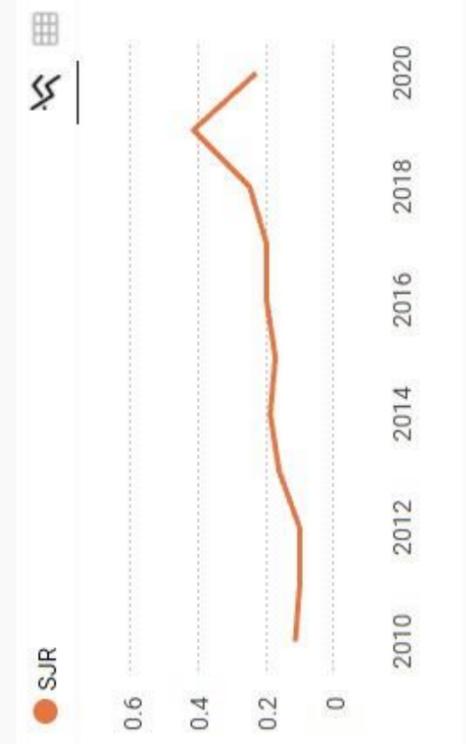
- On September 4th, 2018, a group of national research funding organizations, with the support of the European Commission and the European Research Council (ERC), announced the launch of cOAlition S, an initiative to make full and immediate open access to research publications a reality. It is based on Plan S, which consists of a goal and 10 principles.
- Objective:
- "From 2021, all scholarly publications on research results funded by public or private grants provided by national, regional and international research councils and funding agencies should be published in open access journals, open access platforms or made immediately available, through open access repositories however."

THEN  
WHAT?  
WHERE DO  
WE  
STAND?



# PARADOXES OF THE SYSTEM OF EVALUATION

- Does the quote measure the effective reading of a work? (Moravosick)
- Why is the impact not calculated taking into consideration the uncited articles?
- Why is the symbolic capital of the journal automatically granted to them? (Bourdieu: editorial field)
- Does the need for journals to improve their impact indicators, on which their ranking depends, alter the publication system? (selection of authors according to the h-index) (recommendation of articles citing the journal?)
- Aren't predatory journals a consequence of the above?
- Is it not a form of fraud to maintain scientific councils whose members are unaware that they are still in the journal, in order to maintain their level of impact and the attraction of publishing in it? (Recent case Ecosystem Health and Sustainability (EHS), denounced by Science).
- Why has the obligation to publish in impact journals been extended to those starting out in research? (doctoral programs)



**OCNOS**

Literature and Literary Theory  
best quartile

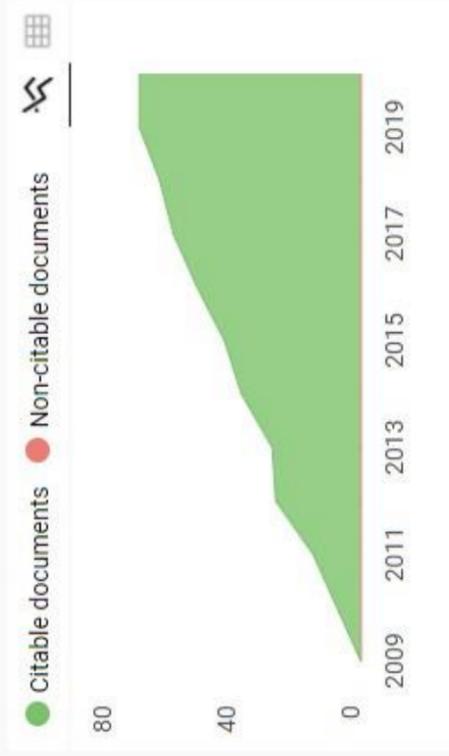
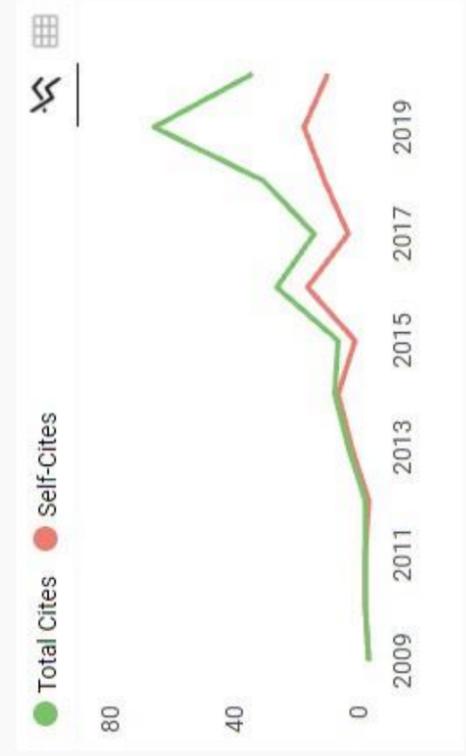
**SJR 2020**  
0.23

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<a href="https://www.scimagojr.com">
```



# THE CEMETARY OF FORGOTTEN BOOKS AND ARTICLES

- Thousands of articles are never cited, even if published in prestigious journals, but receive the transfer of symbolic capital from the journal.
- Thousands of academic books are never cited, never borrowed from libraries, but receive the transfer of symbolic capital from the publisher.
- Something is wrong with the system



## A POSITIVE PRESUMPTION OF THE EVALUATION OF CONVENTIONAL REVIEWS

- Fifth Session: Predatory Journals, a problem of Editorial Ethics. Inter-CRECS Wednesday, November 24, 2021 /19:00-20:15 (CET)
- In 2008 the academic community became alarmed by the proliferation of scientific journals of dubious scientific solvency. Journals that, taking advantage of the APC (pay-to-publish) model, offered authors fast and "flimsy" review processes, even allowing the publication of
- authors fast and "weak" review processes, even allowing the publication of papers on topics outside the journals.
- of papers on subjects outside the journals. Since then, the proliferation and sophistication of these
- proliferation and sophistication of these journals has increased significantly, as has the participation of authors in them, although it is true that they have become an easy, albeit ignominious, route for authors who find it difficult to publish in traditional journals. Basically, the main problem of these journals is one of editorial ethics, since these journals omit or devalue the fundamental part of the editorial process, the review of the quality of the manuscripts, that is, they eliminate peer review or "bastardize" it by converting it into peer review, that is, by people who are not experts in the field.

Something that  
also occurs in the  
normal reviews

IGNOMINIOUS?

Abject, despicable,  
despicable, low, vile, perverse  
action.

# DECLARATION OF S. DE FRANCISCO ABOUT THE EVALUATION OF RESEARCH (DORA) (2012)

- The Declaration on Research Assessment and Evaluation (DORA) recognizes the need to improve the ways in which academic research outputs are evaluated.
- The need to eliminate the use of journal-based metrics, such as journal impact factors, in funding, appointment and promotion considerations.
- The need to evaluate research on its own merits and not on the basis of the journal in which the research is published.
- The need to capitalize on the opportunities afforded by online publishing (such as relaxing unnecessary limits on the number of words, numbers and references in articles, and exploring new indicators of significance and impact).
- DORA has been supported over the past eight years by more than 17,000 researchers, and nearly 2,200 organizations in 145 countries.
- 2,200 organizations in 145 countries.

Let's change  
what we value  
in research.



JOSÉ ANTONIO CORDÓN GARCÍA

# LEIDEN MANIFESTO (2015)

- It focuses on the contextualized use of indicators for evaluation, according to the objectives, geographical area and discipline, paying special attention to the uncertainties of the indicators at the individual level.
  - 5. The data and analysis should be open to verification by those being evaluated.
  - 6. Differences in publication and citation practices among scientific fields should be taken into account.
  - 7. The individual evaluation of researchers should be based on the qualitative assessment of their research portfolio.

# Carta: Por un cambio radical en la evaluación de la investigación en España

## Letter: A call for a radical change in research evaluation in Spain

**Emilio Delgado-López-Cózar; Ismael Ràfols; Ernest Abadal**

**Note:** This article can be read in English on:  
<http://www.profesionaldelainformacion.com/contenidos/2021/may/delgado-rafols-abadal.pdf>

Cómo citar este artículo:

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<https://doi.org/10.3145/epi.2021.may.09>

Carta recibida el 19-05-2021



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# RESEARCH METRICS FOR THE UNIVERSITY OF SALAMANCA



# Q 4 - WHAT RESOURCES DO YOU USE TO FIND INFORMATION ON ACADEMIC METRICS?

#	Field	Choice Count
1	JCR (WoS)	34.04%
2	Scimago (Scopus)	23.77%
3	Google Scholar	26.02%
4	SPI (Scholarly Publishers Indicators)	8.16%
5	Ninguno	4.22%
6	Otros	3.80%

1	En el ámbito de las Ciencias Sociales y las Humanidades la escritura de libros debería de ser una actividad habitual entre el profesorado	0.00%	0.00%	8.33%	8.33%	83.33%
2	La escritura de libros no está suficientemente valorada en los sistemas de acreditación de la actividad investigadora	8.33%	8.33%	0.00%	8.33%	75.00%
3	La escritura de artículos es más rentable académicamente que la escritura de libros	0.00%	8.33%	8.33%	8.33%	75.00%
4	Los criterios de valoración de sexenios y acreditación han modificado mis hábitos de producción científica	16.67%	0.00%	0.00%	8.33%	75.00%
5	Cuando escribo un libro se lo ofrezco en primer lugar a mi universidad	58.33%	8.33%	8.33%	16.67%	8.33%
6	Cuando escribo un libro se lo ofrezco en primer lugar a las editoriales mejor posicionadas en los ranking de referencia según Aneca o CNAI	36.36%	36.36%	9.09%	0.00%	18.18%
7	En la actualidad no merece la pena escribir libros	36.36%	18.18%	36.36%	9.09%	0.00%

# CONCLUSIONS

- Metrics are essential for institutions and researchers.
- But institutions need to reflect on what is the most appropriate system to value the contributions of researchers.
- There must be a clear commitment on the part of institutions to favor open access, not only of articles, but also of books.
- Research activity has more and more aspects, which transcend the traditional metrics, subject to strong pressures, and subject to adulterations and distortions (predatory Journal, Matthew effect, etc.).
- A philosophy is needed that also involves the scientific literacy of the entire university community.

