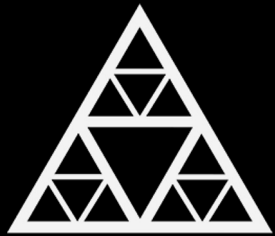


# Pitfalls and promises of BIR in science studies: A case study of mapping scientific articles to SDGs

Frédérique Bordignon

Ecole des Ponts & Laboratoire LISIS, Paris, France

 [@freddie2310](https://twitter.com/freddie2310) –  [frederique.bordignon@enpc.fr](mailto:frederique.bordignon@enpc.fr)



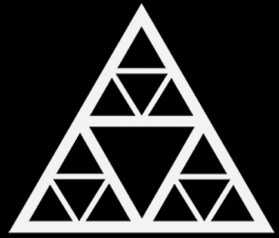
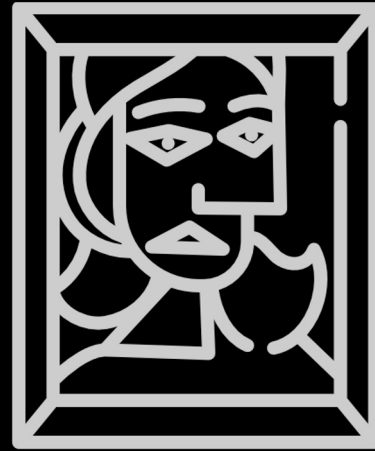
École des Ponts  
ParisTech



<https://nanobubbles.hypotheses.org>



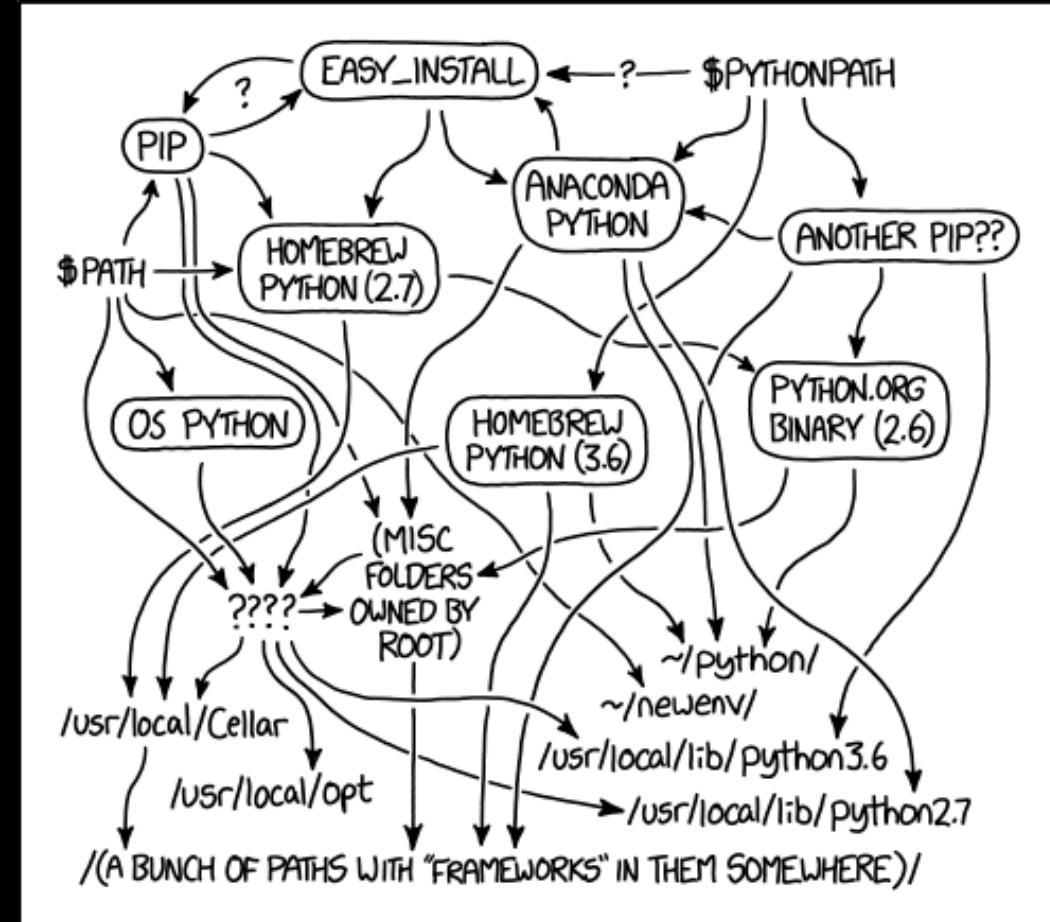
- Linguistics
- Library sciences
- Bibliometrics
- Scientometrics



École des Ponts  
ParisTech



An end-user = not a computer scientist!



https://xkcd.com/1987/

# Outline

- The United Nations Sustainable Development Goals (SDGs)
- The hopeless quest for comprehensiveness
- The strive for nuance
- Discussion with the BIR community



# Mapping publications to SDGs

- UN: "SDGs are the blueprint to achieve a better and more sustainable future for all. They address the global challenges we face, including poverty, inequality, climate change, environmental degradation, peace and justice."
- Set in 2015 and to be achieved in 2030 -> research



# Mapping publications to SDGs

- Knowing and showing how to contribute to the SDGs
- Growing interest in mapping scholarly communication to SDGs
  - Dimensions, Scopus/SciVal, WoS/InCites
  - THE impact Ranking



# The hopeless quest for comprehensiveness



Research assessment  
Bibliometrics

Research on research  
Scientometrics

Comprehensiveness is required  
Mostly self-centred  
Precision & recall  
Disparate sources

Representativity is acceptable  
Contextualised  
Precision  
Corpus delineation

Success of international rankings  
& ready-to-use solutions

Beware of potential biases

similar corpora/files



Research assessment  
Bibliometrics

Research on research  
Scientometrics

Comprehensiveness is required  
Mostly self-centred  
Precision & recall  
Disparate sources

Representativity is acceptable  
Contextualised  
Precision  
Corpus delineation

Success of international rankings  
& ready-to-use solutions

Beware of potential biases

similar corpora/files

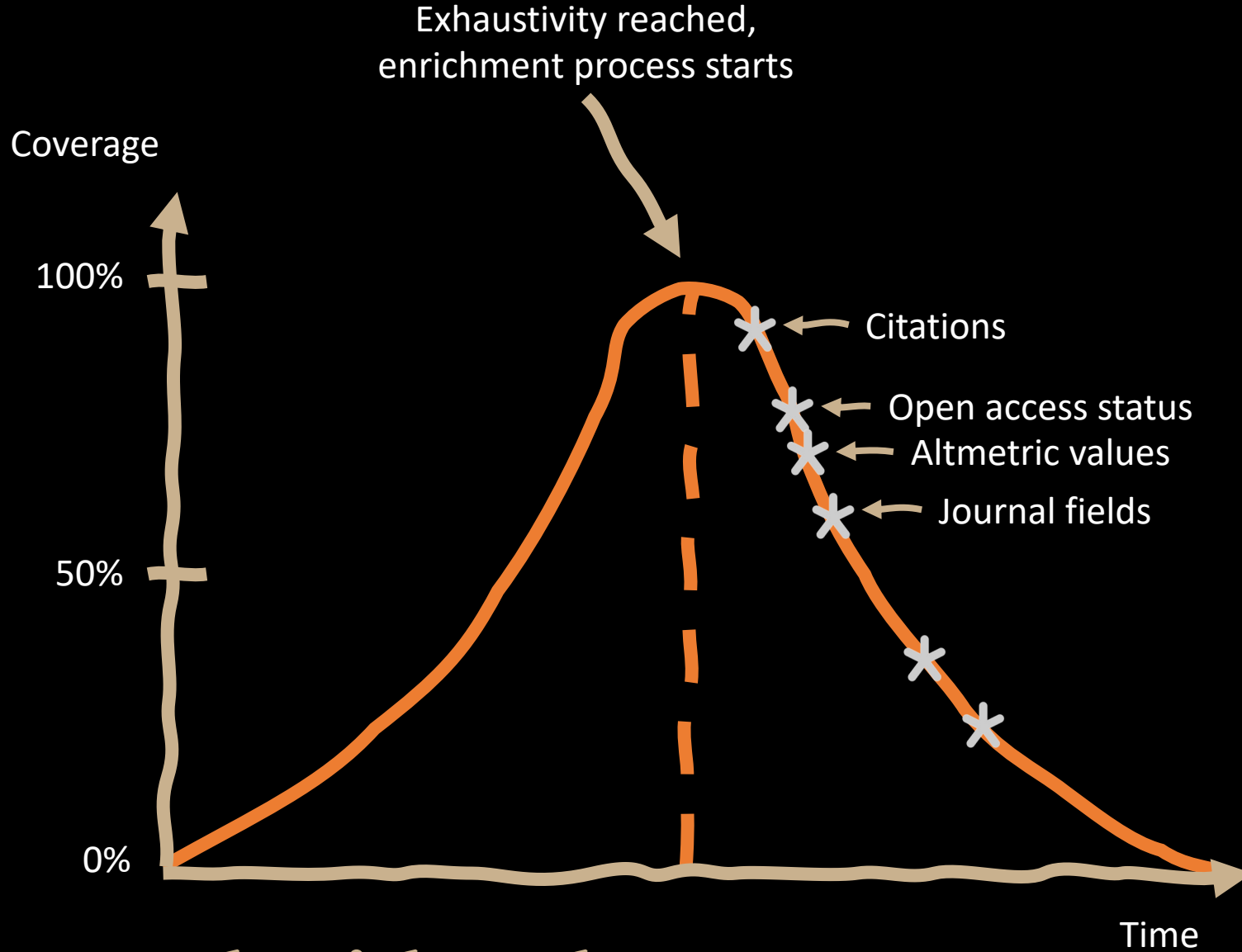




# Endless possibilities to enhance and enrich data.



Data(bases) heterogeneity  
Data availability  
DOI dependance  
Skills

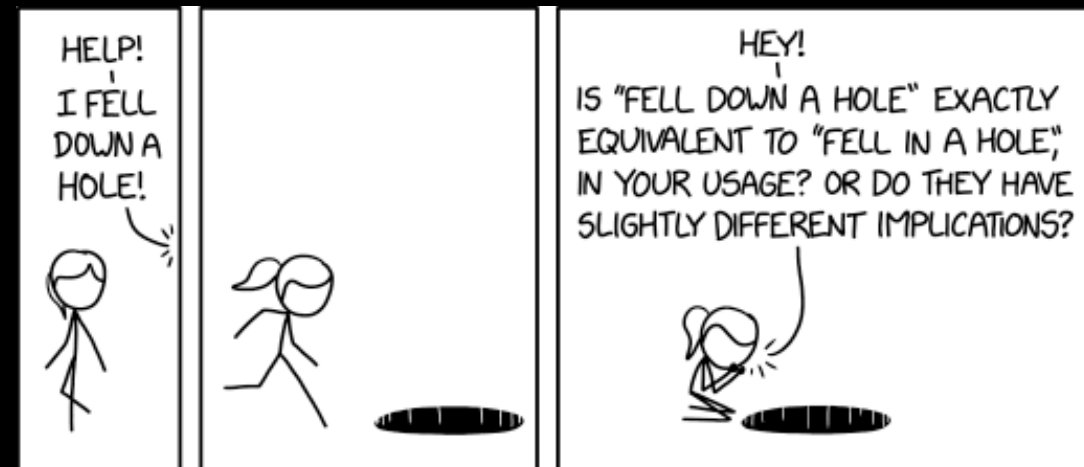


**The richer, the poorer**

# The strive for nuance



<https://xkcd.com/2390/>



THERE'S A MYTH THAT LINGUISTS ARE PEDANTS WHO LOVE CORRECTING PEOPLE, BUT THEY'RE ACTUALLY JUST ENTHUSIASTIC ABOUT UNDERSTANDING LANGUAGE IN ALL ITS INFINITE VARIETIES, WHICH IS MUCH WORSE.

- Co-word analysis -> clusters...
- Named Entity Recognition -> locations...
- Citations polarity -> communities...

- New method to map articles to SDGs

Bordignon, F. 2021. Dataset of search queries to map scientific publications to the UN sustainable development goals. *Data Brief* 34, (2021), 106731–106731.

DOI:10.1016/j.dib.2021.106731



# Mapping publications to SDGs

Previous attempts based on rather complex Boolean queries combining keywords and phrases:

- too narrow/specific because they stick to the UN text

**SDG13**



```
AF-ID( "University of Leicester" 60033125 ) AND TITLE-ABS-KEY( "Climate action" OR "Climate adaptation" OR "Climate change planning" OR "Climate change policy" OR "Climate early warning" OR "Climate hazards" OR "Climate impact" OR "Climate mitigation" OR "Climate refugees" OR "Climate related hazards" OR "Climate resilience" OR "COP 21" OR "COP 22" OR "Extreme weather" OR "forest fire" OR "drought" OR "cyclone" OR "hurricanes" OR "Global warming" OR "Greenhouse gas" OR "Greenhouse gases" OR "Ice loss" OR "Low-carbon economy" OR "Natural disasters" OR "Ocean warming" OR "Paris Agreement" OR "Rising sea level" OR "Sea level rise" OR "Warming" OR "rising sea" OR "global temperature" OR " carbon emissions" OR "methane emissions" OR "nitrogen oxide emissions") AND (LIMIT-TO ( PUBYEAR , 2019 ) OR LIMIT-TO ( PUBYEAR , 2018 ) OR LIMIT-TO ( PUBYEAR , 2017 ) OR LIMIT-TO ( PUBYEAR , 2016 ) OR LIMIT-TO ( PUBYEAR , 2015 ) OR LIMIT-TO ( PUBYEAR , 2014 ) )
```

climate model/modelling/simulation/projection  
Intergovernmental Panel on Climate Change/IPCC  
climate AND "ice-ocean interaction"  
"permafrost thaw"

Mistry, A., & Sellers, H. (2020). Scopus SDG Search Query codes. Dataset. *University of Leicester data repository*. [10.25392/leicester.data.12839552.v1](https://doi.org/10.25392/leicester.data.12839552.v1)

# Mapping publications to SDGs

Previous attempts based on rather complex Boolean queries combining keywords and phrases:

- too narrow/specific because they stick to the UN text
- too broad because of the polysemy of some words



SDG3: AIDS (disease) -> *aids* (noun or verb)

*Physics-based modeling aids in designing efficient data center power and cooling systems*

B Jayabalasingham, R Boverhof, K Agnew, and L Klein. 2019. Identifying research supporting the United Nations Sustainable Development Goals. *Mendeley Data* (2019). doi:10.17632/87TXKW7KHS.1

# Mapping publications to SDGs

Previous attempts based on rather complex Boolean queries combining keywords and phrases:

- too narrow/specific because they stick to the UN text
- too broad because of the polysemy of some words
- too complex, too long, or with a proximity operator not available in tools such as Tableau



Search query for SDG01 Bergen action approach.  
Note that the query is spread over several columns to facilitate reading. A simple version of copying is available in a separate file (02\_AllSDG\_queries\_simpleformat)

Target notes	Query
1.1/1.2 Eradicate poverty	TS= ( "poverty" NEAR/5 ("decreas** OR "minimi** OR "reduc** OR "alleviat** OR "tackl** OR "fight** OR "combat** OR "end" OR "ended" OR "ending" OR "eliminat** OR "prevent** OR "eradic
1.3. Social protections for all, inc. floors. Covi OR 1.4. Access to basic services	(("social protection\$ OR "social floor\$ OR "social service\$ OR "welfare system\$ OR "welfare service\$") NEAR/10 ("implement** OR "establish** OR "coverage" OR "covered" OR "covering" OR "improv** OR "strengthen** OR "increas** OR "enhanc** OR "build" OR "building") OR ("social protection\$ OR "social floor\$ OR "social service\$ OR "welfare system\$ OR "welfare service\$ OR "social welfare" OR "social security" OR "basic service\$" OR "essential service\$") NEAR/15 ("poverty" OR "the poor" OR "the poorest" OR "rural poor" OR "urban poor" OR "the vulnerable" OR "vulnerable group\$" OR "slum" OR "slums" OR ("poor" OR "poorest") NEAR/3 ("household\$" OR "people" OR "children" OR "communit**") OR "workers" OR "women" OR ("person\$" OR "people" OR "adult\$") NEAR/3 ("disabled" OR "disabilities" OR "unemployed" OR "older" OR "elderly")) OR "disability" OR ("work" OR "workplace" OR "worker\$" OR "occupational") NEAR/3 ("injury" OR "injuries" OR "illness**") OR "worker\$ compensation" OR "babies" OR "infants" OR "newborn\$" OR "children" OR "child" OR "pregnant" OR "pregnancy" ) ) )
1.4. Equal rights to economic resources. Own OR	( ("incom*" OR "wealth" OR "money" OR "economic" OR "natural resource\$" OR "banking") NEAR/10 ("distribution" OR "redistribution" OR "equitab** OR "inequital** OR "right\$" OR "ownership" OR "access" OR "control" OR "equitab** OR "inequital** OR "benefit sharing") ) AND ("poverty" OR "the poor" OR "the poorest" OR "rural poor" OR "urban poor" OR "the vulnerable" OR "vulnerable group\$" OR ("poor" OR "poorest") NEAR/3 ("household\$" OR "people" OR "children" OR "communit**") OR "workers" OR "women" OR ("person\$" OR "people" OR "adult\$") NEAR/3 ("disabled" OR "disabilities" OR "unemployed" OR "older" OR "elderly")) OR "disability" OR ("work" OR "workplace" OR "worker\$" OR "occupational") NEAR/3 ("injury" OR "injuries" OR "illness**") OR "worker\$ compensation" OR "babies" OR "infants" OR "newborn\$" OR "children" OR "child" OR "pregnant" OR "pregnancy" OR "sustainable development" ) ) OR ("microfinanc** OR "micro-financ** OR "microinsurance" OR "micro-insurance" OR "wage theft") OR ("financial service\$" NEAR/15 ("right\$" OR "access** OR "availab**

C S Armitage, M Lorenz, and S Mikki.  
Mapping scholarly publications related to the Sustainable Development Goals: Do independent bibliometric approaches get the same results? *Quant. Sci. Stud.* 1, 3 (2020), 1092–1108 (2020).  
doi:10.1162/qss\_a\_00071

# Mapping publications to SDGs

Previous attempts based on rather complex Boolean queries combining keywords and phrases:

- too narrow/specific because they stick to the UN text
- too broad because of the polysemy of some words
- too complex, too long,  
or with a proximity operator not available in tools such as Tableau

New approach:

- based on Elsevier queries (Jayabalasingham *et al.*, 2019)
- relying both on terms and journal fields (ASJC)
- to mitigate the polysemy of terms
- that can be used in Tableau and adapted or improved



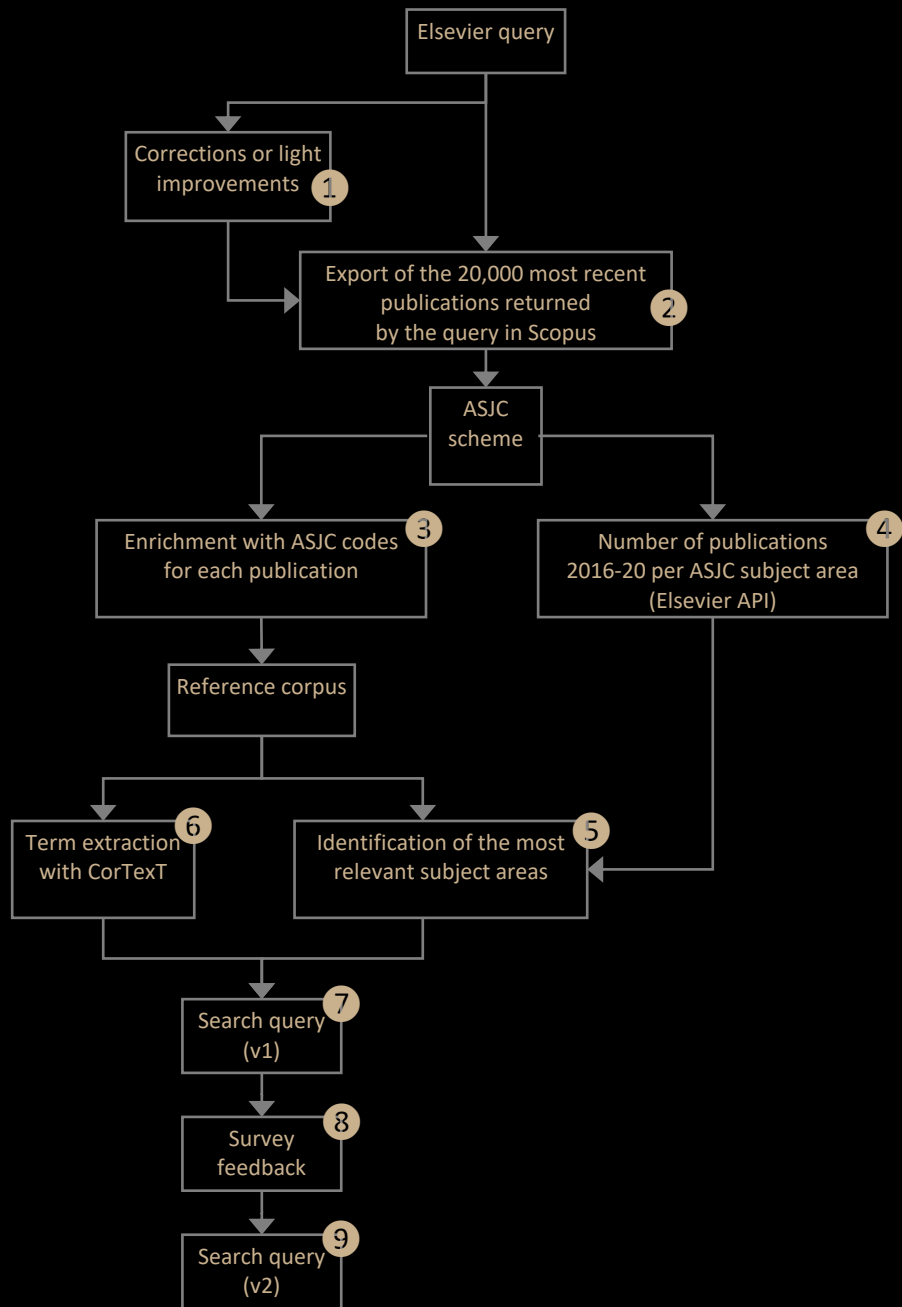


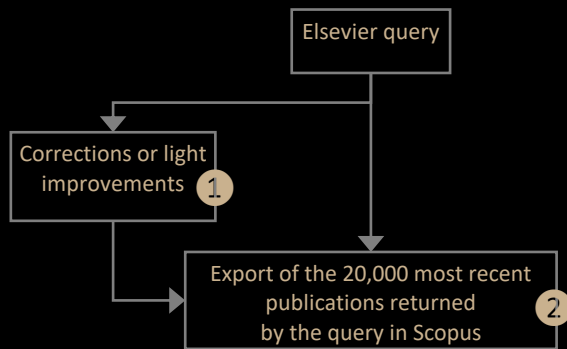
# ASJC scheme

<i>Supergroups</i>	<i>Fields</i>	<i>No. of Subfields</i>
-	Multidisciplinary	1
Health Sciences	Medicine	48
Health Sciences	Nursing	23
Health Sciences	Veterinary	4
Health Sciences	Dentistry	6
Health Sciences	Health Professions	16
Life Sciences	Agricultural and Biological Sciences	11
Life Sciences	Biochemistry, Genetics and Molecular Biology	15
Life Sciences	Immunology and Microbiology	6
Life Sciences	Neuroscience	9
Life Sciences	Pharmacology, Toxicology and Pharmaceutics	5
Physical Sciences	Chemical Engineering	8
Physical Sciences	Chemistry	7
Physical Sciences	Computer Science	12
Physical Sciences	Earth and Planetary Sciences	13
Physical Sciences	Energy	5
Physical Sciences	Engineering	16
Physical Sciences	Environmental Science	12
Physical Sciences	Materials Science	8
Physical Sciences	Mathematics	14
Physical Sciences	Physics and Astronomy	10
Social Sciences	Arts and Humanities	13
Social Sciences	Business, Management and Accounting	10
Social Sciences	Decision Sciences	4
Social Sciences	Economics, Econometrics and Finance	3
Social Sciences	Psychology	7
Social Sciences	Social Sciences	22
<b>4 supergroups</b>	<b>26 fields</b>	<b>307 subfields</b>



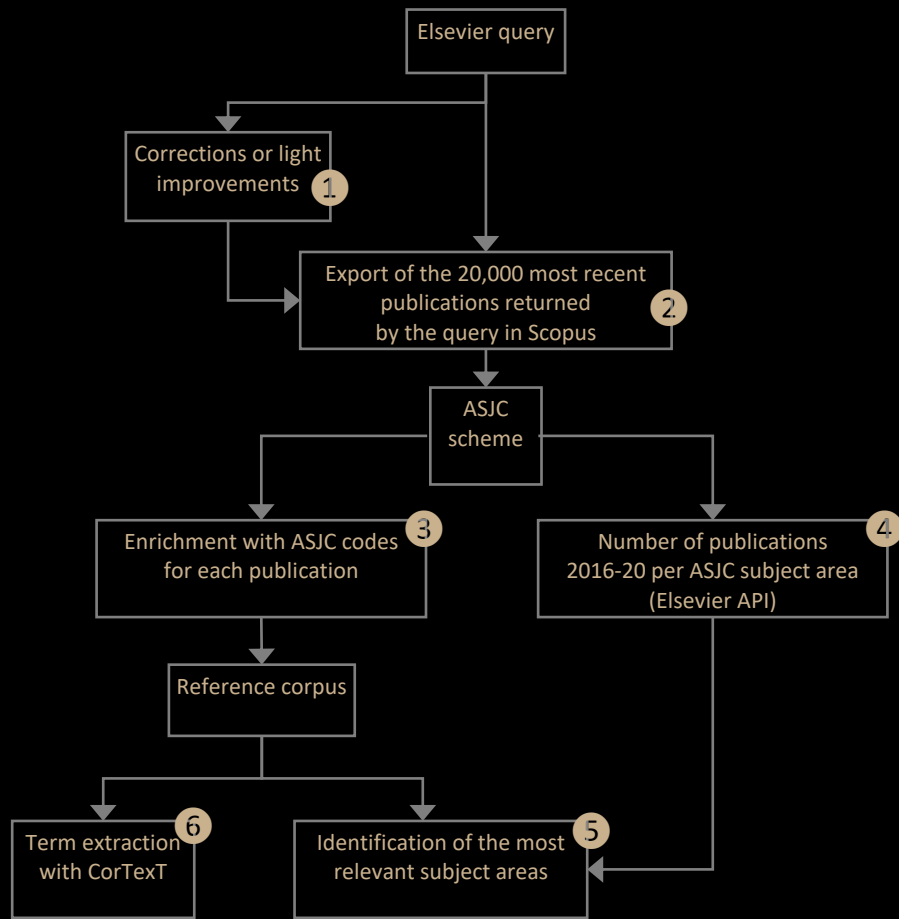
Bordignon, F. Tracking content updates in Scopus (2011-2018): a quantitative analysis of journals per subject category and subject categories per journal. *17th International Conference On Scientometrics & Informetrics*, ISSI, Sep 2019, Rome, Italy. pp.1630. ([hal-02281351](https://hal.archives-ouvertes.fr/hal-02281351))





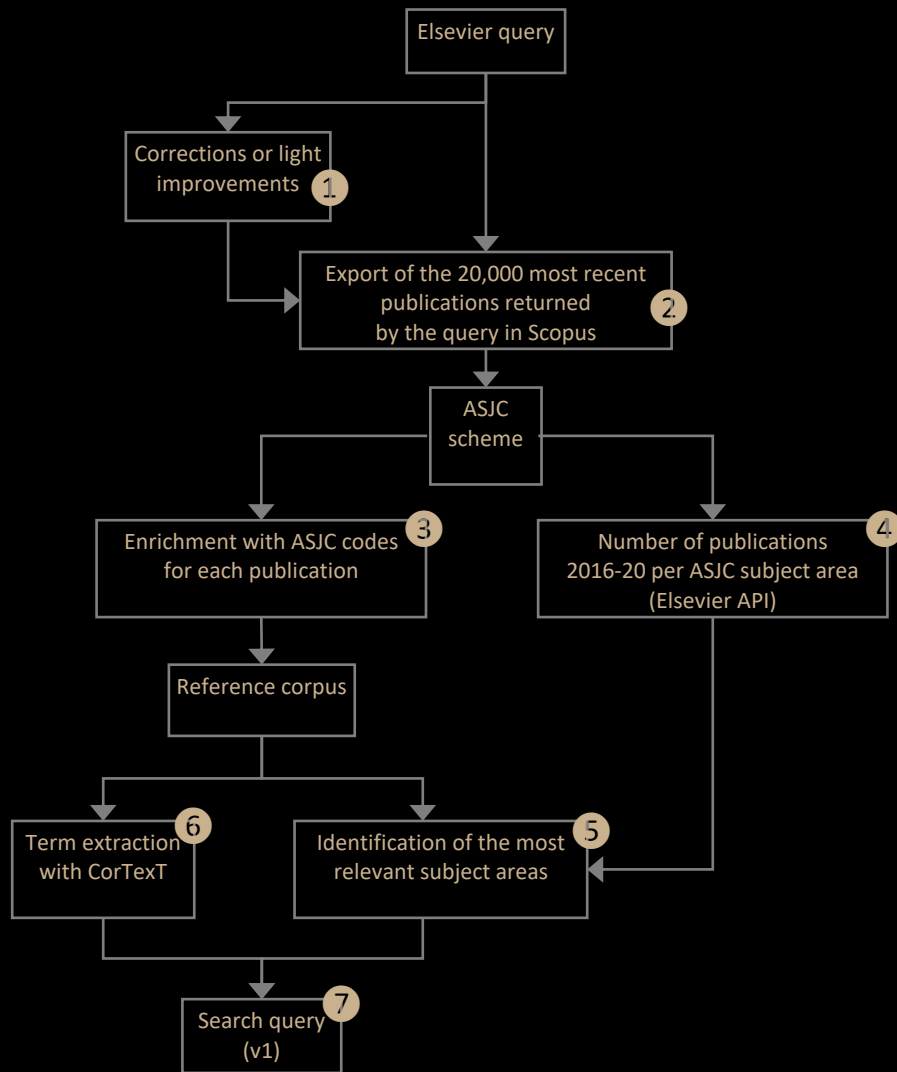
- review and improve each query proposed by the Elsevier team
  - SDG3: *AIDS*(disease) -> *aids* (noun)  
*Also a microscopic examination of fungal culture aids in the identification.*
- retrieve the 20,000 most recent publications from Scopus to build a reference corpus





- identify the most relevant subfields (ASJC)
- extract the most relevant terms and phrases (with CorText)





(terms expressing poverty or referring to poor people  
(*poor population, the rural poor, urban poor area...*)  
AND (*Economics, Econometrics and Finance OR 8  
selected subfields of Social sciences*) )

OR

terms expressing poverty or referring to poor people  
(*poor population, the rural poor, urban poor area...*)  
AND specific phrases (*food insecurity, income inequality,  
labor market...*)

OR

unambiguous phrases (*reduction of the poverty,  
financial empowerment...*)



IF(

(([Code ASJC]="3300" OR [Code ASJC]="3301" OR [Code ASJC]="3302" OR [Code ASJC]="3303" OR [Code ASJC]="3304" OR [Code ASJC]="3305" OR [Code ASJC]="3306" OR [Code ASJC]="3307" OR [Code ASJC]="3308" OR [Code ASJC]="3309" OR [Code ASJC]="3310" OR [Code ASJC]="3311" OR [Code ASJC]="3312" OR [Code ASJC]="3313" OR [Code ASJC]="3314" OR [Code ASJC]="3315" OR [Code ASJC]="3316" OR [Code ASJC]="3317" OR [Code ASJC]="3318" OR [Code ASJC]="3319" OR [Code ASJC]="3320" OR [Code ASJC]="3321" OR [Code ASJC]="3322" OR [Code ASJC]="2000" OR [Code ASJC]="2001" OR [Code ASJC]="2002" OR [Code ASJC]="2003")

AND

(CONTAINS([TI-ABS-KW], "poor population") OR CONTAINS([TI-ABS-KW], "poor households") OR CONTAINS([TI-ABS-KW], "poorer households") OR CONTAINS([TI-ABS-KW], "poorest households") OR CONTAINS([TI-ABS-KW], "the poorest") OR CONTAINS([TI-ABS-KW], "the poor") OR CONTAINS([TI-ABS-KW], "poor AND marginalized") OR CONTAINS([TI-ABS-KW], "poor communities") OR CONTAINS([TI-ABS-KW], "poorer communities") OR CONTAINS([TI-ABS-KW], "poorest communities") OR CONTAINS([TI-ABS-KW], "poorer countries") OR CONTAINS([TI-ABS-KW], "poor countries") OR CONTAINS([TI-ABS-KW], "poor country") OR CONTAINS([TI-ABS-KW], "poorest countries") OR CONTAINS([TI-ABS-KW], "poorer nations") OR CONTAINS([TI-ABS-KW], "poor nations") OR CONTAINS([TI-ABS-KW], "poor nation") OR CONTAINS([TI-ABS-KW], "poorest nations") OR CONTAINS([TI-ABS-KW], "poor people") OR CONTAINS([TI-ABS-KW], "poorer people") OR CONTAINS([TI-ABS-KW], "poorest people") OR CONTAINS([TI-ABS-KW], "pro-poor") OR CONTAINS([TI-ABS-KW], "propoor") OR CONTAINS([TI-ABS-KW], "low-income") OR CONTAINS([TI-ABS-KW], "the urban poor") OR CONTAINS([TI-ABS-KW], "the rural poor") OR CONTAINS([TI-ABS-KW], "urban poor area") OR CONTAINS([TI-ABS-KW], "rural poor area") OR CONTAINS([TI-ABS-KW], "poor children") OR CONTAINS([TI-ABS-KW], "poorer children") OR CONTAINS([TI-ABS-KW], "poorest children") OR CONTAINS([TI-ABS-KW], "poor women") OR CONTAINS([TI-ABS-KW], "poor AND needy") OR CONTAINS([TI-ABS-KW], "poor AND vulnerable") OR CONTAINS([TI-ABS-KW], "poorest AND most vulnerable") OR CONTAINS([TI-ABS-KW], "help the poor") OR CONTAINS([TI-ABS-KW], "poor village") OR CONTAINS([TI-ABS-KW], "poor borrower") OR CONTAINS([TI-ABS-KW], "poor workmanship") OR CONTAINS([TI-ABS-KW], "poor worker") OR CONTAINS([TI-ABS-KW], "poor working families" ) )

OR

((CONTAINS([TI-ABS-KW], "social protection" ) OR CONTAINS([TI-ABS-KW], "safety net") OR CONTAINS([TI-ABS-KW], "safety nets") OR CONTAINS([TI-ABS-KW], "economic resource") OR CONTAINS([TI-ABS-KW], "food security" ) OR CONTAINS([TI-ABS-KW], "cash transfers" ) OR CONTAINS([TI-ABS-KW], "food insecurity" ) OR CONTAINS([TI-ABS-KW], "development assistance" ) OR CONTAINS([TI-ABS-KW], "income inequality" ) OR CONTAINS([TI-ABS-KW], "labour market" ) OR CONTAINS([TI-ABS-KW], "health insurance" ) OR CONTAINS([TI-ABS-KW], "protection system" ) OR CONTAINS([TI-ABS-KW], "financial aid" ) OR CONTAINS([TI-ABS-KW], "financial development" ) OR CONTAINS([TI-ABS-KW], "north-south divide" ) OR CONTAINS([TI-ABS-KW], "financial inclusion" ) OR CONTAINS([TI-ABS-KW], "women empowerment" ) )

AND

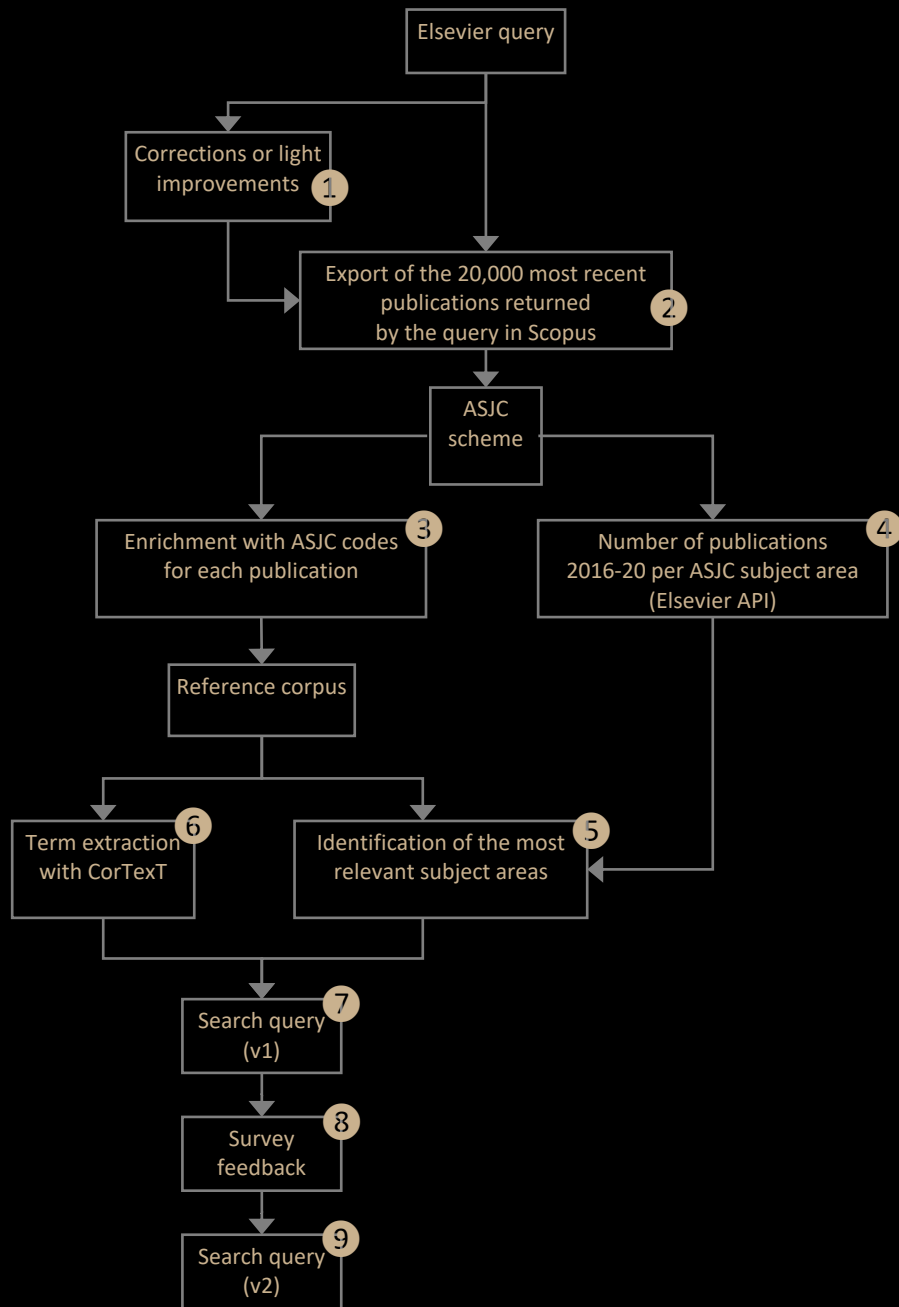
(CONTAINS([TI-ABS-KW], "poor population") OR CONTAINS([TI-ABS-KW], "poor households") OR CONTAINS([TI-ABS-KW], "poorer households") OR CONTAINS([TI-ABS-KW], "poorest households") OR CONTAINS([TI-ABS-KW], "the poorest") OR CONTAINS([TI-ABS-KW], "the poor") OR CONTAINS([TI-ABS-KW], "poor AND marginalized") OR CONTAINS([TI-ABS-KW], "poor communities") OR CONTAINS([TI-ABS-KW], "poorer communities") OR CONTAINS([TI-ABS-KW], "poorest communities") OR CONTAINS([TI-ABS-KW], "poorer countries") OR CONTAINS([TI-ABS-KW], "poor countries") OR CONTAINS([TI-ABS-KW], "poor country") OR CONTAINS([TI-ABS-KW], "poorest countries") OR CONTAINS([TI-ABS-KW], "poorer nations") OR CONTAINS([TI-ABS-KW], "poor nations") OR CONTAINS([TI-ABS-KW], "poor nation") OR CONTAINS([TI-ABS-KW], "poorest nations") OR CONTAINS([TI-ABS-KW], "poor people") OR CONTAINS([TI-ABS-KW], "poorer people") OR CONTAINS([TI-ABS-KW], "poorest people") OR CONTAINS([TI-ABS-KW], "pro-poor") OR CONTAINS([TI-ABS-KW], "propoor") OR CONTAINS([TI-ABS-KW], "low-income") OR CONTAINS([TI-ABS-KW], "the urban poor") OR CONTAINS([TI-ABS-KW], "the rural poor") OR CONTAINS([TI-ABS-KW], "urban poor area") OR CONTAINS([TI-ABS-KW], "rural poor area") OR CONTAINS([TI-ABS-KW], "poor children") OR CONTAINS([TI-ABS-KW], "poorer children") OR CONTAINS([TI-ABS-KW], "poorest children") OR CONTAINS([TI-ABS-KW], "poor women") OR CONTAINS([TI-ABS-KW], "poor AND needy") OR CONTAINS([TI-ABS-KW], "poor AND vulnerable") OR CONTAINS([TI-ABS-KW], "poorest AND most vulnerable") OR CONTAINS([TI-ABS-KW], "help the poor") OR CONTAINS([TI-ABS-KW], "poor village") OR CONTAINS([TI-ABS-KW], "poor borrower") OR CONTAINS([TI-ABS-KW], "poor workmanship") OR CONTAINS([TI-ABS-KW], "poor worker") OR CONTAINS([TI-ABS-KW], "poor working families" ) )

OR

(CONTAINS([TI-ABS-KW], "no poverty" ) OR CONTAINS([TI-ABS-KW], "financial literacy" ) OR CONTAINS([TI-ABS-KW], "extreme poverty" ) OR CONTAINS([TI-ABS-KW], "poverty alleviation" ) OR CONTAINS([TI-ABS-KW], "alleviating poverty") OR CONTAINS([TI-ABS-KW], "alleviation of poverty") OR CONTAINS([TI-ABS-KW], "poverty alleviating") OR CONTAINS([TI-ABS-KW], "alleviation in poverty") OR CONTAINS([TI-ABS-KW], "poverty eradication" ) OR CONTAINS([TI-ABS-KW], "eradicating poverty") OR CONTAINS([TI-ABS-KW], "eradication of poverty") OR CONTAINS([TI-ABS-KW], "poverty rate") OR CONTAINS([TI-ABS-KW], "poverty reduction" ) OR CONTAINS([TI-ABS-KW], "reduction of poverty") OR CONTAINS([TI-ABS-KW], "reduction in poverty") OR CONTAINS([TI-ABS-KW], "reduction of the poverty") OR CONTAINS([TI-ABS-KW], "reduction of both poverty") OR CONTAINS([TI-ABS-KW], "reduced poverty") OR CONTAINS([TI-ABS-KW], "poverty reducing") OR CONTAINS([TI-ABS-KW], "reduce poverty") OR CONTAINS([TI-ABS-KW], "end poverty") OR CONTAINS([TI-ABS-KW], "alleviate poverty") OR CONTAINS([TI-ABS-KW], "eradicate poverty" ) OR CONTAINS([TI-ABS-KW], "protection against poverty") OR CONTAINS([TI-ABS-KW], "protect against poverty") OR CONTAINS([TI-ABS-KW], "poverty indice" ) OR CONTAINS([TI-ABS-KW], "poverty line" ) OR CONTAINS([TI-ABS-KW], "resilience of the poor") OR CONTAINS([TI-ABS-KW], "financial empowerment" ) OR CONTAINS([TI-ABS-KW], "distributional effect" ) OR CONTAINS([TI-ABS-KW], "distributional effects" ) OR CONTAINS([TI-ABS-KW], "child labor" ) OR CONTAINS([TI-ABS-KW], "child labour" ) OR CONTAINS([TI-ABS-KW], "development aid") OR CONTAINS([TI-ABS-KW], "aid the development") OR CONTAINS([TI-ABS-KW], "Aid for Development") OR CONTAINS([TI-ABS-KW], "aid in the development") OR CONTAINS([TI-ABS-KW], "social protection" ) OR CONTAINS([TI-ABS-KW], "welfare state" ) OR CONTAINS([TI-ABS-KW], "welfare states") OR CONTAINS([TI-ABS-KW], "state welfare" ) OR CONTAINS([TI-ABS-KW], "Social Security") OR CONTAINS([TI-ABS-KW], "social assistance") OR CONTAINS([TI-ABS-KW], "system of social protection") OR CONTAINS([TI-ABS-KW], "systems of social protection") OR CONTAINS([TI-ABS-KW], "microfinanc" ) OR CONTAINS([TI-ABS-KW], "micro-financ" ) OR CONTAINS([TI-ABS-KW], "food bank" ) OR CONTAINS([TI-ABS-KW], "food banks" ) )

THEN "SDG1" ELSE "0" END





Do you think the following publication can be considered as a contribution to achieving the goals suggested below?

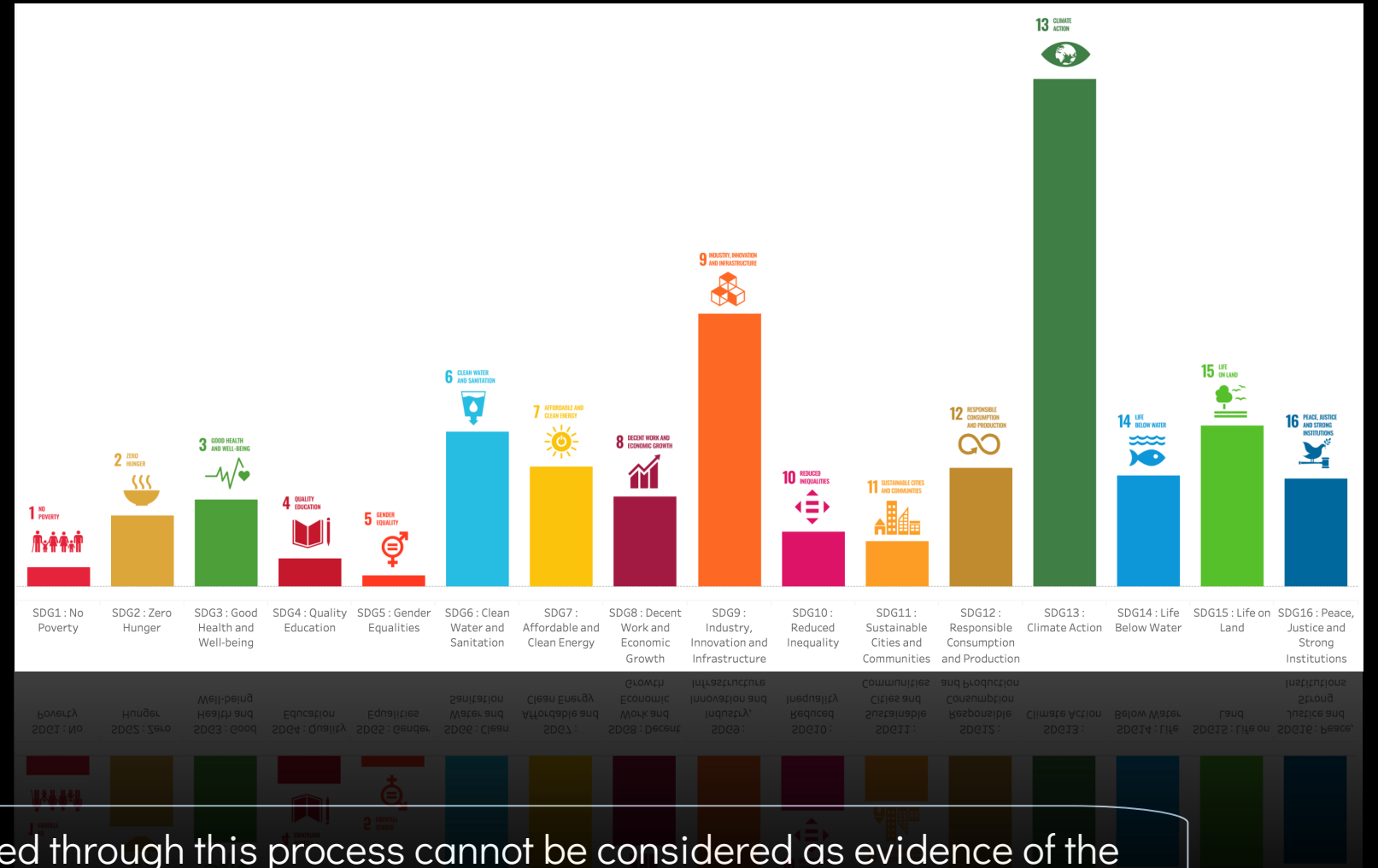
*Paris, a Contested Construction of Metropolitan Space*

Paris, a Contested Construction of Metropolitan Space This chapter tells the story of the difficult and contested efforts to construct Paris as a metropolitan space. Covering the period of 2000 to the present, it focuses on the search for a collective actor and the production of collective action through the quest for alliances between players, be they the central State, local governments or business associations. More specifically, the chapter concentrates on the relationships between core metropolitan stakeholders through the analysis of four political initiatives aiming at building collective action and territorial leadership at the metropolitan scale. In the Île-de-France region, many competing conceptions of metropolitan space are co-present and are conflicting. First the regional council, whatever its political leaning, has always considered the Metropolis to be the Île-de-France region. In that perspective the construction of metropolitan space is understood to mean the strengthening of the powers and resources of the regional authority. Second, the city of Paris considers the core area to be the most relevant space to address the important problems of the metropolis. Third, the State maintains an ambiguous position as regards its conception of the metropolitan space, identifying it as the city region in the period 2007–2012 when the State was controlled by the conservative parties, but restricting it to the core area in the period 2012–2017 by the new Socialist government. In this context, the most important business associations have been ready to accommodate any initiative, provided that the treatment of the most important issues of economic competitiveness, transport and housing, was taken care of. This story clearly indicates the importance of politics in the construction of metropolitan space and shows the critical role that politics plays in shaping scalar conflicts. In this context, decentralization and globalization can be understood to be both structuring forces and elements which are instrumentalized. First, there is the issue of territorial leadership which has consistently led to a stalemate, because of a governance system whose main feature, unregulated competitive decentralization, prevents any leader from being accepted as legitimate at a regional scale. Second, the building of a coalition at the metropolitan level, to ensure capacity to act at that scale, has proved impossible, first, because of a relative balance of powers between local governments and, second, because of the incapacity of the State to successfully act as the leader of a coalition because of its political instability and its lack of resources. Third, players also conflict about the vision they have of the future of the metropolitan area. Two clearly opposed visions coexist, one in which priorities are to fight against social and territorial inequalities and to initiate an alternative mode of development based on ecological transition, another one in which economic competitiveness is the top priority to which social, territorial and environmental issues must be subordinated. Since these two visions are supported by alliances of players which are roughly equal in strength, the not surprising result is conflict and the blockage of the governance system.

		OK, relevant	Irrelevant	I don't know
10	REDUCED INEQUALITIES - Reduce inequality within and among countries	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
11	SUSTAINABLE CITIES AND COMMUNITIES - Make cities and human settlements inclusive, safe, resilient and sustainable	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
16	PEACE, JUSTICE AND STRONG INSTITUTIONS - Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



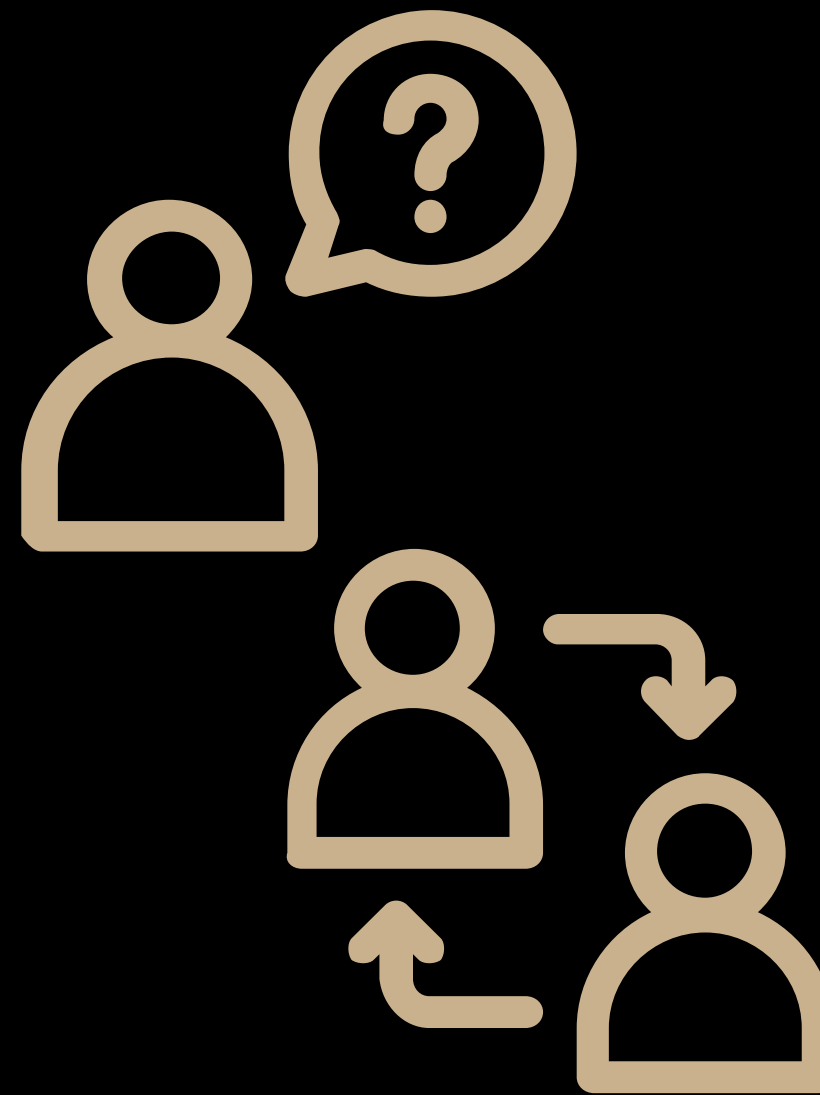
Publications identified through this process cannot be considered as evidence of the commitment of authors and their institutions to actions towards the targets established by the UN. However, they can be an accurate indicator of which research is relevant to the issues addressed by the SDGs, whether or not it is a direct contribution.







# Discussion



# Concluding remarks

- Diversity of sources and formats, dependence on DOIs, fluctuating coverage of the tools -> degrading the data
- Successful combination of bibliometric indicators and text analysis to provide innovative studies



# Concluding remarks

- Diversity of sources and formats, dependence on DOIs, fluctuating coverage of the tools -> degrading the data
- Successful combination of bibliometric indicators and text analysis to provide innovative studies -> with caution

# Concluding questions

- Many tools, too many?
- What does this mean?
- What are the consequences?

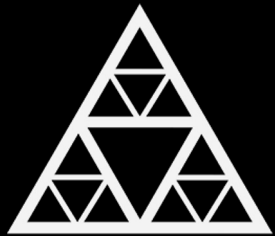


# Thank you!

Frédérique Bordignon

Ecole des Ponts & Laboratoire LISIS, Paris, France

 [@freddie2310](https://twitter.com/freddie2310) –  [frederique.bordignon@enpc.fr](mailto:frederique.bordignon@enpc.fr)



École des Ponts  
ParisTech



<https://nanobubbles.hypotheses.org>

**LISIS**  
Laboratoire  
Interdisciplinaire  
Sciences  
Innovations  
Sociétés