



Présentation / Intervention

2017

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Measuring the impact of piracy and open access on the academic library services

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MEASURING THE IMPACT OF PIRACY AND OPEN ACCESS ON THE ACADEMIC LIBRARY SERVICES

ILDS conference, Paris,
October 4th, 2017

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LIBRARY



UNIVERSITÉ
DE GENÈVE

AGENDA

1. Context
2. Methods: Data Analysis
3. Results & Discussion
4. Conclusions

CONTEXT

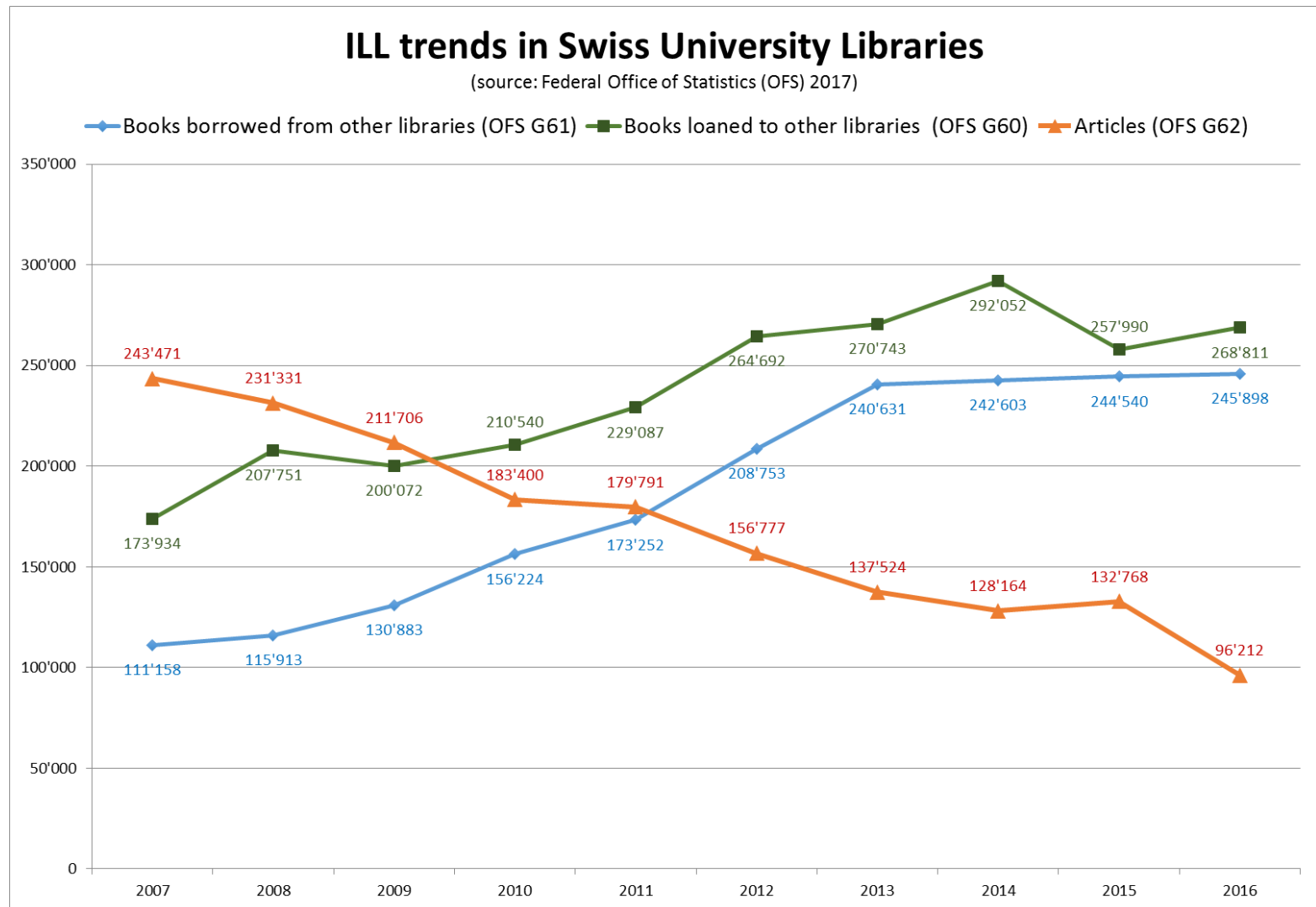
ILL/DD Trends

Shift from paper to e-resources

Open Access

Piracy

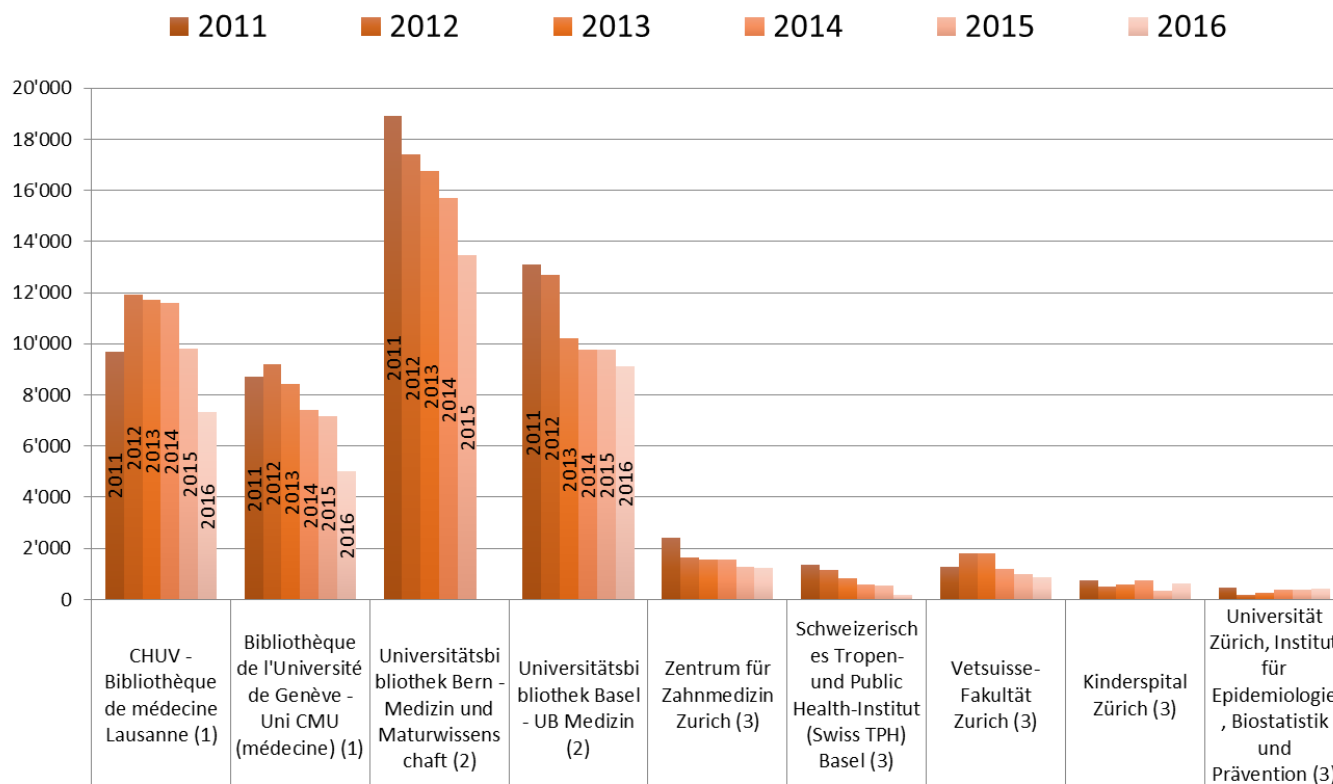
ILL/DD TRENDS IN SWISS UNIVERSITY LIBRARIES



ILL/DD TRENDS IN SWISS MEDICAL LIBRARIES

ILL Articles Trends : some Swiss Libraries specialised in Medical Fields

[data sources : 1.) OpenILLink software ; 2.) Yearly report published by the library; 3.) OFS statistics for "bibliothèques de réseaux universitaires"]

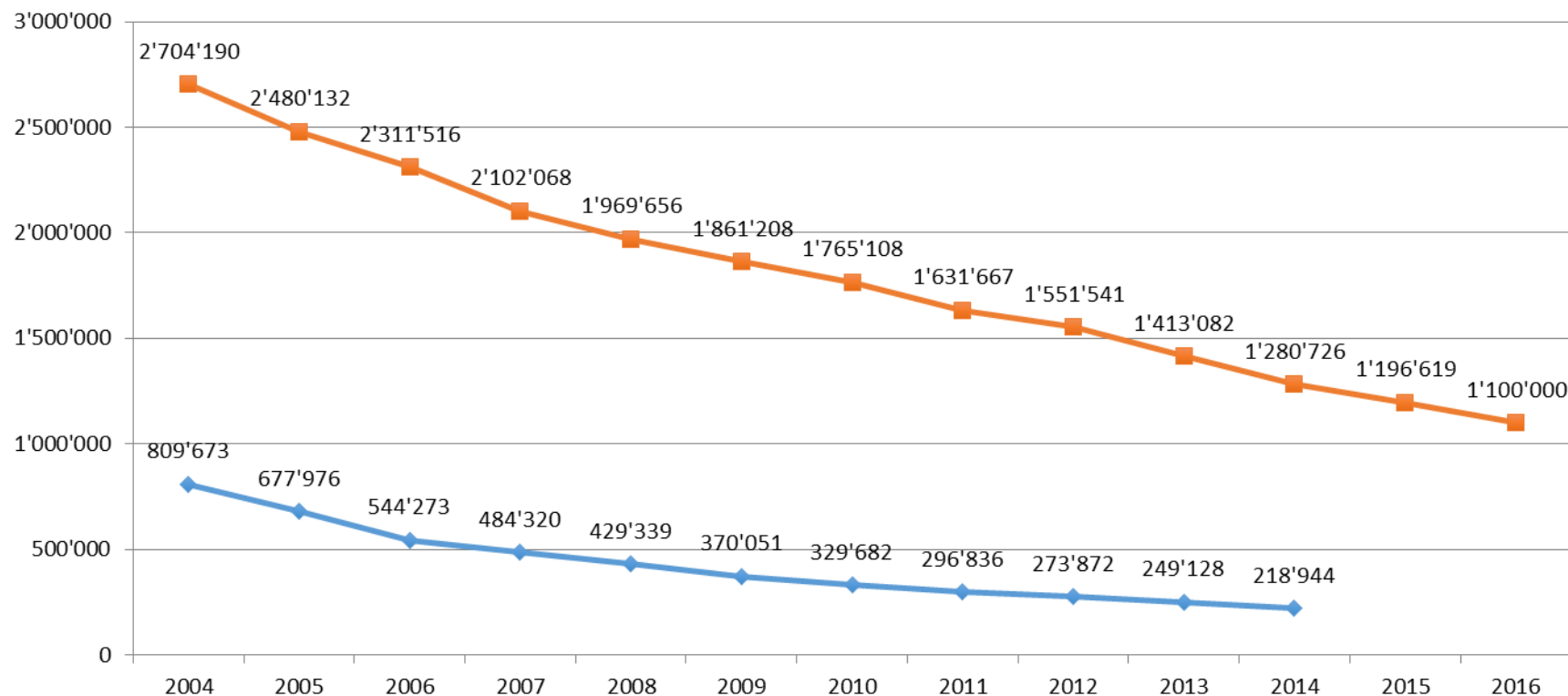


ILL/DD TRENDS

ILL Trends in DOCLINE & Loansome Doc

data source: MLA Docline update 2014, 2016, 2017 presentations & NLM annual report for FY2014
No data found for LoansomeDoc for FY2015 & FY2016

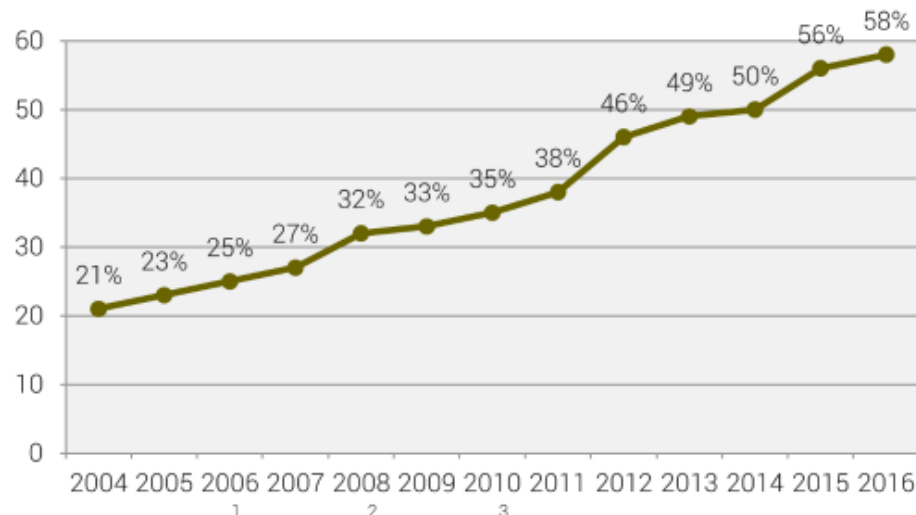
—■— ILL requests in Docline —◆— Loansomedoc Requests



PORTION OF ACQUISITION BUDGET DEVOTED TO E-RESOURCES

Proportion des frais d'acquisition de documents sur supports électroniques par rapport aux frais totaux d'acquisition de documents, 2004-2016

Bibliothèques universitaires



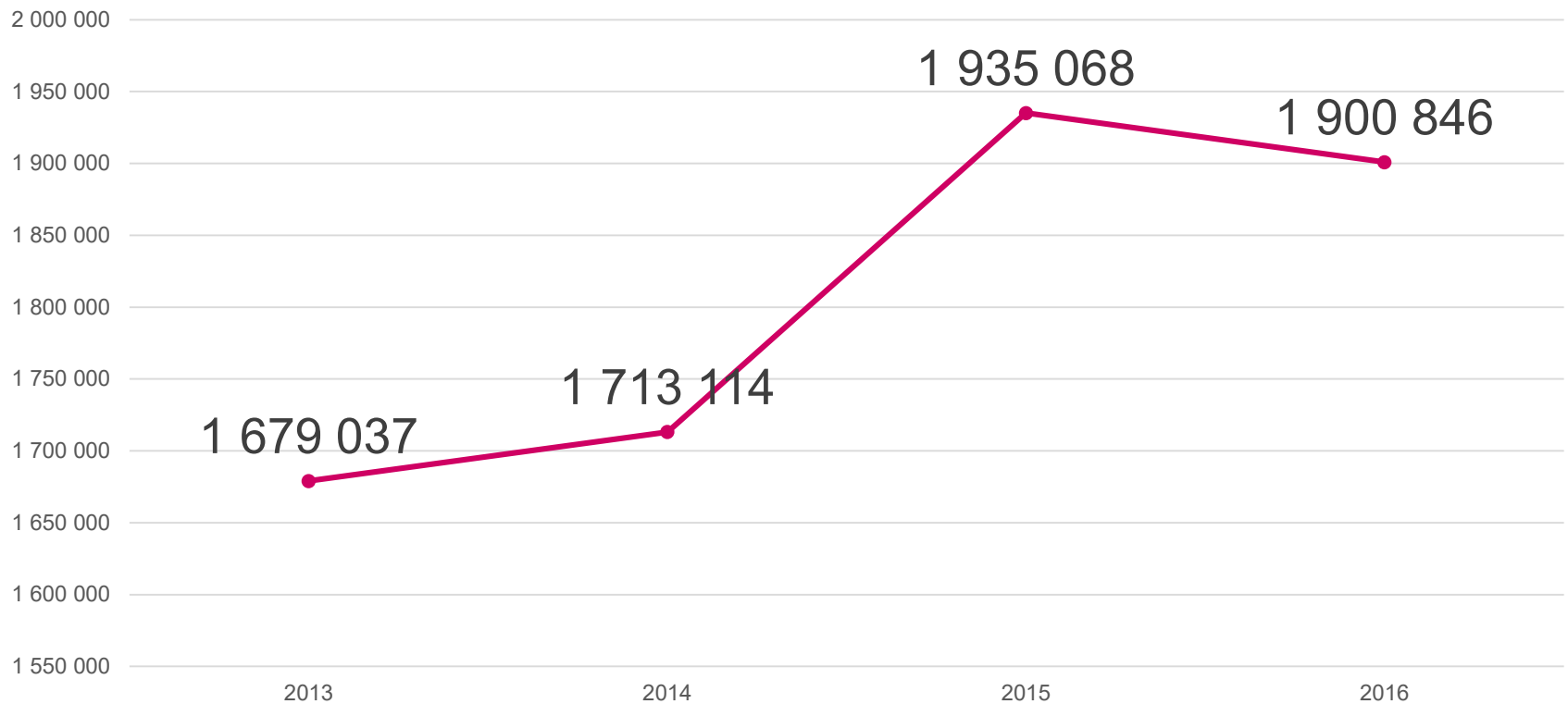
¹ 2006 la bibliothèque publique et universitaire de Genève perd son statut de bibliothèque universitaire pour devenir une bibliothèque publique. Dès cette année, elle ne fait donc plus partie de la catégorie des bibliothèques universitaires

² 2008 unification des finances de la bibliothèque et du réseau de bibliothèques de l'Université de Berne, création de la bibliothèque de l'Université de Genève à partir du réseau de bibliothèques de l'Université de Genève

³ 2010 fusion de la bibliothèque centrale et du réseau de bibliothèques de l'EPFL

YET, FOR THE FIRST TIME IN 2016

Full-text article requests at University of Geneva Library



THE STATE OF OPEN ACCESS



DOAJ DIRECTORY OF
OPEN ACCESS
JOURNALS

On October 3rd, 2017

10,149 Journals
7,350 searchable at Article level
121 Countries
2,620,340 Articles

BASE
Bielefeld Academic Search Engine

Currently in BASE:
115,514,868 Documents
of 5,796 Content Sources

nature International weekly journal of science

Home | News & Comment | Research | Careers & Jobs | Current Issue | Archive | Audio & Video | For Authors

News & Comment | News | 2017 | October | Article

NATURE | TREND WATCH

Half of papers searched for online are free to read

1, which finds

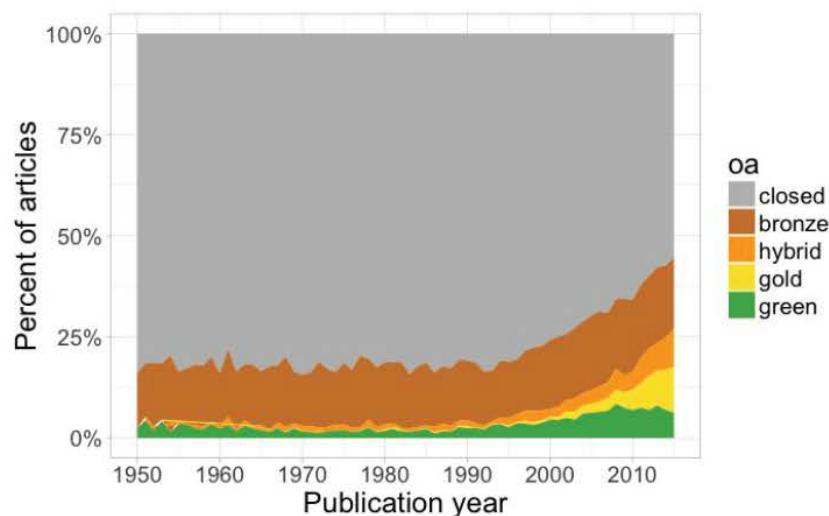
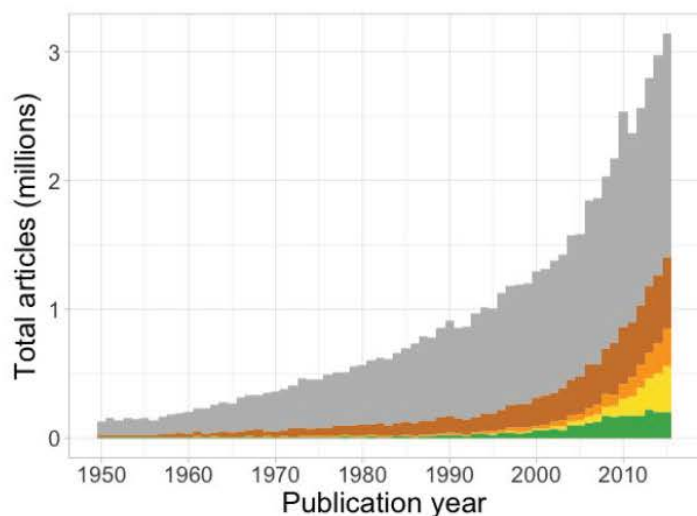


Figure 2: Number of articles (left panel) and proportion of articles (right panel) with OA copies, estimated based on a random sample of 100,000 articles with Crossref DOIs

Piwowar H, Priem J, Larivière V, Alperin JP, Matthias L, Norlander B, Farley A, West J, Haustein S. (2017) The State of OA: A large-scale analysis of the prevalence and impact of Open Access articles. PeerJ Preprints 5:e3119v1 <https://doi.org/10.7287/peerj.preprints.3119v1>

PIRACY



Sci-Hub activity on 5 February 2016.

CREDITS: (DATA) SCI-HUB; (IMAGE/AUTOPLAY VIDEO)
ADAPTED BY J. YOU/SCIENCE

Bohannon J. Who's downloading pirated papers? Everyone. Science [Internet]. 28 avr 2016 [cité 3 oct 2017]; Disponible sur:
<http://www.sciencemag.org/news/2016/04/whos-downloading-pirated-papers-everyone>

So...

When it comes to obtaining the full-text of an article...

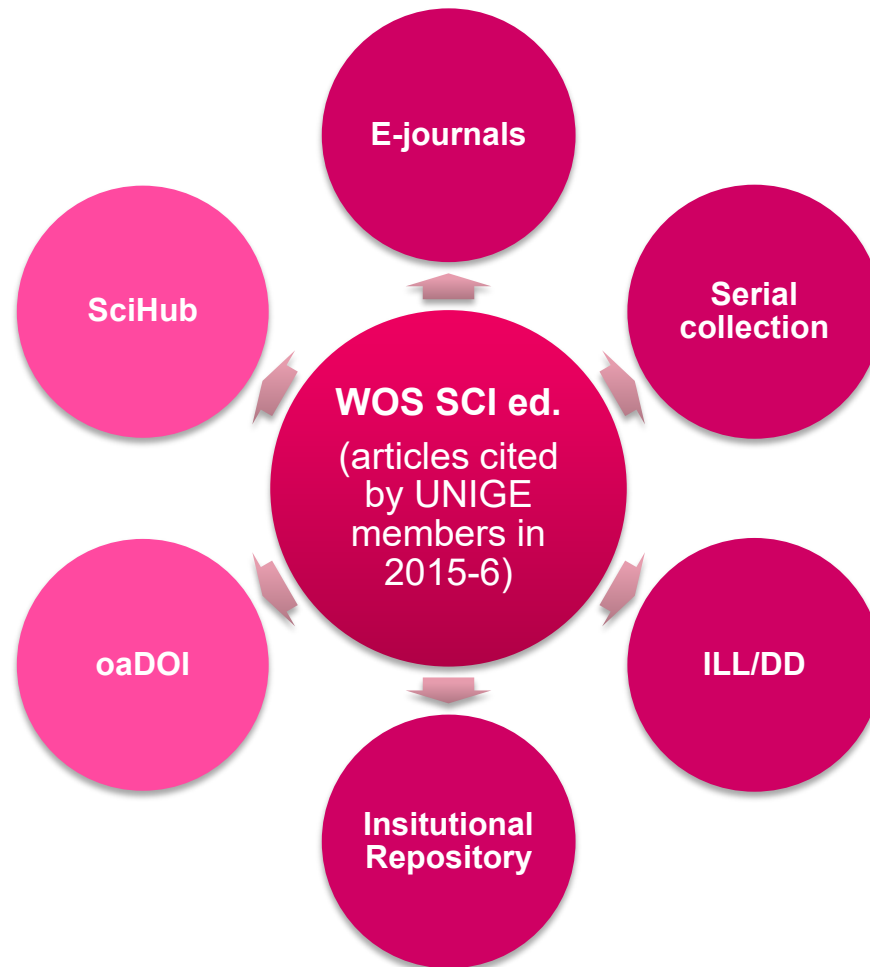
...To what resources and services
can/do our scholars turn ?

DATA ANALYSIS

Our data sources

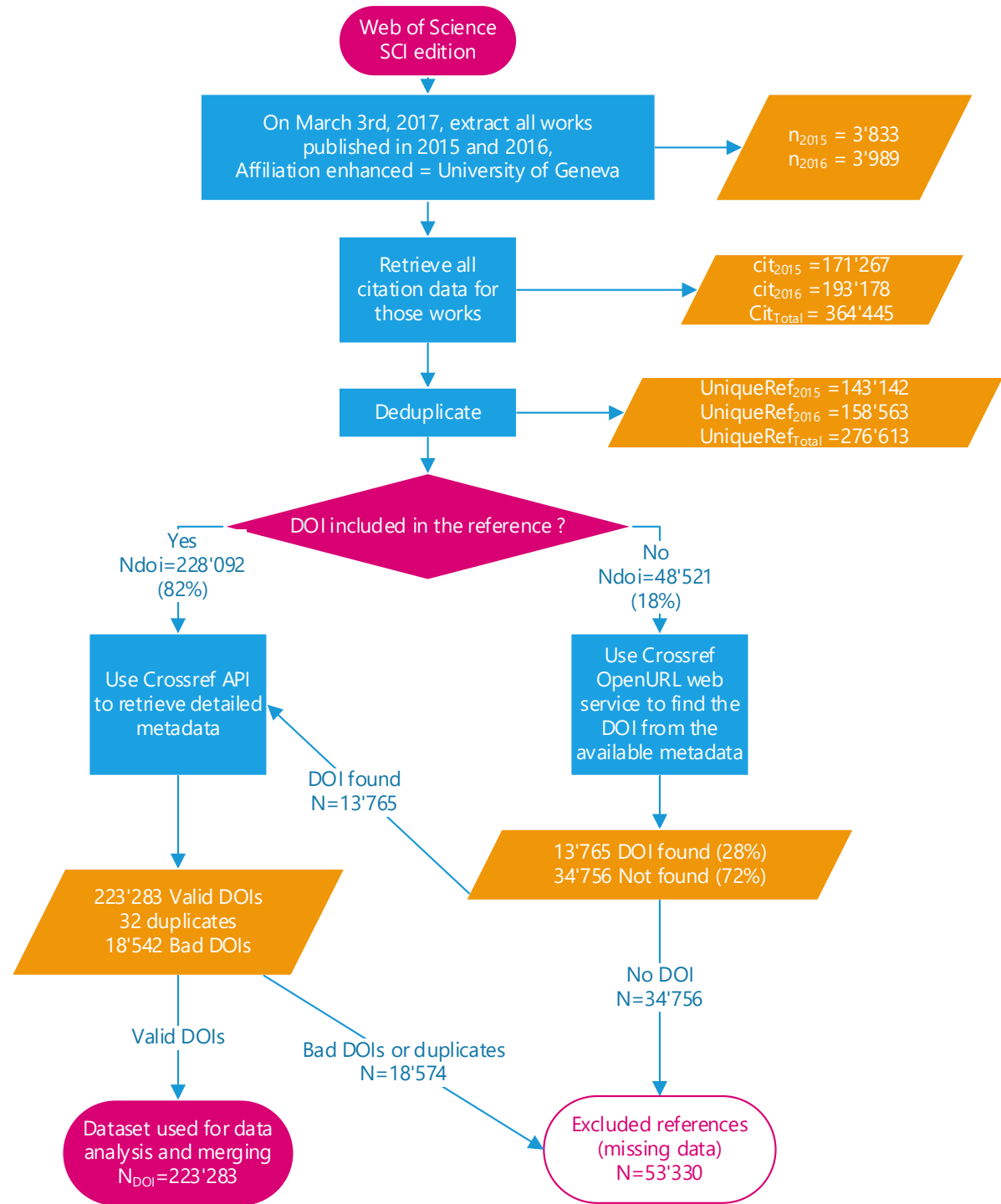
Data cleaning, processing & merge

OUR DATA SOURCES



DATA CLEANING, PROCESSING & ENRICHMENT

WOS SCI CITATIONS



OpenILLink
(ILL Tool used at Medical &
Science library at UNIGE)

Export all anonymised orders meeting following
criteria
- Request date: 2015 & 2016
- user requesting doc is affiliated to UNIGE or
Univ. Hospital (HUG)

Orders₂₀₁₅₋₂₀₁₆ = 7'509

DATA CLEANING, PROCESSING & ENRICHMENT ILL/DD

Requested doc has DOI or PMID ?

Yes
N=4'737
(63%)

No
N=2'772
(27%)

Which one ?

PMID
N=4'728

DOI
N=9

Use NLM E-
utilities service to
obtain equivalent
DOI

DOI obtained = ?
No DOI obtained = ?

DOI
N=2'196
(46%)

No DOI
N=2'532
(54%)

Use Crossref
OpenURL web
service to find the
DOI from the
available metadata

1'523 DOI found
3'781 No DOI found

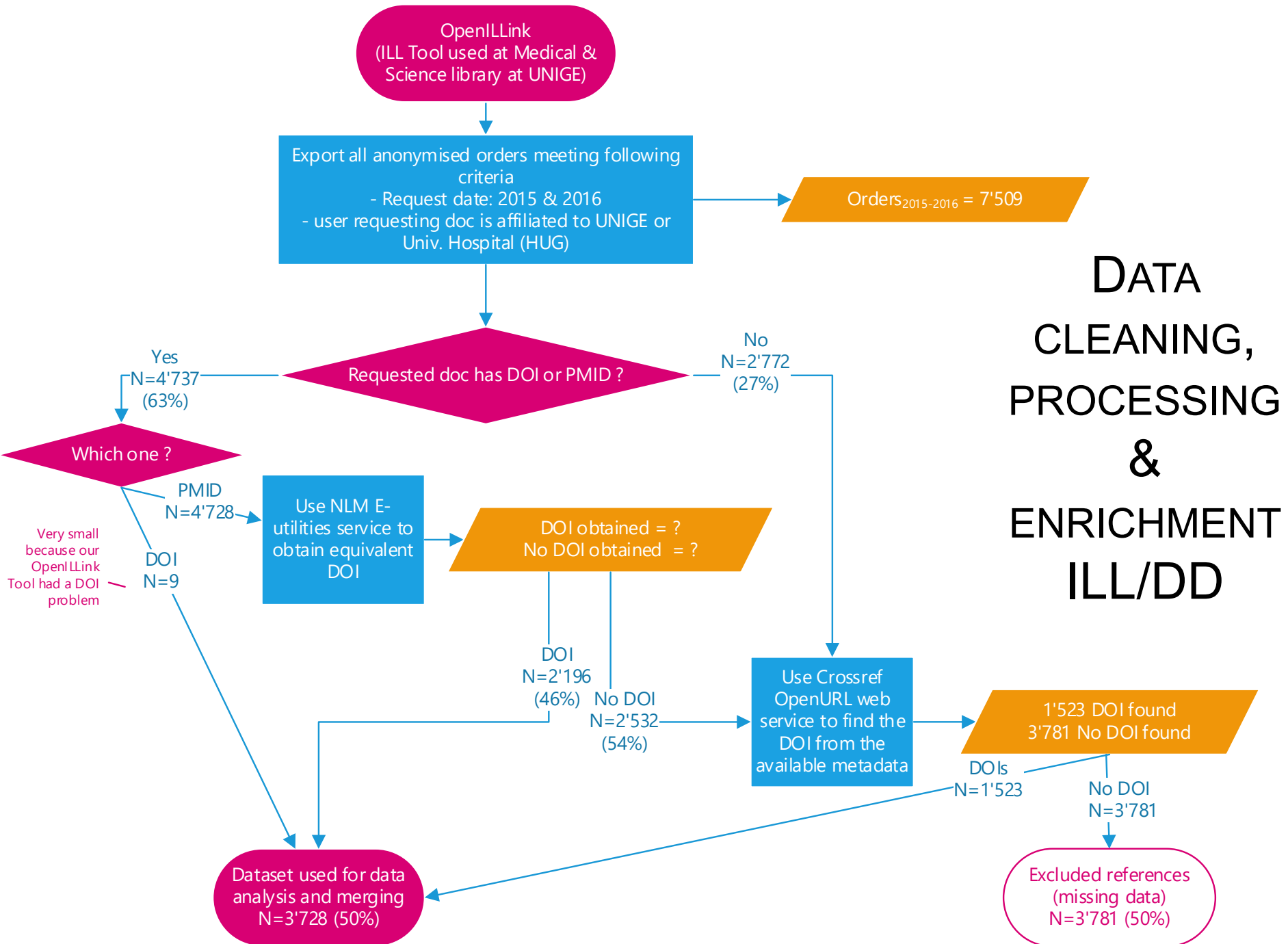
DOIs
N=1'523

No DOI
N=3'781

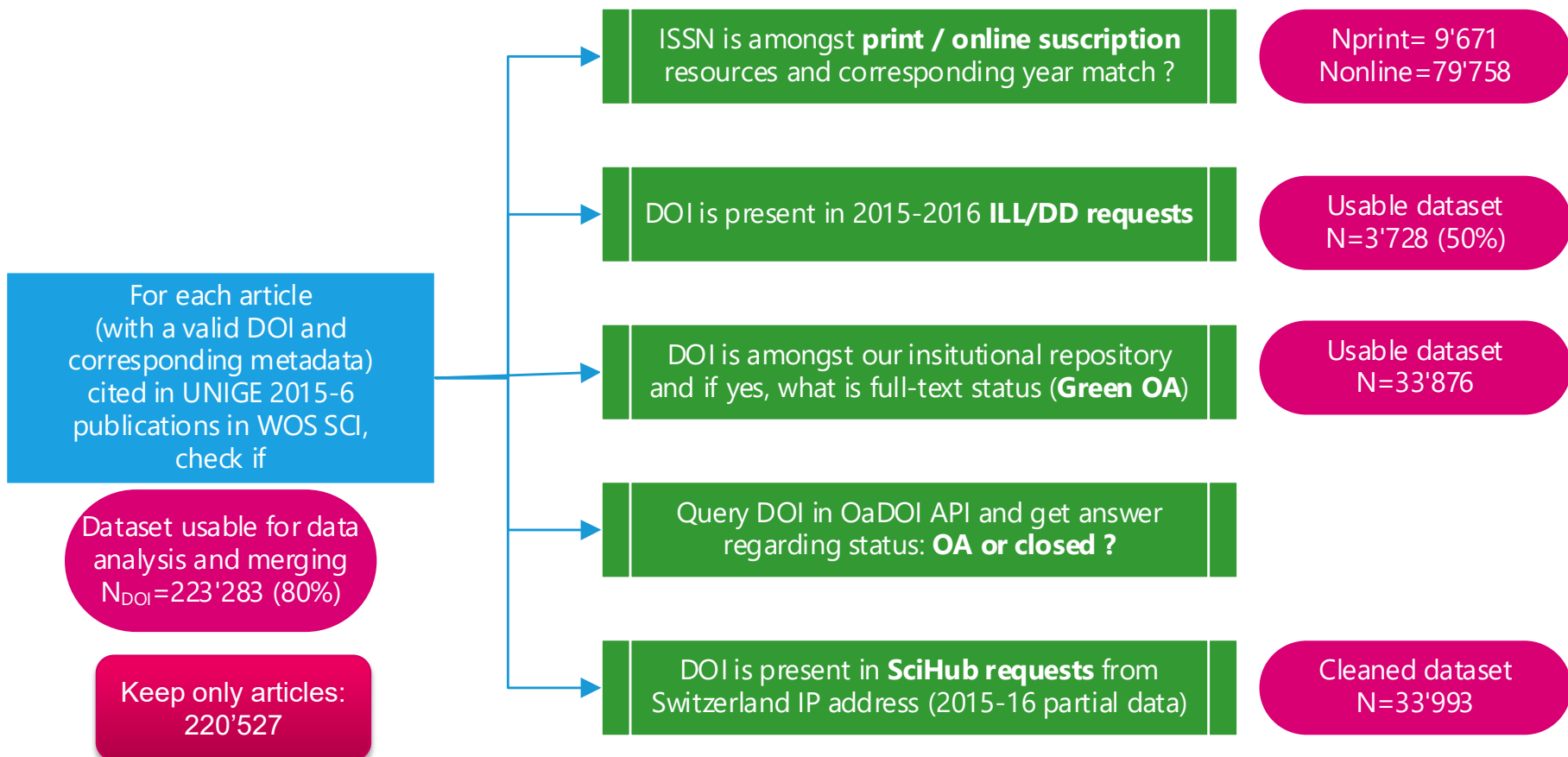
Dataset used for data
analysis and merging
N=3'728 (50%)

Excluded references
(missing data)
N=3'781 (50%)

Very small
because our
OpenILLink
Tool had a DOI
problem



OUR PROCESS TO VERIFY ACCESSIBILITY / USAGE



FINAL MATRIX

jupyter results Last Checkpoint: 44 minutes ago (autosaved) Logout

File Edit View Insert Cell Kernel Widgets Help Trusted | Python 3

Code

```
In [59]: # Export final matrix
df2015ex.to_csv('df2015ex.tsv', sep='\t', encoding='utf-8', index=False)
df2016ex.to_csv('df2016ex.tsv', sep='\t', encoding='utf-8', index=False)
```

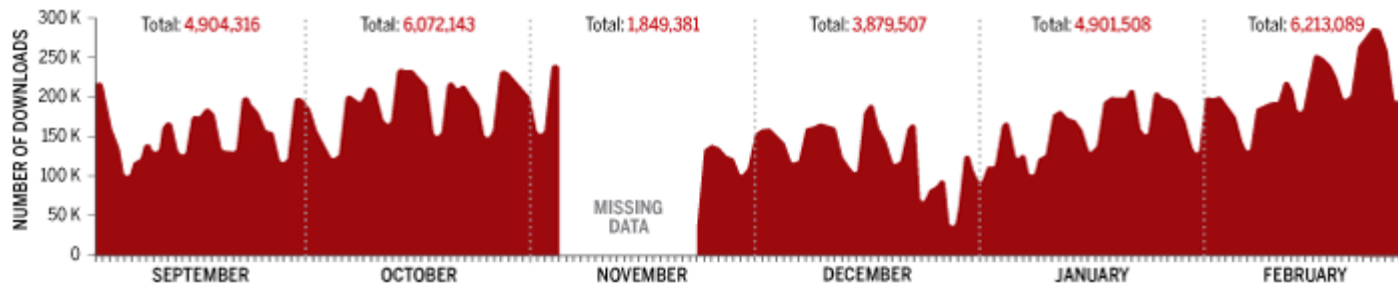
```
In [60]: df2015ex
```

```
Out[60]:
```

	DOI	OA	AOU	SHCH	OI	EJ	PJ
0	10.1071/fp01241	0	0	0	0	0	0
1	10.1007/bf00386713	0	0	0	0	0	0
2	10.1016/j.pharmthera.2014.05.002	0	0	0	0	0	0
4	10.1016/j.jclinepi.2007.11.008	1	0	0	0	0	0
8	10.1103/physrevb.54.15800	0	1	0	0	0	0
9	10.1093/mnras/stu1423	1	0	0	0	1	1
10	10.1093/mnras/stt1945	1	0	0	0	1	1
11	10.1093/glycob/cwq188	1	0	0	0	1	0
12	10.1016/j.nmd.2005.10.001	0	0	0	0	1	1
14	10.1080/19346182.2008.9648483	0	0	0	0	1	0
16	10.1371/journal.pone.0077691	1	1	0	0	0	0
17	10.1034/j.1600-0501.2001.012001019.x	0	0	0	0	1	0
19	10.1007/bf01337700	0	0	0	0	0	0
20	10.1007/bf01333110	0	0	0	0	0	0
21	10.1002/pssa.2210210220	0	0	0	0	0	0
22	10.1016/j.cytogfr.2010.10.003	1	0	0	0	1	0
23	10.1063/1.2789435	0	0	0	0	0	0

SOME LIMITATIONS

- Imperfect data sources
 - Sci-hub data is partial and we don't know all about it



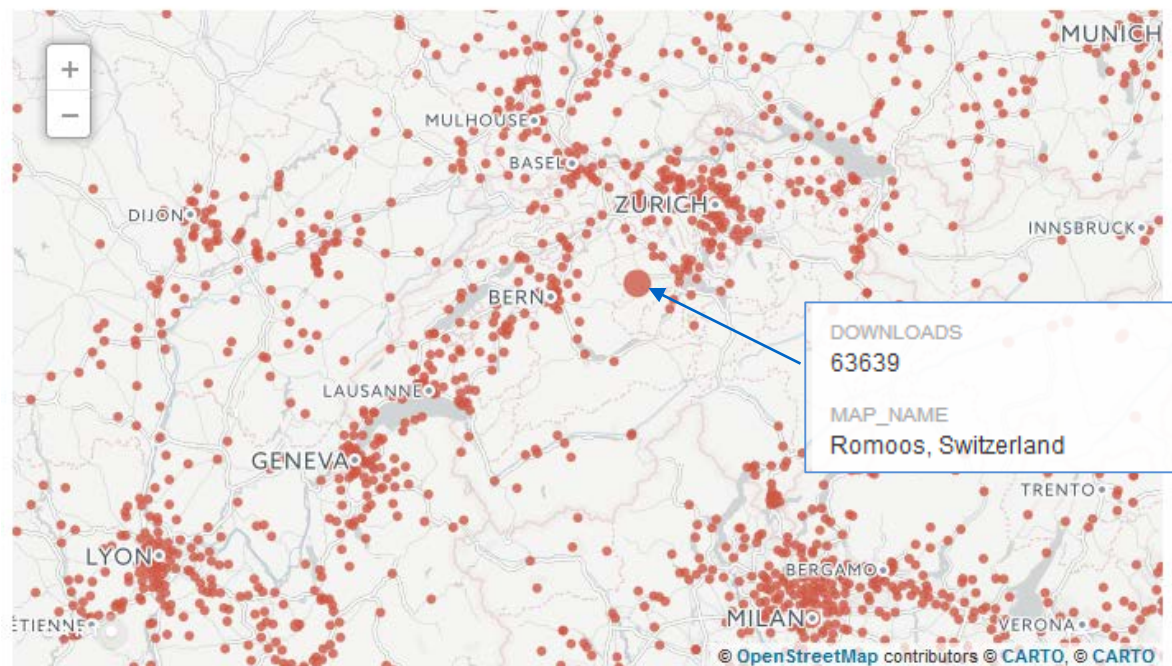
SOME LIMITATIONS

- Imperfect data sources

- Sci-hub data is partial and we don't know all about it

It's a Sci-Hub world

Server log data for the website Sci-Hub from September 2015 through February paint a revealing portrait of its users and their diverse interests. Sci-Hub had 28 million download requests, from all regions of the world and covering most scientific disciplines.



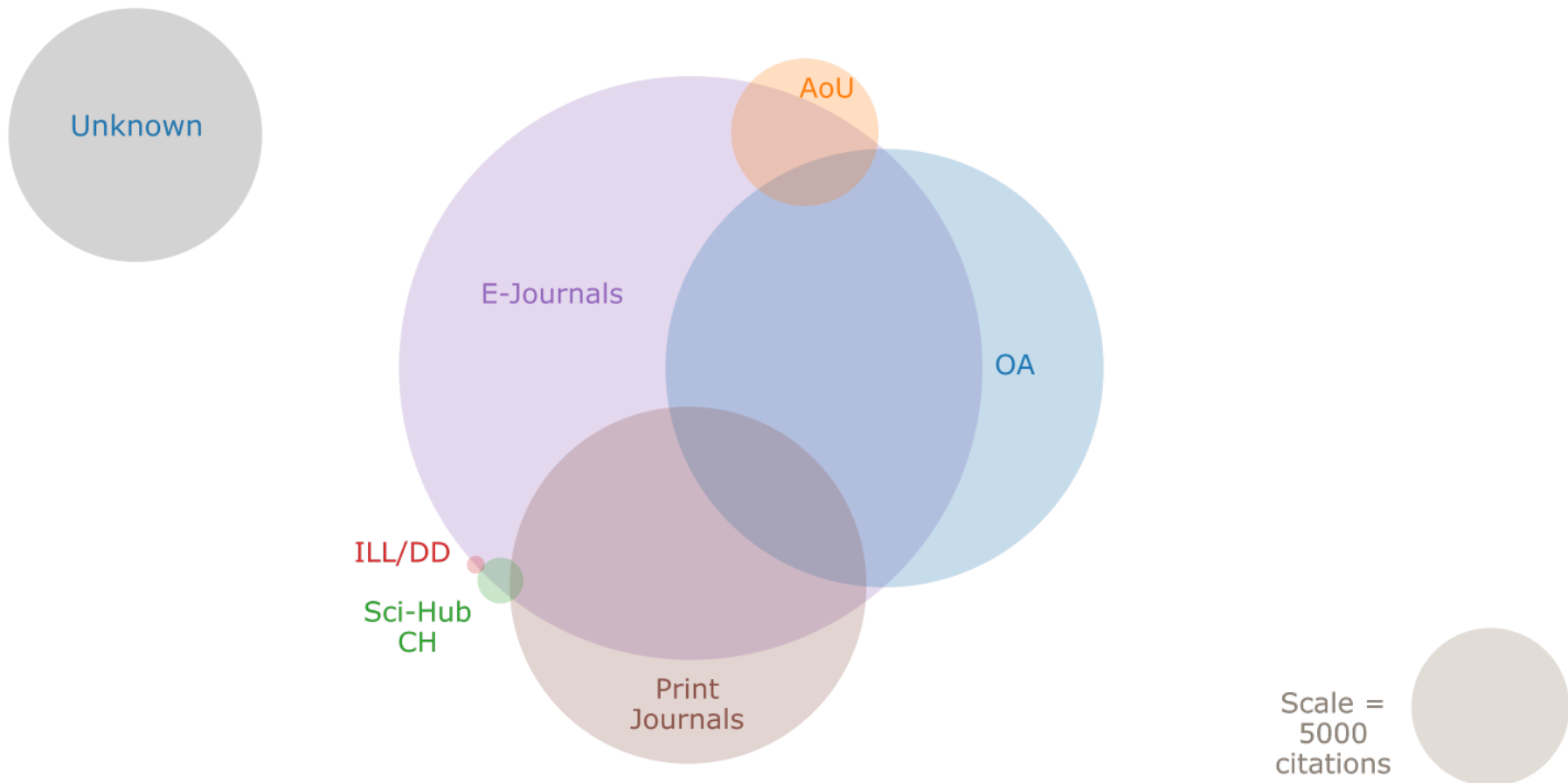
SOME LIMITATIONS

- **Imperfect data sources**
 - Sci-hub data is partial and we don't know all about it
 - SFX / catalog data : one-time 2017 snapshots.
 - Not all UNIGE papers are in WOS
 - WOS citations data are not so clean (missing metadata, no DOI or DOI not valid)
 - Half of ILL requests could not be analysed
- **Imperfect Unique identifiers**
 - No PMID to DOI easy reliable conversion tool
 - Undeclared DOI ?
- **Short time-frame**
 - Publication takes time. Researchers may cite articles they have gotten long ago (so not in our 2015-6 radar)
- **Other factors**
 - Eg. Free ILL/DD may have a role in trends
 - Researcher may resort to many other article providing « sources »
 - Do they cite unread articles ?
- **Only journal articles**

RESULTS & DISCUSSION

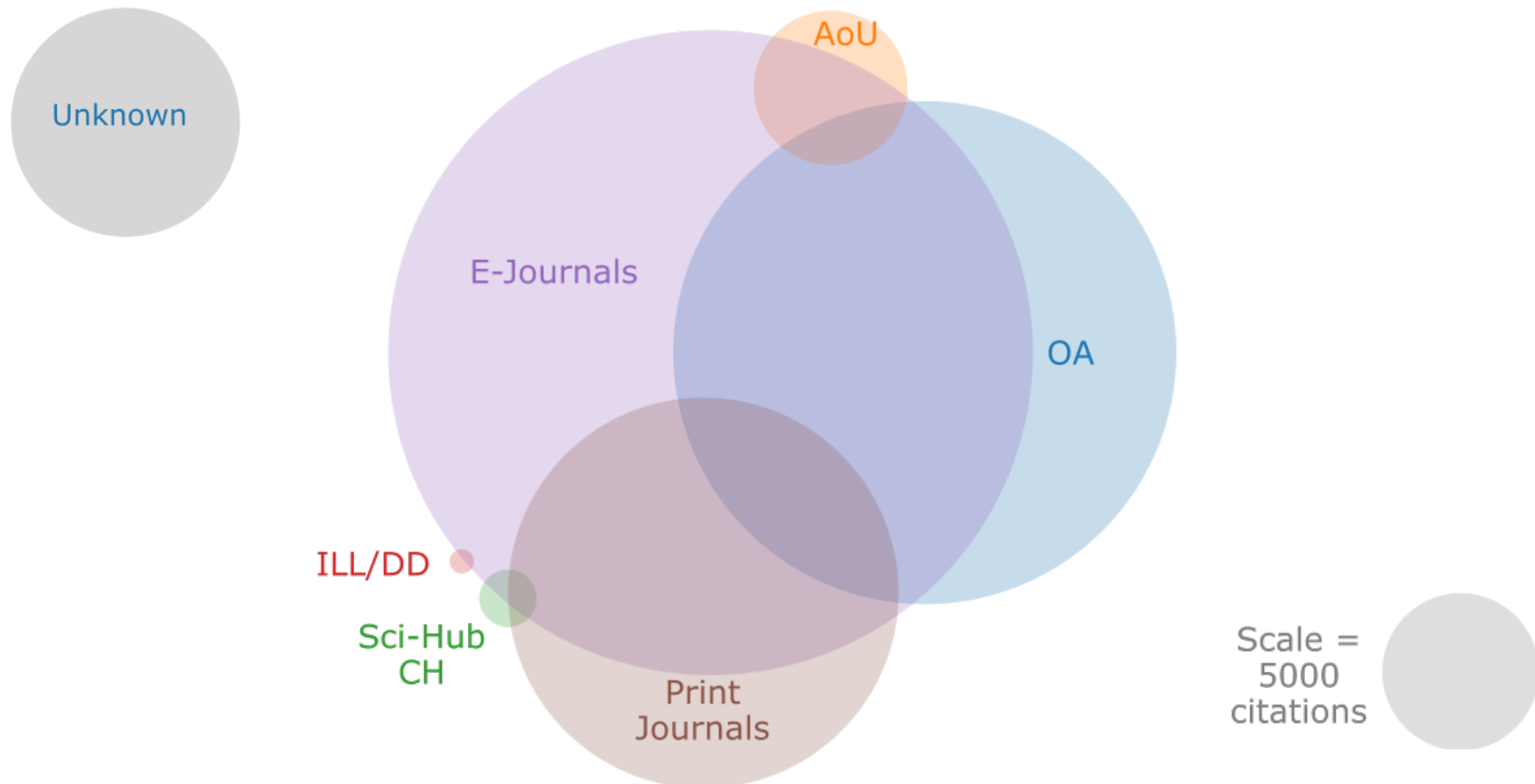
CITED IN 2015 ARTICLES AVAILABILITY WITHIN DATA SOURCES

Possible sources of articles cited in UNIGE publications on 2015



CITED IN 2016 ARTICLES AVAILABILITY WITHIN DATA SOURCES

Possible sources of articles cited in UNIGE publications on 2016



THE HIDDEN FIGURES



Unknown

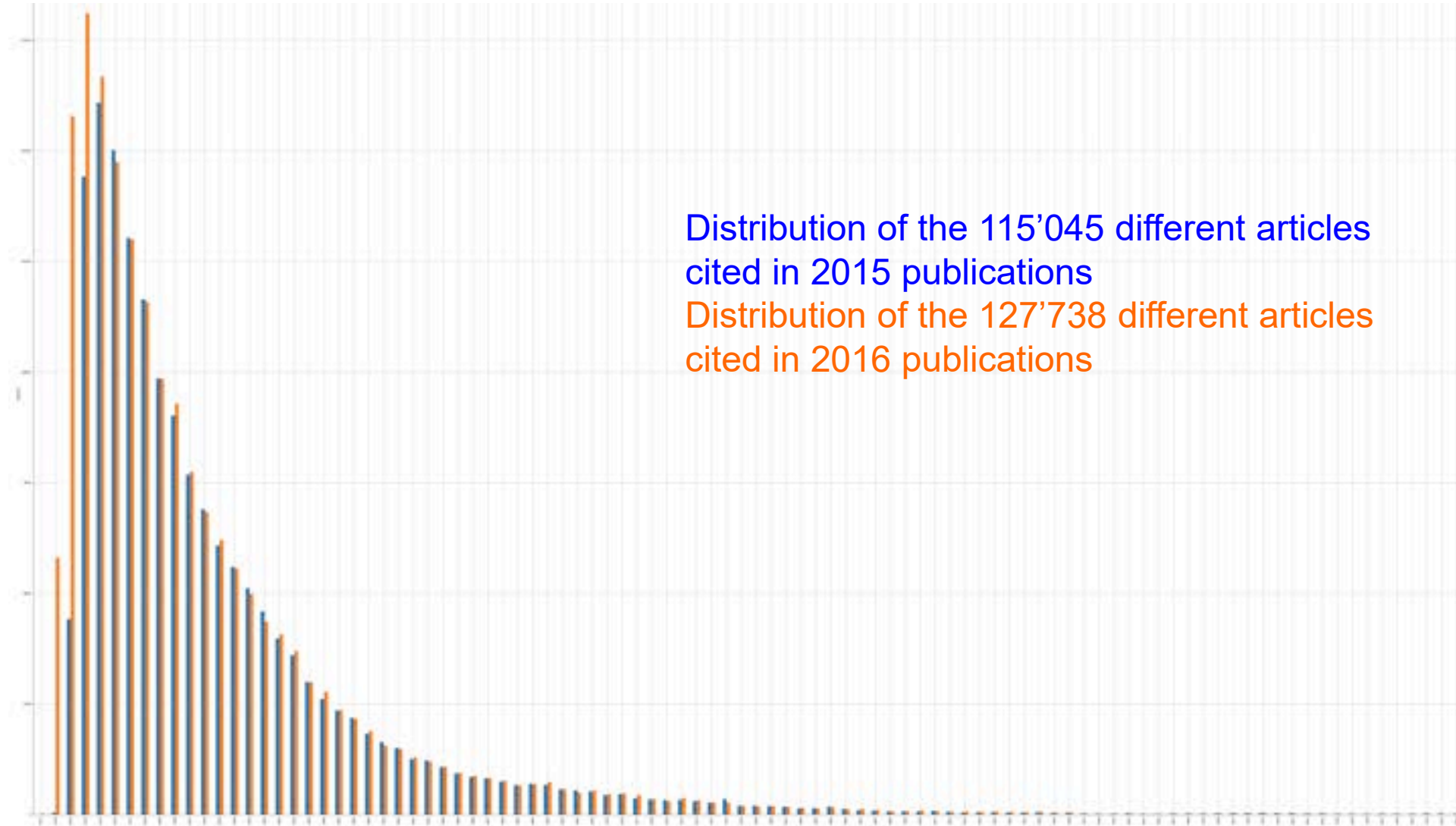
2015: 18'595
2016: 14'412



???

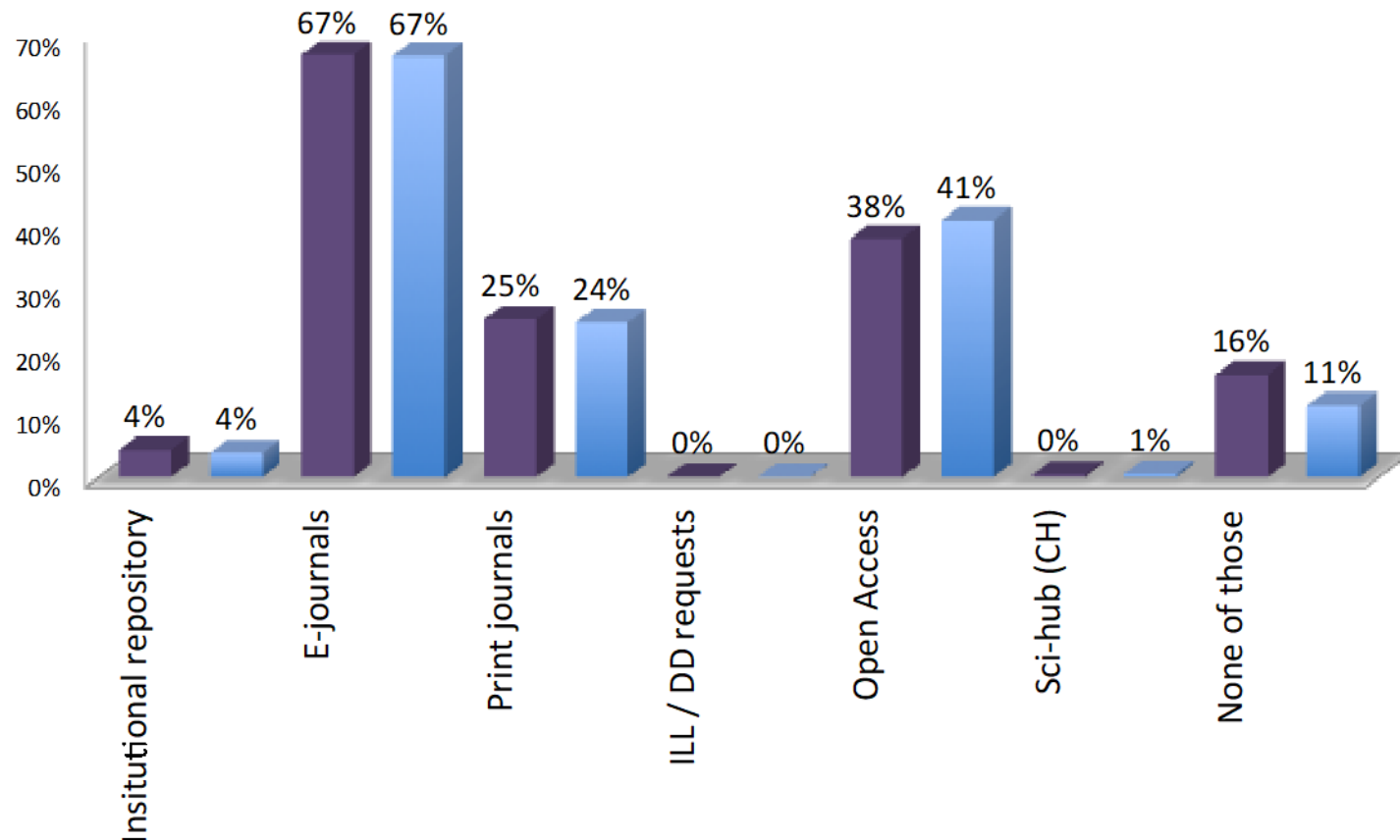


DISTRIBUTION OF CITED ARTICLE BY YEAR PUBLISHED



SHIFT BETWEEN 2015 & 2016 ?

Percentage of articles cited by UNIGE researchers in their 2015 & 2016 publication that are present in



CONCLUSIONS

- Need for articles should still be present as our researchers cite more and more
- Confirmed some feelings we had:
 - ✓ OA is growing faster than the rest
 - ✓ The library offers nice coverage.
 - ✓ Piracy is not so high in Switzerland
 - ✓ We don't know all sources (and practices)
- But : we can't explain the slight 2016 usage decrease of our e-journals.
- More research needed (survey ? direct observation ? ...)
- Repeat for all resources provided by university and develop as a promotion tool for library services incl. ILL/DD?

SELECTED REFERENCES

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- ———. 2017b. « Statistique suisse des bibliothèques su-f-16.02.02.02 & su-f-16.02.02.04 ». Consulté le octobre 3. <https://www.bfs.admin.ch/bfs/fr/home/statistiques/culture-medias-societe-information-sport/culture/bibliotheques.html> .
- Piwowar, Heather, Jason Priem, Vincent Larivière, Juan Pablo Alperin, Lisa Matthias, Bree Norlander, Ashley Farley, Jevin West, et Stefanie Haustein. 2017. « The State of OA: A Large-Scale Analysis of the Prevalence and Impact of Open Access Articles ». e3119v1. PeerJ Preprints. doi:[10.7287/peerj.preprints.3119v1](https://doi.org/10.7287/peerj.preprints.3119v1).
- Singh Chawla, Dalmeet. 2017. « Half of papers searched for online are free to read ». *Nature*, août. doi:[10.1038/nature.2017.22418](https://doi.org/10.1038/nature.2017.22418).
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THANK YOU VERY MUCH!

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