

Lars G. Svensson

Linked / Open Data Services of the German National Library

On the web, users expect that there are links leading them to the information they need

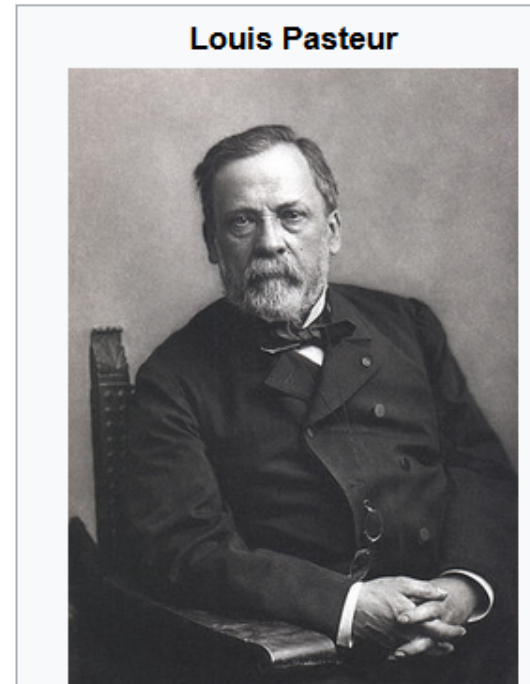
Louis Pasteur

From Wikipedia, the free encyclopedia

"Pasteur" redirects here. For other uses, see [Pasteur \(disambiguation\)](#).

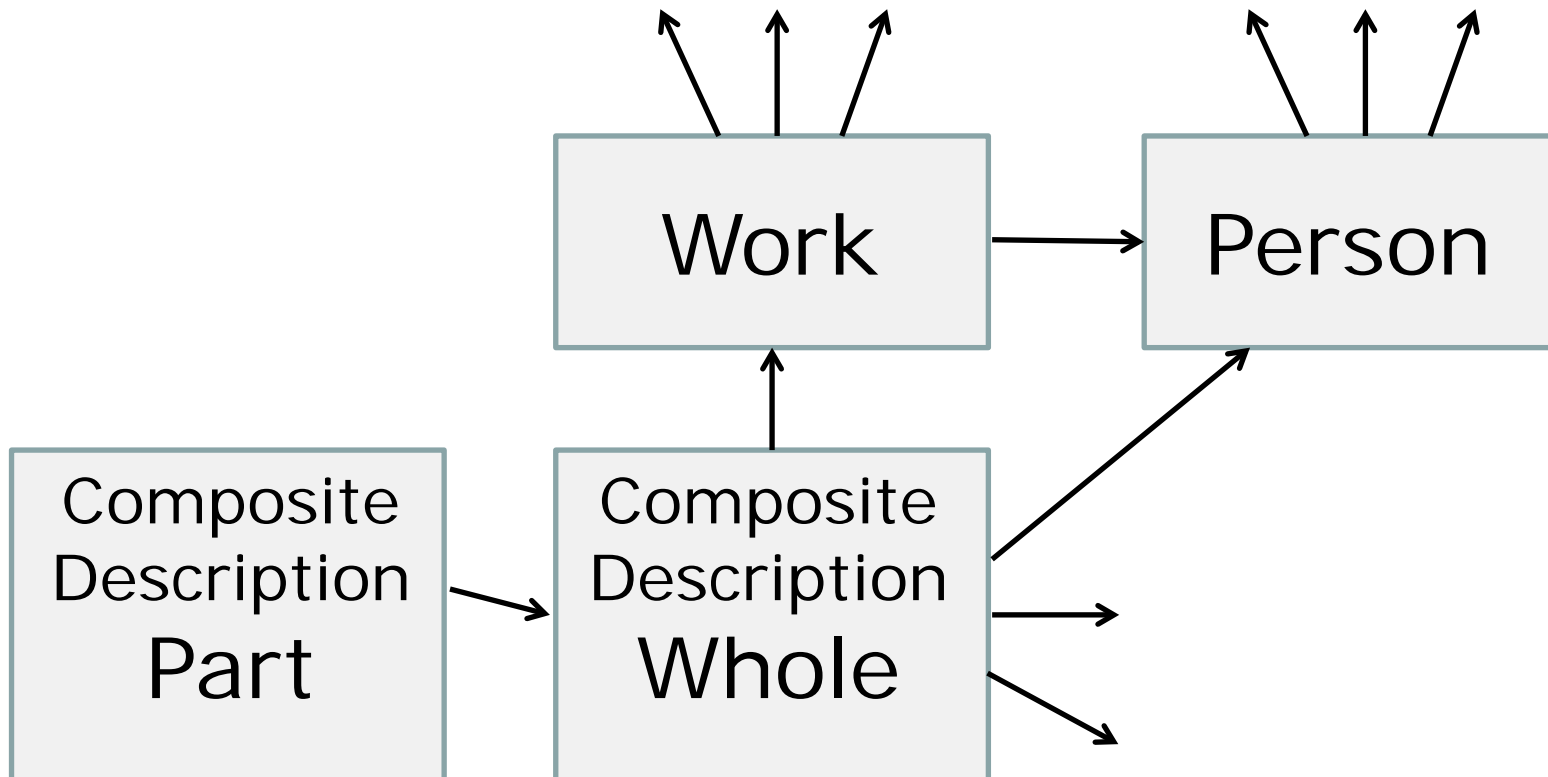
Louis Pasteur (/ˈluːiˈpæˈstɜːr/, French: [lwi pastœʁ]; December 27, 1822 – September 28, 1895) was a French biologist, microbiologist and chemist renowned for his discoveries of the principles of vaccination, microbial fermentation and pasteurization. He is remembered for his remarkable breakthroughs in the causes and prevention of diseases, and his discoveries have saved many lives ever since. He reduced mortality from puerperal fever, and created the first vaccines for rabies and anthrax. His medical discoveries provided direct support for the germ theory of disease and its application in clinical medicine. He is best known to the general public for his invention of the technique of treating milk and wine to stop bacterial contamination, a process now called pasteurization. He is regarded as one of the three main founders of bacteriology, together with Ferdinand Cohn and Robert Koch, and is popularly known as the "father of microbiology".^{[4][5][6]}

Pasteur was responsible for disproving the doctrine of spontaneous generation. He performed experiments that showed that without contamination,



https://en.wikipedia.org/wiki/Louis_Pasteur

We as libraries create links all the time, e.g. by linking titles to authority data



The links in libraries are usually only local and only visible in the catalogue

- Ihre Aktion suchen [und] (Schlagwörter (XSLW)) pasteur

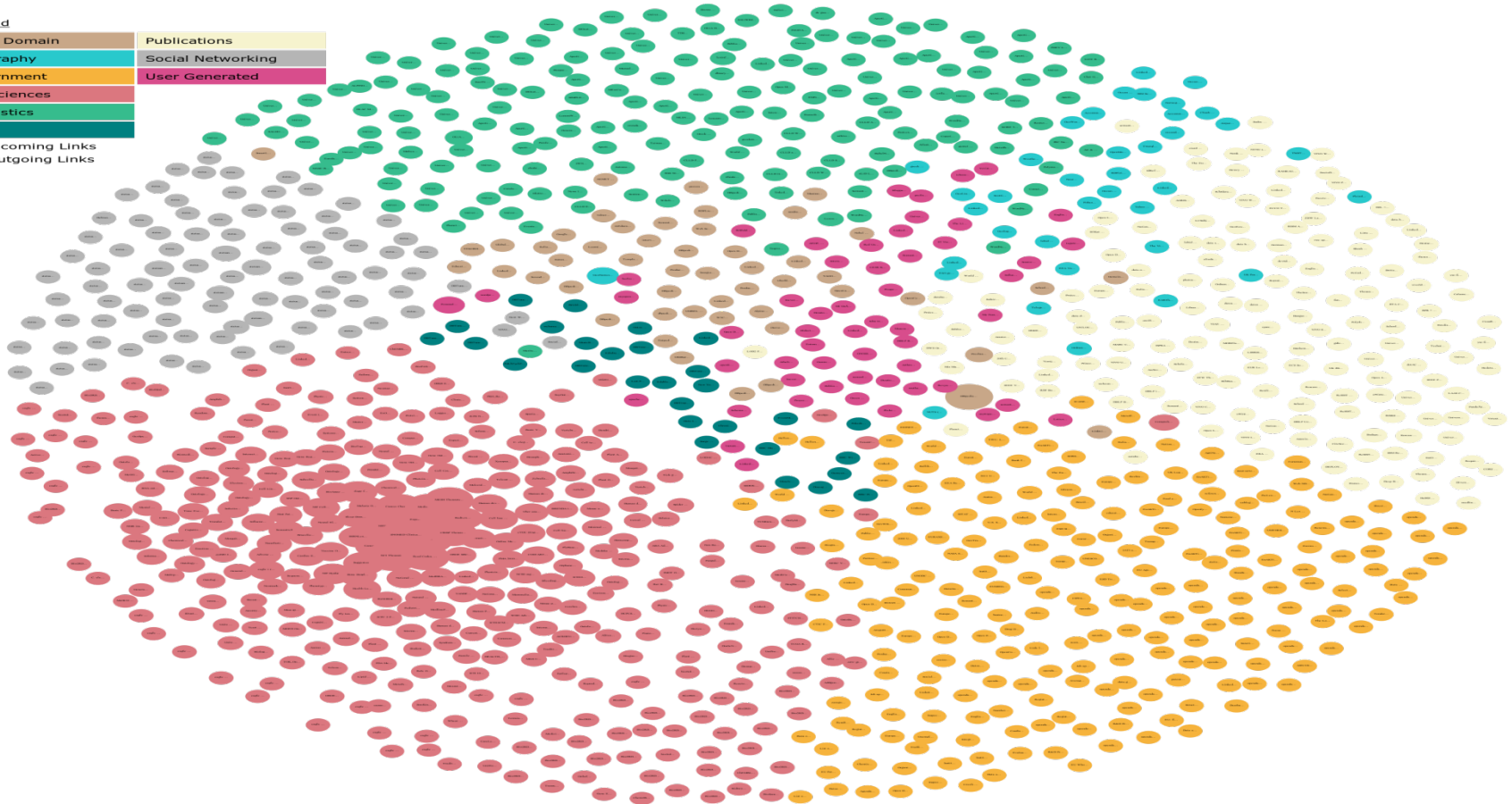
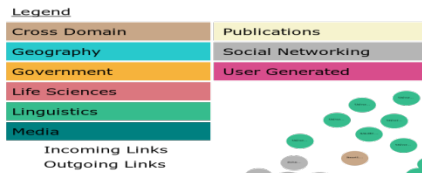
perma 



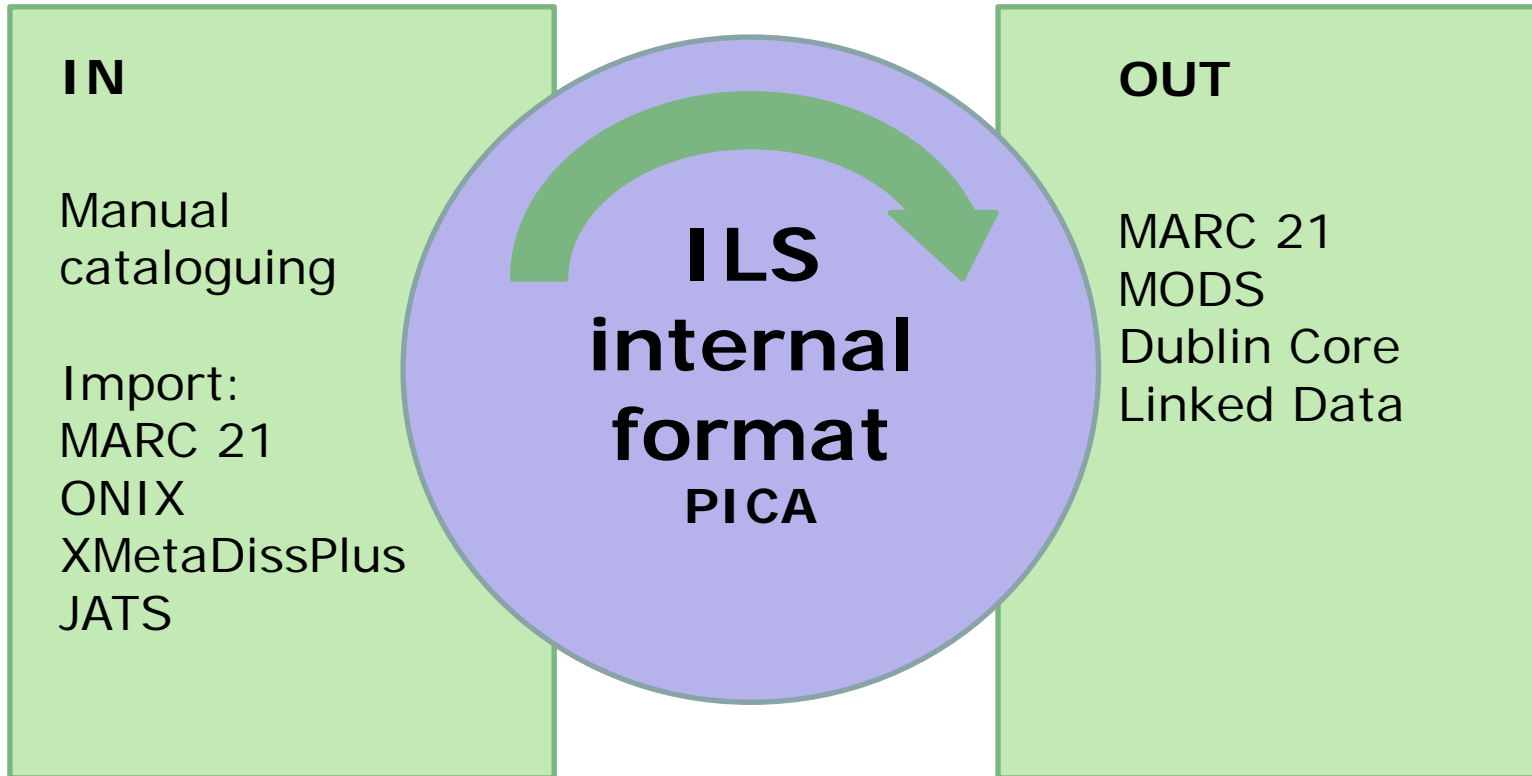
Titel: Louis **Pasteur** : la réalité après la légende / Pierre-Yves Laurioz
VerfasserIn: Laurioz, Pierre-Yves
Sprache/n: Franzoesisch
Veröffentlichungsangabe: Paris : Éd. de Paris, 2003
Umfang: 205 S
Schriftenreihe: Idole
ISBN: 2-85162-096-7
Schlagwörter: ***Pasteur**, Louis
Sachgebiete: 44.01 Geschichte der Medizin
42.01 Geschichte der Biologie

Signatur: **1 A 498891**
● bestellen

Libraries must be part of a global link infrastructure, not restricted to their own data



In the German National Library, we have implemented different solutions to this



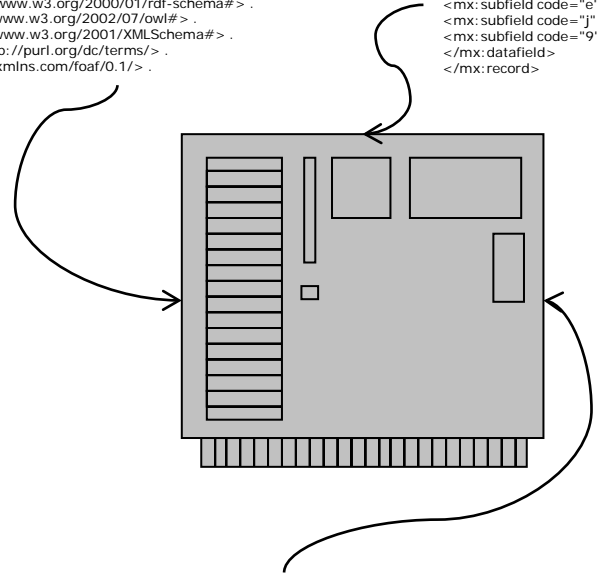
In order to publish links, someone must create them...



Photo by The Hamster Factor (CC BY-NC-ND): http://www.flickr.com/photos/disaster_area/3454110496/

```
@prefix void: <http://rdfs.org/ns/void#> .  
@prefix rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#> .  
@prefix rdfs: <http://www.w3.org/2000/01/rdf-schema#> .  
@prefix owl: <http://www.w3.org/2002/07/owl#> .  
@prefix xsd: <http://www.w3.org/2001/XMLSchema#> .  
@prefix dcterms: <http://purl.org/dc/terms/> .  
@prefix foaf: <http://xmlns.com/foaf/0.1/> .
```

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<mx:subfield code="e">220.531</mx:subfield>  
<mx:subfield code="a">7</mx:subfield>  
<mx:subfield code="j">Paraphrasen</mx:subfield>  
<mx:subfield code="9">ess=ren</mx:subfield>  
</mx:datafield>  
</mx:record>
```



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<rdfs:label xml:lang="de">MARC 21 Entsprechung</rdfs:label>  
<rdfs:label xml:lang="en">MARC 21 equivalent</rdfs:label>  
<rdfs:comment xml:lang="de">Gibt die MARC 21 Entsprechung des Elements im GND-MARC-Format wieder.</rdfs:comment>  
<rdfs:comment xml:lang="en">Expresses the MARC 21 equivalent for this element in the GND MARC format.</rdfs:comment>  
</owl:AnnotationProperty>
```

Cataloguers create links in our CBS

[...]
100 Pasteur, Louis ←
375 m
400 Paster, Lui
400 Pa-xt, Lu-i
400 Pasteur, ...
400 Pasteur, Lajos
400 \$P Pasteur
548 1822\$b1895\$4datl
550 !040098362!Chemiker [Ts1]\$4berc
550 !041318269!Biologe [Ts1]\$4beru
550 !040031578!Arzt [Ts1]\$4beru
667 Maschinell verknuepft mit DBL-Retro-Titeldaten
670 M. LoC-NA
678 \$bFranz. Chemiker und Mikrobiologe
678 \$bChemiker, Mikrobiologe, Frankreich
[...]

[...]
2105 00,L01
2240 DNB:362010285
2242 |o|72679692
2260 2995/0217
3000 !118591959!Pasteur, Louis [Tp1]
3010 !119371863!Sticker, Georg [Tp1]
4000 Die @Hühnercholera, ihr Erreger, ihr Schutzimpfstoff
4030 Leipzig : Joh. Ambr. @Barth
4060 75 S.
4062 8
4180 #230#!015128148!Klassiker der Medizin ; Bd. 30
4703 agi-1010Schulte
4725 vergriffen\$d2015-05-04
[...]

Automated processes handling digital publications are part of the equation, too

[...]
100 Pasteur, Louis
375 m
400 Paster, Lui
400 Pa-xt, Lu-i
400 Pasteur, ...
400 Pasteur, Lajos
400 \$PPasteur
548 1822\$b1895\$4datl
550 !040098362!Chemiker [Ts1]\$4berc
550 !041318269!Biologe [Ts1]\$4beru
550 !040031578!Arzt [Ts1]\$4beru
667 Maschinell verknuepft mit DBL-Retro-Titeldaten
670 M, LoC-NA
678 \$bFranz. Chemiker und Mikrobiologe
678 \$bChemiker, Mikrobiologe, Frankreich
 [...]

[...]
4000 Die @Entwicklung nachhaltiger Synthesemetho
4030 Magdeburg : Universitätsbibliothek
4060 Online-Ressource
4085 *HTTP*=u <http://edoc2.bibliothek.uni-halle.de>
4204 Magdeburg, Universität, Diss., 2014
4207 {[publtype]doctoralThesis}{[dct]Text}
5050 540\$Em\$Hdnb\$K1,000\$D2014-08-21
5050 547.2\$Ea\$Hxmp\$D2014-08-20
5051 \$KK_A4_02_20140123_de\$LS_WA3_WB38_2
5052 \$f660\$F0,735\$g300\$G0,687\$D2014-08-21
5540 [GND]!040357112!Ligand [Ts1]\$K0,176\$D20
5540 [GND]!040299198!Katalysator [Ts1]\$K0,125\$
5540 [GND]!040606333!Systemtransformation [Ts1
5540 [GND]!944980511!Internationale Union für Re
5540 [GND]!041765214!Pyrrolderivate [Ts1]\$K0,00
5540 [GND]!041522982!Enine [Ts1]\$K0,007\$D201
5540 [GND]!040301087!Kautschuk [Ts1]\$K0,005\$
5540 [GND]!974567868!NOESY [Ts1]\$K0,004\$D20
5540 [GND]!040182029!Frau [Ts1]\$K0,004\$D2017
5540 [GND]!041497465!Diels-Alder-Reaktion [Ts1]\$
5540 [GND]!117549649!Goodyear, Charles [Tp1]\$K
5540 [GND]!118591959!Pasteur, Louis [Tp1]\$K0,00
 [...]

A further source is to import links from third parties (e. g. Wikipedia)

Louis Pasteur

From Wikipedia, the free encyclopedia


"Pasteur" redirects here. For other uses, see [Pasteur \(disambiguation\)](#).

Louis Pasteur (/ˈluːi pæˈstɜːr/, French: [lʷi pastœʁ]; December 27, 1822 – September 28, 1895) was a [French biologist](#), [microbiologist](#) and [chemist](#) renowned for his discoveries of the principles of [vaccination](#), [microbial fermentation](#) and [pasteurization](#). He is remembered for his remarkable

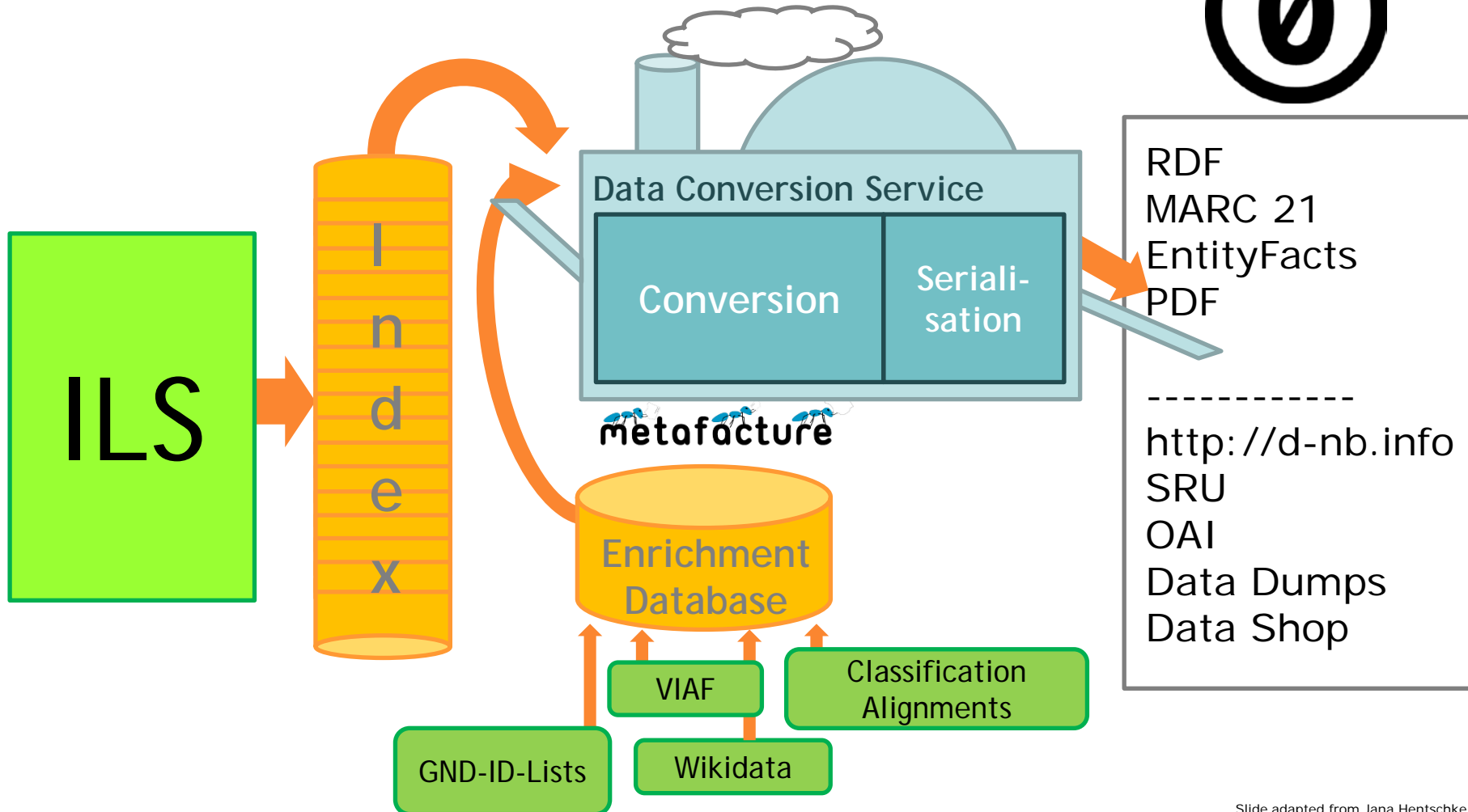
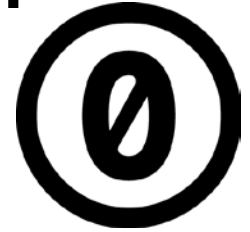
Authority control

WorldCat Identities [↗](#) · VIAF: [54152415](#) [↗](#) · LCCN: [n50050646](#) [↗](#) · ISNI: [0000 0001 2133 4104](#) [↗](#) · GND: [118591959](#) [↗](#) · ULAN: [500105951](#) [↗](#) · NLA: [35411315](#) [↗](#) · NDL: [00452240](#) [↗](#) · NKC: [jn20000720218](#) [↗](#) · Léonore: [LH/2064/18](#) [↗](#) · Botani

 GND

Link zu diesem Datensatz	http://d-nb.info/gnd/118591959 
Person	Pasteur, Louis
Geschlecht	männlich
Andere Namen	Paster, Lui Pa-xt, Lu-i Pasteur, ... Pasteur, Lajos Pasteur
Quelle	M, LoC-NA
Zeit	Lebensdaten: 1822-1895
Land	Frankreich (YA-FR)

The data in our CBS can be exported in several different formats



MARC 21 is still a very important format

024 7 \$a<http://d-nb.info/gnd/118591959>\$2uri
 [...]

100 1 \$aPasteur, Louis\$d1822-1895
 375 \$a1\$2iso5218
 400 1 \$aPaster, Lui\$d1822-1895
 400 1 \$aPa-xt, Lu-i\$d1822-1895
 400 1 \$aPasteur, ...\$d1822-1895
 400 1 \$aPasteur, Lajos\$d1822-1895
 400 0 \$aPasteur\$d1822-1895
 548 \$a1822-1895\$94: datI\$wr\$iLebensdaten
 550 \$0(DE-101)040098362\$0(DE-588)4009836-9
 \$0<http://d-nb.info/gnd/4009836-9>
 \$aChemiker\$94: berc\$wr\$iCharakteristischer Beruf

550 \$0(DE-101)041318269\$0(DE-588)4131826-2
 \$0<http://d-nb.info/gnd/4131826-2>
 \$aBiologe\$94: beru\$wr\$iBeruf

550 \$0(DE-101)040031578\$0(DE-588)4003157-3
 \$0<http://d-nb.info/gnd/4003157-3>
 \$aArzt\$94: beru\$wr\$iBeruf

100 1 \$0(DE-588)118591959
 \$0<http://d-nb.info/gnd/118591959>
 \$0(DE-101)118591959\$aPasteur, Louis\$d1822-1895\$4au

245 00\$aDie Hühnerchoiera, ihr Erreger, ihr Schutzimpfstoff (18

264 1\$aLeipzig\$bJoh. Ambr. Barth\$c1923

300 \$a75 S.\$c8

366 \$cOP 20150504\$2onixas

490 1 \$aKlassiker der Medizin\$vBd. 30

700 1 \$0(DE-588)119371863
 \$0<http://d-nb.info/gnd/119371863>
 \$0(DE-101)119371863\$aSticker, Georg\$d1860-1960\$4ctf

830 0\$aKlassiker der Medizin\$vBd. 3
 0\$w(DE-101)015128148\$w(DE-600)971402-9\$9230\$7as

850 \$aDE-101a

Non-libraries are more keen on the RDF representation

```










<http://d-nb.info/gnd/118591959> a gndo:DifferentiatedPerson ;
  foaf:page <http://de.wikipedia.org/wiki/Louis\_Pasteur> ;
  owl:sameAs <http://dbpedia.org/resource/Louis\_Pasteur> ,
    <http://viaf.org/viaf/54152415> ;
  gndo:gndIdentifier "118591959" ;
  gndo:oldAuthorityNumber "(DE-588a)118591959" , "(DE-588c)4044856-3" ;
  gndo:preferredNameForThePerson "Pasteur, Louis" ;
  gndo:professionOrOccupation <http://d-nb.info/gnd/4009836-9> ,
    <http://d-nb.info/gnd/4131826-2> , <http://d-nb.info/gnd/4003157-3> ;
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    <http://d-nb.info/standards/vocab/gnd/gnd-sc#23.4p> ;
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    <http://d-nb.info/standards/vocab/gnd/geographic-area-code#XA-FR> ;
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    "Chemiker, Mikrobiologe, Frankreich"@de ;
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  gndo:dateOfBirth "1822"^^<http://www.w3.org/2001/XMLSchema#gYear> ;
  gndo:dateOfDeath "1895"^^<http://www.w3.org/2001/XMLSchema#gYear> .
  
```

EntityFacts offers fact sheets about persons, places and things from the GND

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  "forename" : "Louis",
  "dateOfBirth" : "1822", "dateOfDeath" : "1895",
  "professionOrOccupation" : [
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  "gender" : { "@id" : "http://d-nb.info/standards/vocab/gnd/gender#male",
    "label" : "Mann" },
  "sameAs" : [
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      "collection" : {
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        "name" : "Bibliothèque nationale de France",
        "publisher" : "Bibliothèque nationale de France",
        "icon" : "http://www.bnf.fr/bnf_dev/icono/favicon.ico" } },
    { "@id" : "http://id.loc.gov/authorities/n50050646",
      "collection" : {
        "abbr" : "LC",
        "name" : "NACO Authority File",
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The exported data is used in a plethora of contexts

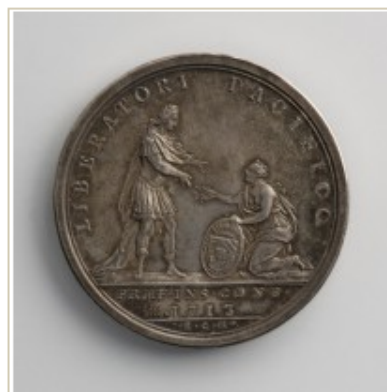
GND	
Link zu diesem Datensatz	http://d-nb.info/gnd/116446706
Person	Elbogen, Ismar
Geschlecht	männlich
Andere Namen	Elbogen, Yishāq Moše Elbogen, Jiṣḥāq Mōšeh Elbogen, Itamar Elbogen, J. Elbogen, I. LBWGN, Jiṣḥāq Mōšeh Elbogen, Yitshak M אלבוגן, יצחק משה (Sch
Quelle	LCAuth; Biogr. H E Archiv der American GND, LCAuth
Zeit	Lebensdaten: 187
Land	Deutsches Reich (D)
Geografischer Bezug	Geburtsort: Ostrze Sterbeort: New Yo Exilland: USA (193
Beruf(e)	Historiker
Weitere Angaben	Breslau, Univ., Phil Dt. Historiker; Berl
Systematik	16.1p Personen de
Typ	Person (piz)
Autor von	44 Publikationen

-  In meine Auswahl übernehmen
-  Druckansicht
-  Versenden
-  → MARC21-XML-Repräsentation dieses Datensatzes
-  → RDF (Turtle)-Repräsentation dieses Datensatzes
-  → Dokumentation Linked Data
-  @ Korrekturanfrage
-  → Nachweis der Quelle
-  → Zugehöriger Artikel in *Wikipedia*

-  **F** Teilen
-  **T** Tweet
-  

-  In meine Auswahl übernehmen
-  Druckansicht
-  Versenden
-  → MARC21-XML-Repräsentation dieses Datensatzes
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-  → Dokumentation Linked Data
-  @ Korrekturanfrage
-  → Nachweis der Quelle
-  → Zugehöriger Artikel in *Wikipedia*

museum-digital has an interesting use of the RDF data from the GND



Medaille Ludwigs XIV.

Beschreibung ...

Der Frieden von Utrecht w
Frieden stiftenden Befreier
Der König ist wie ein römisch
sich auf einen Schild mit d
Frankreich.

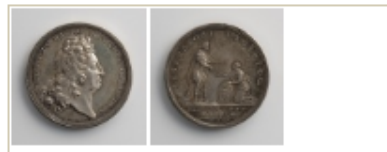
[Matthias Ohm]

Material/Technik ...


Silber

Maße ...

D. 41 mm, G. 41,87 g




Hergestellt ...

... wer: Jean Charles Roëttiers (1692-1779) 

... wann: 1713

Bezug zu Orten oder Plätzen ...

» Lille 

Jean Charles Roëttiers (1692-1779)

Roëttiers, Joseph Charles

Geboren: 1692

Gestorben: 1779

Tätig als: Künstler, Medailleur,
Bildhauer, Zeichner

Namensformen:

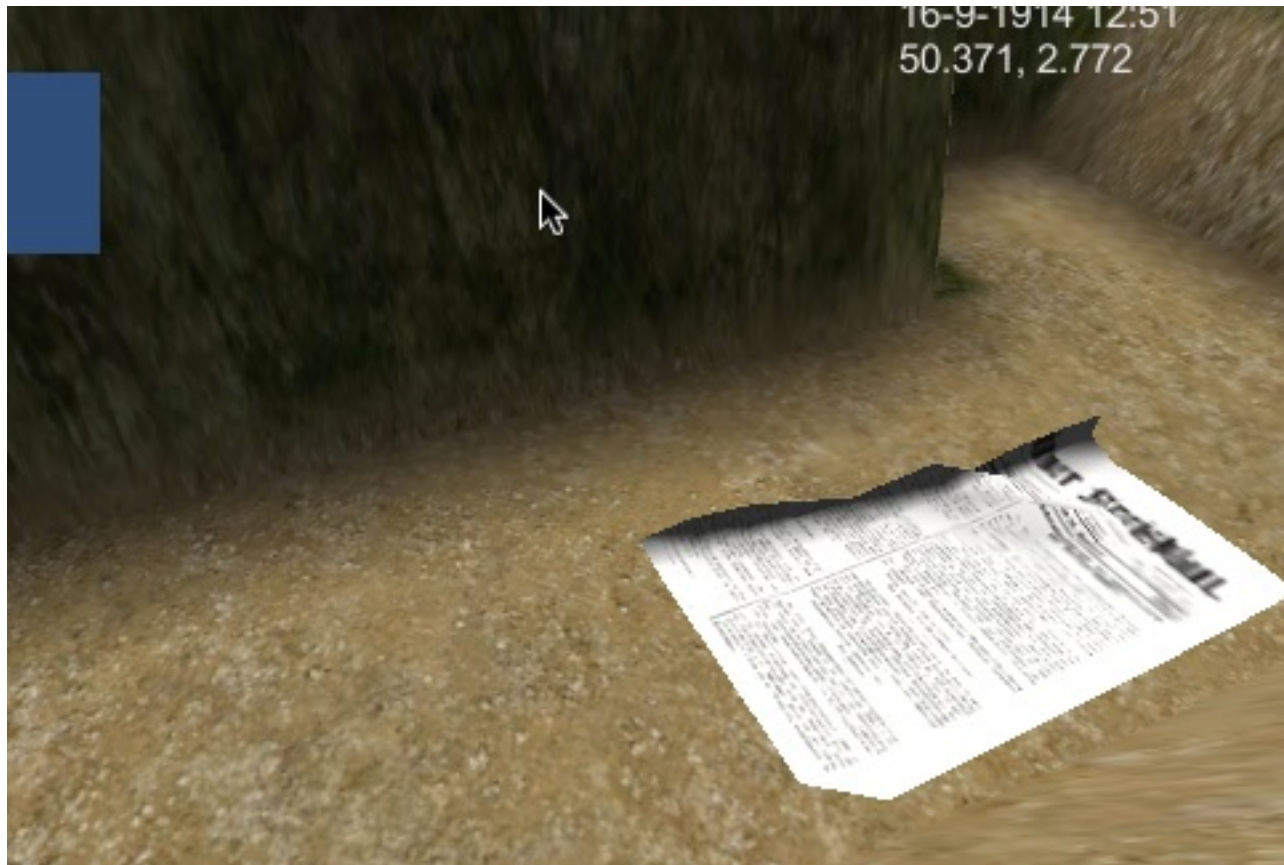
- Roëttiers, Jean Charles

en Joseph-Charles Roëttiers (13 April 1691 – 14 March 1779) was a noted French engraver and medalist. Roëttiers was born in Paris to Joseph Roëttiers (1635–1703). He was a member of the celebrated Roëttiers family of engravers, medallists, silversmiths, and goldsmiths; Norbert Roëttiers was his cousin, and Charles Norbert Roëttiers was his son. In 1715 he obtained the title of Graveur des médailles du Roi and was appointed Engraver General at the Paris Mint in 1727.

it Fece parte di una famiglia famosa in questo settore i cui componenti coprirono l'incarico di graveur général des monnaies dal 1682 al 1774. Era figlio Joseph Roëttiers e fu padre di Charles Norbert Roëttiers. Imparò il mestiere di incisore di medaglie dal padre e da suo cugino Norbert Roëttiers. Nel 1715 ottenne il titolo di "Graveur des médailles du Roi". Nel 1727 fu nominato Graveur général des monnaies de France. A lui si deve la creazione di diversi tipi monetari sotto Luigi XV, sia luigi d'oro che écu d'argento. Queste monete sono considerate tra le più belle della numismatica francese: Il a aussi créé plusieurs médailles commémoratives :

fr Joseph Charles Roëttiers (Paris, 1691 - Paris, 1779) est un médailleur français du XVIIIe siècle.

The geospatial coordinates have been exploited by game-creators

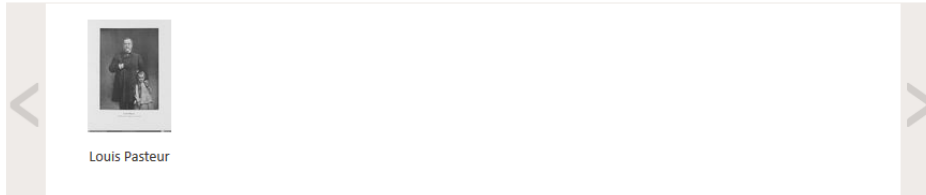


And EntityFacts help people find and display authoritative facts

Louis Pasteur

Chemiker, Biologe, Arzt
Geboren: 1822
Gestorben: 1895

Objekte: ?



Louis Pasteur

[Alle Bilder \(5\)](#)

Beteiligt an:

→ Die Alkohol-Gäehung

Pasteur, Louis. - Augsburg : Lampart, 1871

[Alle Objekte \(1\)](#)

Thema in:

→ Louis Pasteur

Grafik; Porträt

→ Darwin, Pasteur, Koch et Freud dans le roman ou "l'évolution" et la santé dans la réalité et l'imaginaire européens

Grandordy, Béatrice. - Paris : Harmattan, 2012

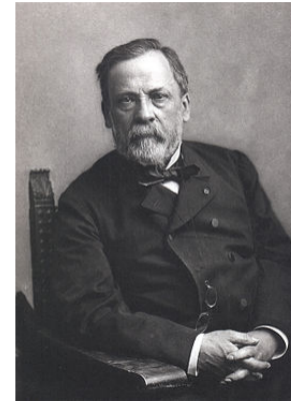
→ Pasteur and modern science

Dubos, René J.. - Madison, WI ; Berlin ; Heidelberg ; New York ; London ; Paris ; Tokyo : Science Tech Publ., 1988

→ Louis Pasteur an Karl Weltzien

ohne Datierung (1849-1851), Straßburg, KIT-Archiv, 27072 Nachlass Karl Weltzien

[Alle Objekte \(7\)](#)



Louis Pasteur

Quelle: [Wikimedia Commons](#)

Informationen zum Lizenzstatus eingebundener Mediendateien (etwa Bilder oder Videos) können im Regelfall durch Anklicken dieser abgerufen werden.

Suche:

🔍 „Louis Pasteur“ in der DDB

Externe Links:

📖 [Bibliothèque nationale de France](#)

📖 [NACO Authority File](#)

📖 [Virtual International Authority File \(VIAF\)](#)

📖 [International Standard Name Identifier \(ISNI\)](#)

[deWikipedia \(Deutsch\)](#)

[enWikipedia \(English\)](#)

[Wikidata](#)

So where do all those links take us?

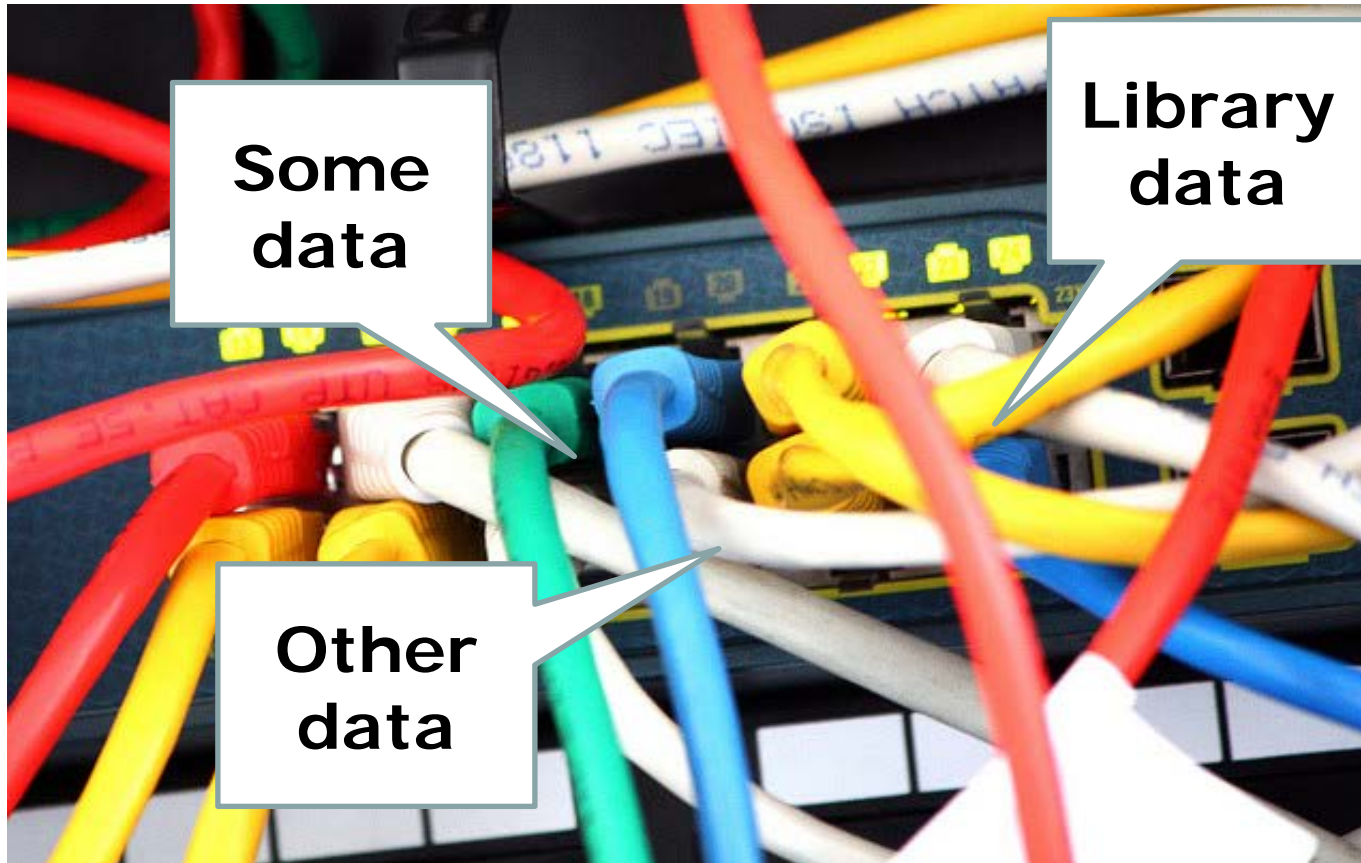


Librarians continuously create links that often are visible only in the library catalogue



By Štj, Wikimedia Commons, CC BY-SA 3.0, <https://commons.wikimedia.org/w/index.php?curid=1820682>

Libraries must be part of a global link infrastructure, not restricted to their own data



Third parties can enhance the data from libraries and re-publish that information

2017-02-06 | 13:25:47

Treffer zur GND-ID [116446706](#) im Steinheim-Institut

[Posener jüdische Publizistik | Bibliografie](#)

Weitere Fachangebote

[jewish encyclopedia 1906](#)

[GND-Einträge in der Judaica-Sammlung der UB Frankfurt/M.](#)

[Eintrag in der Liste der im Nationalsozialismus verbotenen Publikationen und Autoren](#)

Externe Datenangebote zur GND-ID [116446706](#)

[Biographische Informationen zu Personen im Index von NDB, ADB und Register BEACON-Findbuch](#)



RDF-Daten aus der GND (via <http://hub.culturegraph.org>)

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"@type" : "person"
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"@id" : "http://d-nb.info/gnd/116446706"
```

```
"preferredName" : "Ismar Elbogen"
```

```
"surname" : "Elbogen"
```

```
"forename" : "Ismar"
```

Ismar Elbogen

1. September 1874 – 1. August 1943



Breslau, Univ., Phil. Diss., 1898 ;
Dt. Historiker; Berlin; Prof. f.
jüdische Geschichte, geb. in Schildberg
<Posen>

+ andere Namen

- Jiṣḥāq Mōšeh Elbogen
- Itamar Elbogen
- J. Elbogen
- I. Elbogen
- Jiṣḥaq Mōšeh 'LBWGN
- Yitṣḥaq Mosheh Elbogen
- יצחק משה אלבוגן

+ Berufe / Funktionen

- Historiker

And by doing this we contribute to a global infrastructure of well-curated facts

FREE THE FACTS!

What can you do about this?*

1. LEARN MORE ABOUT OPEN ACCESS
2. CONTACT YOUR GOVERNMENT TO MAKE YOUR VOICE HEARD
3. VOTE TO MAKE OPEN ACCESS A PRIORITY

