

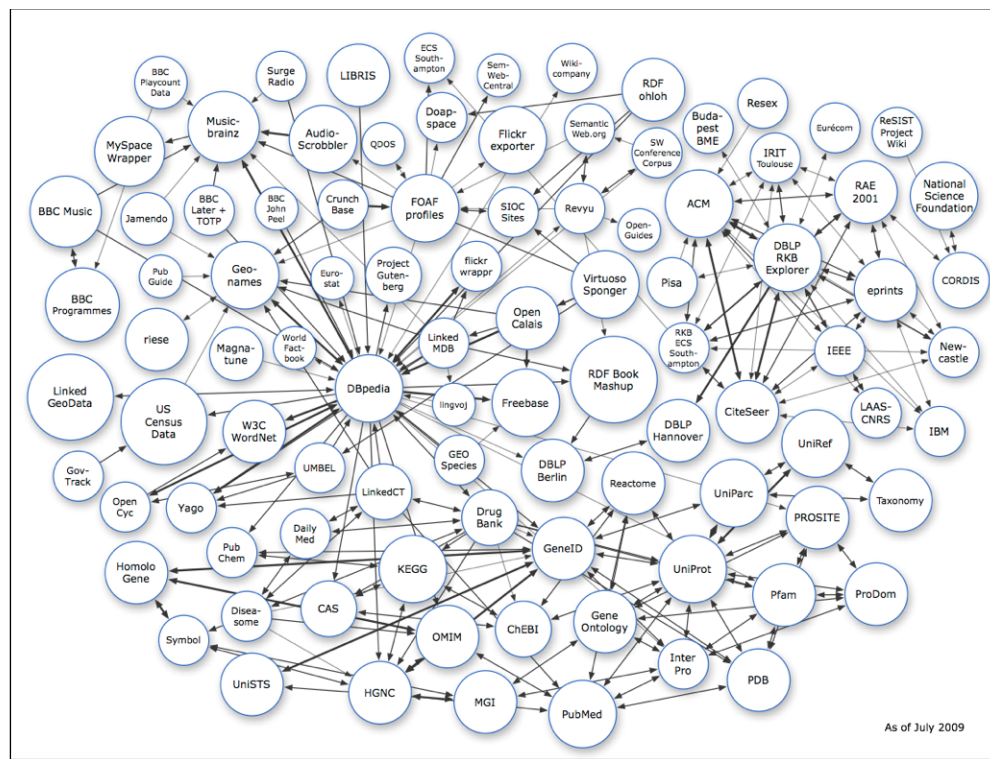
# Why Culture Institutions Should Care About Linked Data - A Case For Openness

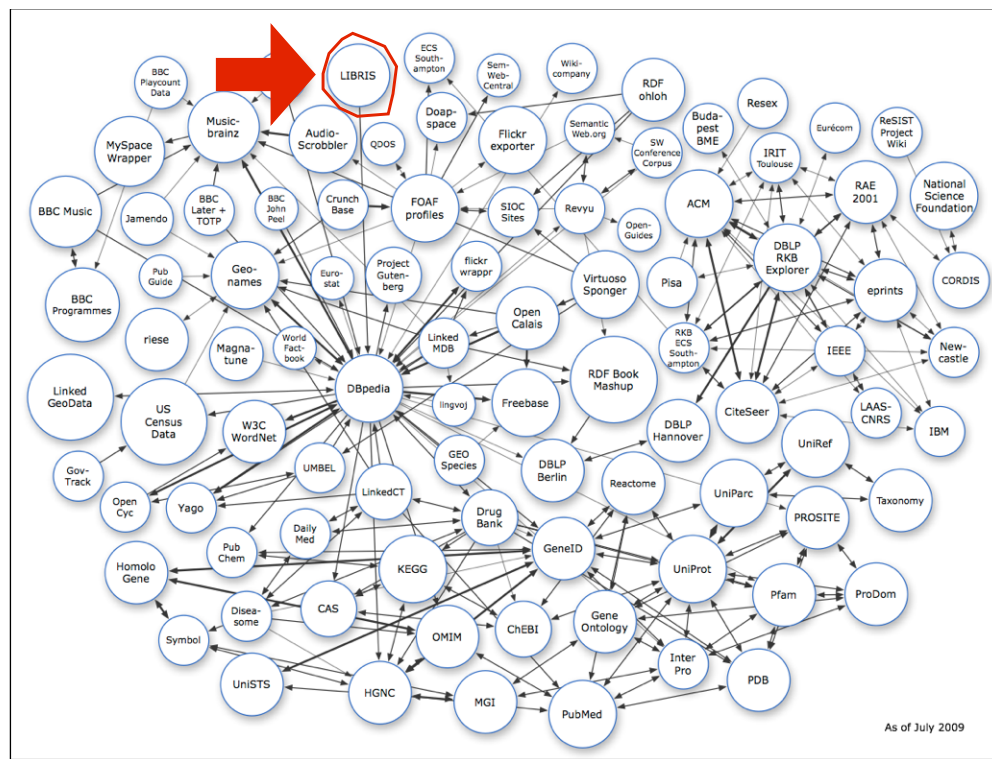
Anders Söderbäck  
LIBRIS, National Library of Sweden

# Culture Institutions?

- Libraries
- Archives
- Museums
- Publishers
- Societies

Any  
institution  
working in or  
with culture  
and/or  
education...





# What is Linked Data?

- "Best practices" for the semantic web
- A method to expose, share and link data with help of URI:s

# Linked Data according to Tim Berners-Lee (2006)

- Use URIs as names for things
- Use HTTP URIs so that people can look up those names.
- When someone looks up a URI, provide useful information.
- Include links to other URIs, so that they can discover more things.

# Data 3.0 (a Manifesto for Platform Agnostic Structured Data) according to Kingsley Idehen

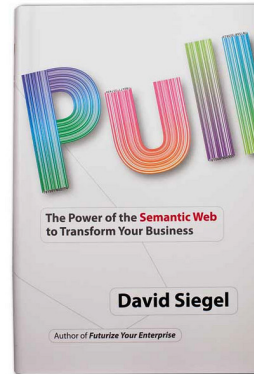
An "Entity" is the "Referent" of an "Identifier."

- An "Identifier" SHOULD provide a global, unambiguous, and unchanging (though it MAY be opaque!) "Name" for its "Referent".
- A "Referent" MAY have many "Identifiers" (Names), but each "Identifier" MUST have only one "Referent".
- Structured Entity Descriptions SHOULD be based on the Entity-Attribute-Value (EAV) Data Model, and SHOULD therefore take the form of one or more 3-tuples (triples), each comprised of:
  - an "Identifier" that names an "Entity" (i.e., Entity Name),
  - an "Identifier" that names an "Attribute" (i.e., Attribute Name), and
  - an "Attribute Value", which may be an "Identifier" or a "Literal".
- Structured Descriptions SHOULD be CARRIED by "Descriptor Documents" (i.e., purpose specific documents where Entity Identifiers, Attribute Identifiers, and Attribute Values are clearly discernible by the document's intended consumers, e.g., humans or machines).
- Structured Descriptor Documents can contain (carry) several Structured Entity Descriptions
- Structured Descriptor Documents SHOULD be network accessible via network addresses (e.g., HTTP URLs when dealing with HTTP-based Networks).
- An Identifier SHOULD resolve (de-reference) to a Structured Representation of the Referent's Structured Description.

<http://www.openlinksw.com/blog/kidehen@openlinksw.com/blog/?id=1624>

# ”The Semantic Web Acid Test”

- Is it semantic?
- Is it on the web?



From David Siegel - Pull, <http://thepowerofpull.com>



In the term "semantic web," the key word is "web."

- *Dan Connolly, W3C*

# What is LIBRIS?

- Swedish union catalog
- Library directory
- Search interface
- Library infrastructure

# What is LIBRIS?

- Existence since 1970
- Online public access (for humans) since 1997
- Open (or semi-open...) bibliographic records since 1997
- Marc21 since 2001
- Linked Open Data since 2008

# LIBRIS Union Catalogue

- 180 libraries
- 6,5 million bib records
- 20 million holdings
- 250k authority records
- National bibliography

# LIBRIS Library Directory

- Roughly 2000 libraries
- ILL information
- Administrative information
- Technical information
- Geographic locations

# LIBRIS search

LIBRIS

[LIBRIS SEARCH FACILITIES](#) | [HELP](#) | [PÅ SVENSKA](#) | [PREFERENCES](#) | [CLEAR HISTORY](#)

[Start](#) | [Extended search](#) | [Index A–Ö](#) | [Boolean](#) | [Subdatabases](#) | [Search history](#)

Search



## Explore

You can find books, theses, journals, music, e-books etc.

[We guide you through LIBRIS](#)



## Customize

A LIBRIS as you like it – favourite library, contrast ....

[Contrast](#) | [Views](#) | [My libraries](#)



## What is LIBRIS?

The Swedish university and research libraries search service

[Read more](#) | [Give us feedback](#)



➔ [Mark Twain \(November 30, 1835 – April 21, 1910\)](#)

◀ [New map feature](#) | [Sondera](#) | [Mark Twain \(1835–1910\)](#) | [New Swedish books](#) ▶

# LIBRIS as Infrastructure



# LIBRIS as Infrastructure

- Human Cataloging
- Automated imports of data
- Automated exports of data
- Open APIs
- LIBRIS-ID master identifier for bibliographic data in Sweden



# LIBRIS-ID

The screenshot shows the LIBRIS-ID web application running in a Mozilla Firefox browser. The browser's address bar displays the URL `http://libris.kb.se/bib/10906546`. The application's header includes the LIBRIS logo and navigation links: LIBRIS SÖKTJÄNSTER, HJÄLP, IN ENGLISH, PLACEHOLDERS, ANPASSA, and RENSAT HISTORIK. Below the header is a green navigation bar with links: Start, Utökad sökning, Bläddra ämnesvis, Index A-Ö, Boolesk, Deldatabaser, and Sökhistorik. A search bar contains the text "cartarescu" and a "Sök" button. Below the search bar, a breadcrumb trail reads "Sökning: cartarescu > Orbitör." The main content area is divided into two columns. The left column, titled "7 av 23", includes links for "Föregående post", "Nästa post", and "Till träfflistan". It also features tabs for "Översikt" and "Detaljer", with "Detaljer" selected. The "LIBRIS Formathandbok" (Information om MARC21) is displayed, showing MARC21 fields: 000 (01786cam a2200493 a 4500), 001 (10906546), 003 (SE-LIBR), 005 (20081117170235:0), 008 (080617s2008 sw |||| 100| f swe c), 020 (a 978-91-0-011837-2), 040 (a LGEM/ Ld S), and 041 1 (a sweh rum). The right column contains three sections: "Hitta liknande" with "Fler titlar av" (listing "Cărtărescu, Mircea ..." and "Johansson, Inger, 19 ..."), "Sammanhörande titlar" with "Serie" (listing "Fler delar"), and "Sök utanför LIBRIS" (listing "Sök vidare i").

LIBRIS - Orbitör. - Mozilla Firefox

File Edit View Go Bookmarks Tools Help

http://libris.kb.se/bib/10906546

Spindeln KB Kungliga biblioteket Webbhumlan GS Local Sök i LIBRIS

LIBRIS LIBRIS SÖKTJÄNSTER | HJÄLP | IN ENGLISH | PLACEHOLDERS | ANPASSA | RENSAT HISTORIK

Start Utökad sökning Bläddra ämnesvis Index A-Ö Boolesk Deldatabaser Sökhistorik

cartarescu Sök

Sökning: cartarescu > Orbitör.

7 av 23 Föregående post Nästa post Till träfflistan

Översikt Detaljer

LIBRIS Formathandbok (Information om MARC21) Detaljer MARC

000 01786cam a2200493 a 4500

001 10906546

003 SE-LIBR

005 20081117170235:0

008 080617s2008 sw |||| 100| f swe c

020 a 978-91-0-011837-2

040 a LGEM/ Ld S

041 1 a sweh rum

Hitta liknande

Fler titlar av

Cărtărescu, Mircea ...

Johansson, Inger, 19 ...

Sammanhörande titlar

Serie

Fler delar

Sök utanför LIBRIS

Sök vidare i

# LIBRIS-ID

LIBRIS - Orbitör. - Mozilla Firefox

File Edit View Go Bookmarks Tools Help

http://libris.kb.se/bib/10906546

Spindeln KB Kungliga biblioteket Webbhumlan GS Local Sök i LIBRIS

LIBRIS

LIBRIS SÖKTJÄNSTER | HJÄLP | IN ENGLISH | PLACEHOLDERS | ANPASSA ✓ | RENS A HISTORI

Start Utökad sökning Bläddra ämnesvis Index A-Ö Boolesk Deldatabaser Sökhistorik

carterescu Sök

Sökning: carterescu > Orbitör.

7 av 23 Föregående post Nästa post Till träfflistan

Översikt Detaljer

LIBRIS Formathandbok (Information om MARC21) Detaljer MARC

000 01786cam a2200493 a 4500

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008 080617s2008 sw |||| 100| f swe c

020 a 978-91-0-011837-2

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Hitta liknande

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Cărtărescu, Mircea ...

Johansson, Inger, 19 ...

Sammanhörande titlar

Serie

Fler delar

Sök utanför LIBRIS

Sök vidare i:

# LIBRIS-ID

Lovisa - MARC Record - Mozilla Firefox

File Edit View Go Bookmarks Tools Help

http://lovisa.lub.lu.se/cgi-bin/webgw/chameleon?sessionId=2008112215482701449&skin=portal&lang=sv&inst=consortium&conf=

Spindeln KB Kungliga biblioteket Webbhumlan GS Local 50k i LIBRIS

## Lunds universitets bibliotek

Snabbsökning	Enkel sökning	Avancerad sökning
--------------	---------------	-------------------

**Dina lån**  
Lånekortsnr:   
Personnr (10 siffror):

**Ansökan om lånekort**

**Sparade poster - 0**

**Avgränsningar på/av inga aktiva avgränsningar**

**Sökhistorik**

**MARC Post**  
första posten | föregående post | nästa post | sista posten  
kort | exemplar(1) | marc

Post 1 av 1  
Du sökte på - Lovisa - ISBN: 9789100118372

Fält	Ind 1	Ind 2	Information
001			vtts001799138
003			LDU
005			20081118065000.0
008			081118s2008 sw       00  f swe c
020			la 9789100118372
035			(LIBRIS)10006546
039	9		la 200811180650 la VLOAD ly 200811050652 lz VLOAD
040			la L GEN id L id S
041	1		la swe th rum
084			la Hhb.01=c l2 kssb18
100	1		la Cărtărescu, Mircea, id 1956-
240	1	0	la Aritia dreaotă \ Svenska

# LIBRIS-ID

LIBRIS - Orbitör. - Mozilla Firefox

File Edit View Go Bookmarks Tools Help

http://libris.kb.se/id/10906546

Spindeln KB Kungliga biblioteket Webbhumlan GS Local Sök i LIBRIS

LIBRIS LIBRIS SÖKTJÄNSTER HJÄLP IN ENGLISH PLACEHOLDERS ANPASSA RENSÅ HISTORI

Start Utökad sökning Bläddra ämnesvis Index A-Ö Boolesk Deldatabaser Sökhistorik

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000 01786cam a2200493 a 4500  
001 10906546  
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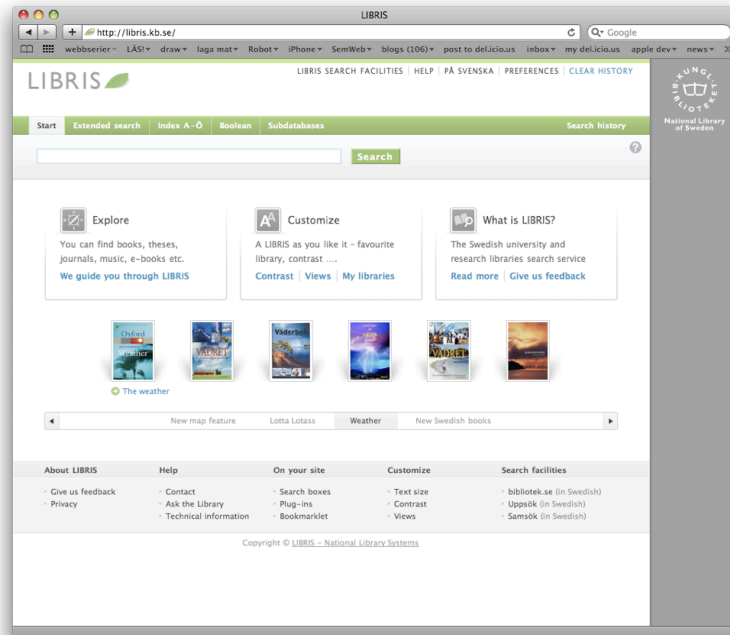
Sök utanför LIBRIS

Öppna i

# Why Linked Data?

# New LIBRIS web interface

- Project 2006-2007
- Launch dec 2007
- "Next-Gen OPAC"



LIBRIS - search: stridberg

http://libris.kb.se/hitlist?d=libris&q=stridberg&f=simp&spell=true&hist=true&p=1

LIBRIS SEARCH FACILITIES | HELP | PÅ SVENSKA | PREFERENCES | CLEAR HISTORY

Start Extended search Index A-O Boolean Subdatabases Search history

stridberg Search

Did you mean: [strindberg](#) ?

Search: stridberg

Result 1 - 9 of 9

Sort by: relevancy Group by: none Hits per page: 10

1.	<input type="checkbox"/>	Holzer, Rudolf (author) <a href="#">August Stridberg,</a> ???? Book	<a href="#">1 library</a>
2.	<input type="checkbox"/>	Skooghistoriskt symposium på Kungl. Skolas- och Lantbruksakademien den 17 november 1987 : föreläsning av Jöran Håkstrand, Lars Kardell, Lars Nilsson, Göran Rosander, Einar Stridberg & Sverker Sörjin 1988 Book Meeting	<a href="#">1 library</a>
3.	<input type="checkbox"/>	Stridberg, verksam 1925 (author) <a href="#">En jobbares visa,</a> 1925 Book	<a href="#">1 library</a>
4.	<input type="checkbox"/>	Sandberg, Inger, 1930- (author) [Fred Strid krymper. Danska] <a href="#">Fred Stridberg krymper : teckningar av Lasse Sandberg : övers. av Vague Nersaard Jepsen</a> 1973 Book Juvenile	<a href="#">2 libraries</a>
5.	<input type="checkbox"/>	Bellquist, John Eric (author) <a href="#">Strindberg as a modern poet : a critical and comparative study / by John Eric Bellquist</a> 1965 Book	<a href="#">10 libraries</a>

Refine your search

Author

- Nilsson, Lars (1)
- Sörjin, Sverker, 195 ... (3)
- Gravner, Maurice (1)
- Kardell, Lars, 1936- (1)
- Kipling, Rudyard, 18 ... (1)
- Andersson, Lena Sofi ... (1)
- show more...

Type

- book (9)
- e-resource
- theses

Language

- Swedish (5)
- English (1)
- French (1)
- Danish (1)
- Undefined language (1)

Year

- 2009 (1)
- 2007 (1)
- 1988 (1)
- 1986 (1)
- 1973 (1)
- 1953 (1)
- show more...

Subject (SAB)

- Literary History (2)
- Authors of literary ... (1)



LIBRIS - search: stridberg

http://libris.kb.se/hitlist?d=libris&q=stridberg&f=simp&spell=true&hist=true&p=1

LIBRIS SEARCH FACILITIES | HELP | PÅ SVENSKA | PREFERENCES | CLEAR HISTORY

Start Extended search Index A-O Boolean Subdatabases Search history

stridberg

Did you mean: strindberg?

Search: stridberg

Result 1 - 9 of 9

Sort by: relevancy Group by: none Hits per page: 10

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5.	<input type="checkbox"/>	Bellquist, John Eric (author) <u>Strindberg as a modern poet : a critical and comparative study / by John</u> <u>Eric Bellquist</u> 1966 Book	10 libraries

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- Kardell, Lars, 1936- (1)
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- 2009 (1)
- 2007 (1)
- 1988 (1)
- 1986 (1)
- 1973 (1)
- 1953 (1)
- show more...

Subject (SAB)

- Literary History (2)
- Authors - 4 libraries (1)

LIBRIS - search: stridberg

http://libris.kb.se/hitlist?d=libris&q=stridberg&f=simp&spell=true&hist=true&p=1

LIBRIS SEARCH FACILITIES | HELP | PÅ SVENSKA | PREFERENCES | CLEAR HISTORY

Start Extended search Index A-O Boolean Subdatabases Search history

stridberg

Did you mean: [strindberg](#)?

Search: stridberg

Result 1 - 9 of 9

Sort by: relevancy Group by: none Hits per page: 10

1.	<input type="checkbox"/>	Holzer, Rudolf (author) <a href="#">August Stridberg</a> , ???? Book	1 library
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- show more...

Type

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- French (1)
- Danish (1)
- Undefined language (1)

Year

- 2009 (1)
- 2007 (1)
- 1988 (1)
- 1986 (1)
- 1973 (1)
- 1953 (1)
- show more...

Subject (SAB)

- Literary History (2)
- Authors of literary ... (1)

LIBRIS - The difference engine /

http://libris.kb.se/bib/5060570

LIBRIS SEARCH FACILITIES | HELP | PÅ SVENSKA | PREFERENCES | CLEAR HISTORY

Start | Extended search | Index A-O | Boolean | Subdatabases | Search history

difference engine Search

Search: difference engine > The difference engi...

2 of 6 < Previous record Next record > To hitlist

Overview Details

**The difference engine / William Gibson and Bruce Sterling**

Gibson, William, 1948- (author)  
Sterling, Bruce, 1954- (author)  
ISBN 0-575-60029-2 (pbk)  
London : Vista, 1996  
English 383 s.  
Book

Abstract > Subject headings

SAVE | CITE | EMAIL | Permalink

Get it Other editions

Loan Interlibrary loan/request

Title available at 1 library. > Expand list

Southern Sweden (1) ADD AS FAVOURITE

Folkbiblioteken i Lund (Ld) ADD AS FAVOURITE

Local library catalogue

Shelf mark: (Skonlitteratur, Annan uppl. kan finnas vid biblioteket)

**Find similar**

More titles by

- Gibson, William, 194 ...
- Sterling, Bruce, 195 ...

More titles about

- American fiction
- Steampunk

Search outside LIBRIS

Title in Google Book Search:

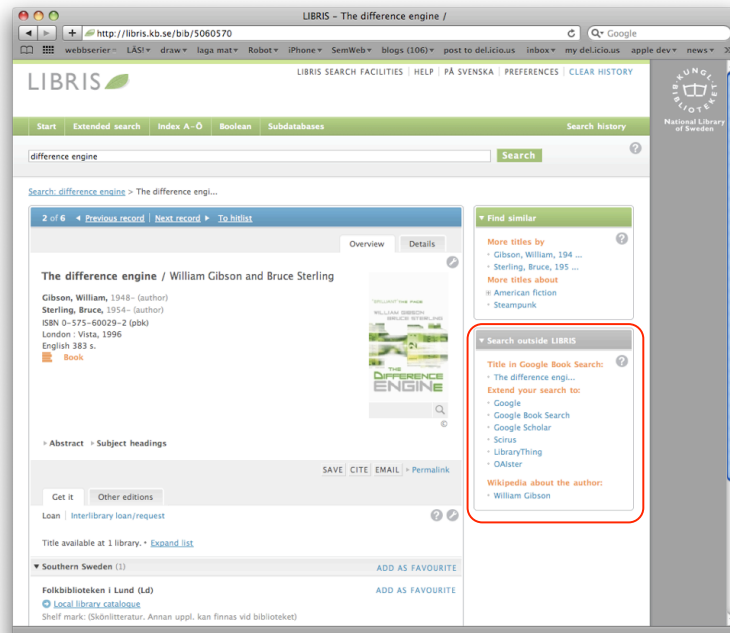
- The difference engi...

Extend your search to:

- Google
- Google Book Search
- Google Scholar
- Scirus
- LibraryThing
- OLster

Wikipedia about the author:

- William Gibson



LIBRIS - The difference engine /

2 of 6 ◀ Previous record Next record ▶ To hitlist

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ISBN 0-575-60029-2 (pbk)  
London : Vista, 1996  
English 383 s.  
Book

Abstract Subject headings

SAVE CITE EMAIL Permalink

Get it Other editions

"The difference engine" exists in 2 editions in 1 languages

English (2)

▼ English (2)

<a href="#">The difference engine / William Gibson and Bruce Ster...</a>	1996	1 lib.
<a href="#">The difference engine / William Gibson &amp; Bruce Sterli...</a>	1990	2 lib.

2 of 6 ◀ Previous record Next record ▶ To hitlist

Find similar

More titles by

- Gibson, William, 194 ...
- Sterling, Bruce, 195 ...
- More titles about
- American fiction
- Steampunk

Search outside LIBRIS

Title in Google Book Search:

- The difference engi...

Extend your search to:

- Google
- Google Book Search
- Google Scholar
- Scirus
- LibraryThing
- OAlster

Wikipedia about the author:

- William Gibson

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- Plug-ins
- Bookmarket
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- Contrast
- Views
- bibliotek.se (in Swedish)
- Uppsök (in Swedish)
- Samsök (in Swedish)

Copyright © LIBRIS - National Library Systems

# What does the world want from us?

- Good, usable, nice looking interfaces
- Data
- APIs..?

# What doesn't the world want from us?

- Library specific protocols
- Neither z39.50 nor ISO2709

Design a thing by considering it in its next  
largest context - a chair in at room, a room in  
a house, a house in an environment,  
environment in a city plan.

- *Eliel Saarinen*



A library catalog must  
be designed by  
considering its context  
of the Web.

# What is the Web?

- An infrastructure
- An environment
- The Web is social
- The Web is made of links
- The Web is a network
- The Web is an open system


# Catalogs in Web context

- Need to be open
- Need to be linkable
- Need to provide links
- Need to be part of the network
- Can not be an end in itself
- Must allow for hackability

# Catalog/Web as Network

- An infrastructure
- An environment
- The Web is social
- The Web is made of links
- The Web is a network
- The Web is an open system
- Need to be open
- Need to be linkable
- Need to provide links
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# Catalog/Web as Network

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- 

# Catalog/Web as Network

- An infrastructure
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  - Need to be linkable
  - Need to provide links
  - Need to be part of the network
  - Can not be an end in itself
  - Must allow for hackability
- 
- ```
graph LR; A[The Web is a network] --- B[Need to be part of the network]; C[The Web is an open system] --- D[Need to be open]
```

# Catalog/Web as Network

- An infrastructure
  - An environment
  - The Web is social
  - The Web is made of links
  - The Web is a network
  - The Web is an open system
  - Need to be open
  - Need to be linkable
  - Need to provide links
  - Need to be part of the network
  - Can not be an end in itself
  - Must allow for hackability
- 
- The diagram illustrates the relationship between various concepts of the Web and the requirements for it to function as a network. Red hand-drawn boxes highlight specific items, and red lines connect them to show dependencies or groupings. The connections are as follows:
- A line connects 'The Web is made of links' to 'Need to be open'.
  - A line connects 'The Web is made of links' to 'Need to be linkable'.
  - A line connects 'The Web is made of links' to 'Need to provide links'.
  - A line connects 'The Web is made of links' to 'Need to be part of the network'.
  - A line connects 'The Web is a network' to 'Need to be part of the network'.
  - A line connects 'The Web is an open system' to 'Need to be open'.
  - A line connects 'The Web is an open system' to 'Need to be linkable'.
  - A line connects 'The Web is an open system' to 'Need to provide links'.
  - A line connects 'The Web is an open system' to 'Need to be part of the network'.
  - A line connects 'The Web is an open system' to 'Can not be an end in itself'.
  - A line connects 'The Web is an open system' to 'Must allow for hackability'.

# Catalog/Web as Network

- An infrastructure
  - An environment
  - The Web is social
  - The Web is made of links
  - The Web is a network
  - The Web is an open system
  - Need to be open
  - Need to be linkable
  - Need to provide links
  - Need to be part of the network
  - Can not be an end in itself
  - Must allow for hackability
- 
- The diagram illustrates the relationship between various concepts of the Web and the needs it must satisfy. Red hand-drawn boxes enclose several items, and red lines connect them. Specifically, a line connects 'The Web is made of links' to 'Need to provide links'. Another line connects 'The Web is a network' to 'Need to be part of the network'. A third line connects 'The Web is an open system' to 'Need to be open'. There is also a line connecting 'The Web is made of links' to 'Need to be open'.



# Catalog/Web as Network

- An infrastructure
  - An environment
  - The Web is social
  - The Web is made of links
  - The Web is a network
  - The Web is an open system
  - Need to be open
  - Need to be linkable
  - Need to provide links
  - Need to be part of the network
  - Can not be an end in itself
  - Must allow for hackability
- 
- The diagram illustrates the relationships between various concepts of the Web and the needs it must satisfy. Red hand-drawn boxes enclose several items, and red lines connect them to show dependencies or groupings. Specifically, 'The Web is made of links' is connected to 'Need to be open', 'Need to be linkable', and 'Need to provide links'. 'The Web is a network' is connected to 'Need to be part of the network'. 'The Web is an open system' is connected to 'Need to be open' and 'Need to be linkable'. 'Need to provide links' is connected to 'Need to be part of the network'. 'Can not be an end in itself' and 'Must allow for hackability' are not connected to any other items.

# Catalog/Web as Network

- An infrastructure
  - An environment
  - The Web is social
  - The Web is made of links
  - The Web is a network
  - The Web is an open system
  - Need to be open
  - Need to be linkable
  - Need to provide links
  - Need to be part of the network
  - Can not be an end in itself
  - Must allow for hackability
- 
- The diagram illustrates the relationships between various characteristics of the Web and the needs it must satisfy. Red lines connect the following items:
- 'The Web is made of links' connects to 'Need to be open', 'Need to be linkable', 'Need to provide links', and 'Need to be part of the network'.
  - 'The Web is a network' connects to 'Need to be part of the network'.
  - 'The Web is an open system' connects to 'Need to be open'.

# Catalog/Web as Network

- An infrastructure
  - An environment
  - The Web is social
  - The Web is made of links
  - The Web is a network
  - The Web is an open system
  - Need to be open
  - Need to be linkable
  - Need to provide links
  - Need to be part of the network
  - Can not be an end in itself
  - Must allow for hackability
- 
- The diagram illustrates the relationships between various characteristics of the Web and the requirements for it to function as a network. Red lines connect the following pairs of items:
- 'The Web is made of links' connects to 'Need to be open', 'Need to be linkable', 'Need to provide links', and 'Need to be part of the network'.
  - 'The Web is a network' connects to 'Need to be part of the network'.
  - 'The Web is an open system' connects to 'Need to be open'.

# Catalog/Web as Network

- An infrastructure
  - An environment
  - The Web is social
  - The Web is made of links
  - The Web is a network
  - The Web is an open system
  - Need to be open
  - Need to be linkable
  - Need to provide links
  - Need to be part of the network
  - Can not be an end in itself
  - Must allow for hackability
- 
- The diagram illustrates the relationships between various characteristics of the Web and the needs it must satisfy. Red lines connect the following pairs of items:
- 'The Web is made of links' connects to 'Need to be open', 'Need to be linkable', 'Need to provide links', and 'Need to be part of the network'.
  - 'The Web is a network' connects to 'Need to be open', 'Need to be linkable', 'Need to provide links', and 'Need to be part of the network'.
  - 'The Web is an open system' connects to 'Need to be open', 'Need to be linkable', 'Need to provide links', and 'Need to be part of the network'.
  - 'Need to be open' also connects to 'Can not be an end in itself'.
  - 'Need to be linkable' also connects to 'Can not be an end in itself'.
  - 'Need to provide links' also connects to 'Can not be an end in itself'.
  - 'Need to be part of the network' also connects to 'Can not be an end in itself'.

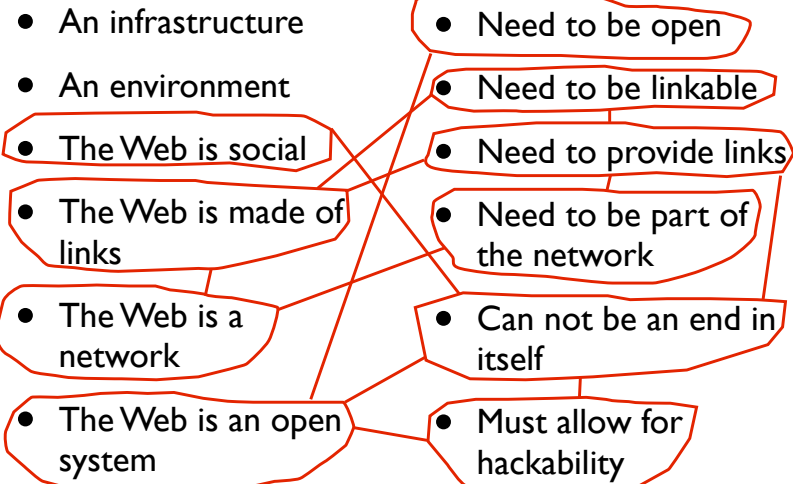
# Catalog/Web as Network

- An infrastructure
  - An environment
  - The Web is social
  - The Web is made of links
  - The Web is a network
  - The Web is an open system
  - Need to be open
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- 
- The diagram illustrates the relationships between various characteristics of the Web and the requirements it must fulfill. Red lines connect the following pairs of items:
- 'The Web is made of links' connects to 'Need to be open', 'Need to be linkable', 'Need to provide links', and 'Need to be part of the network'.
  - 'The Web is a network' connects to 'Need to be part of the network'.
  - 'The Web is an open system' connects to 'Can not be an end in itself' and 'Must allow for hackability'.

# Catalog/Web as Network

- An infrastructure
  - An environment
  - The Web is social
  - The Web is made of links
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  - The Web is an open system
  - Need to be open
  - Need to be linkable
  - Need to provide links
  - Need to be part of the network
  - Can not be an end in itself
  - Must allow for hackability
- 
- The diagram illustrates the relationships between various characteristics of the Web and the needs that arise from them. Red lines connect the following pairs of items:
- 'The Web is made of links' connects to 'Need to be open', 'Need to be linkable', 'Need to provide links', and 'Need to be part of the network'.
  - 'The Web is a network' connects to 'Need to be part of the network'.
  - 'The Web is an open system' connects to 'Can not be an end in itself' and 'Must allow for hackability'.

# Catalog/Web as Network



# Catalog/Web as Network

- 
- The diagram consists of two columns of bulleted text. The left column contains five items, and the right column contains five items. Red lines connect the items between the two columns, illustrating relationships or dependencies. The connections are as follows: 'The Web is social' connects to 'Need to be open', 'Need to be linkable', and 'Need to provide links'. 'The Web is made of links' connects to 'Need to be linkable' and 'Need to provide links'. 'The Web is a network' connects to 'Need to be part of the network'. 'The Web is an open system' connects to 'Need to be open' and 'Must allow for hackability'. 'Need to be open' also connects to 'Need to be linkable'. 'Need to be linkable' connects to 'Need to provide links'. 'Need to provide links' connects to 'Need to be part of the network'. 'Need to be part of the network' connects to 'Can not be an end in itself'. 'Can not be an end in itself' connects to 'Must allow for hackability'.
- An infrastructure
  - An environment
  - The Web is social
  - The Web is made of links
  - The Web is a network
  - The Web is an open system
  - Need to be open
  - Need to be linkable
  - Need to provide links
  - Need to be part of the network
  - Can not be an end in itself
  - Must allow for hackability



# Catalog/Web as Network

- 
- The diagram consists of two columns of bullet points, each enclosed in a red hand-drawn oval. The entire set of points is contained within a larger, light green hand-drawn shape. Red lines connect the points between the two columns, showing a complex web of relationships.
- An infrastructure
  - An environment
  - The Web is social
  - The Web is made of links
  - The Web is a network
  - The Web is an open system
  - Need to be open
  - Need to be linkable
  - Need to provide links
  - Need to be part of the network
  - Can not be an end in itself
  - Must allow for hackability

**What infrastructure  
can support this?**

**API:s?**

# How APIs suck...

- We have made quite a few of them...
- Bigger demand for APIs than we could meet.
- APIs tend to limit use to what was intended by the creator of the API
- Context specific
- We would never, ourselves, be satisfied with having only API access to data
- APIs don't give the full view
- "What if there was a good way to provide *all* the data..? And *all* the relations..?"

It's time to dis-integrate the catalog, weave it  
into the Web, and push forward to the future.

- Karen G. Schneider, *"How OPACs suck"* (2006)

Linked Open Data turns the Web into an API.

- *Corey A. Harper, at code4lib preconf 2009*

# And the Culture Institutions..?

- Libraries
- Archives
- Museums
- Publishers
- Societies
- TV-channels
- Newspapers
- Clubs
- Banks
- Churches



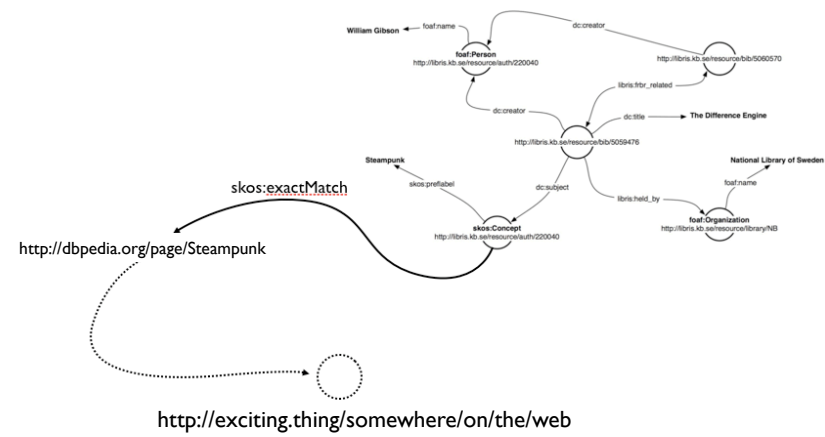




As a matter of fact...



...the future is a work-in-progress.



Network effects arise when the act of participation makes the entire network more useful for everyone.

- *Ian Davis, Talis*

MARCH 25, 2010

## DOIs and Linked Data: Some Concrete Proposals

Since last month's threads ([here](#), [here](#), [here](#) and [here](#)) talking about the issues involved in making the DOI a first-class identifier for linked data applications, I've had the chance to actually sit down with some of the thread's participants ([Tony Hammond](#), [Leigh Dodds](#), [Norman Paskin](#)) and we've been able sketch-out some possible scenarios for migrating the DOI into a linked data world.

I think that several of us were struck by how little actually needs to be done in order to fully address virtually all of the concerns that the linked data community has expressed about DOIs. Not only that- but in some of these scenarios we would put ourselves in a position to be able to semantically-enable over 40 million DOIs with what amounts to the flick of a switch.

Given the huge interest in linked data on the part of researchers and CrossRef members- it seems like it would be a fantastic boon to both the IDF ([International DOI Foundation](#)) and CrossRef if we were able to do something quickly here.

SEARCH

Search this blog:

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RECENT POSTS


- [DOIs and Linked Data: Some Concrete Proposals](#)
- [Is FRBR the OSI for Web Architecture?](#)
- [Does a CrossRef DOI identify a "work?"](#)
- [The Resource Page](#)

[http://www.crossref.org/CrossTech/2010/03/does\\_and\\_linked\\_data\\_some\\_conc.html](http://www.crossref.org/CrossTech/2010/03/does_and_linked_data_some_conc.html)

### Search

Select Field:  Select Index:  Search Terms:

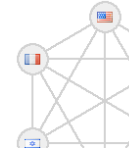
**Cărtărescu, Mircea, 1956-** 

**Cărtărescu, Mircea** 

VIAF ID:32054974

#### Preferred Forms

-  [100 †a Cărtărescu, Mircea, †d 1956-](#) 
-  [100 †a Cărtărescu, Mircea †d 1956-](#) 
-  [100 †a Cartărescu, Mircea, †d 1956-](#) 
-  [100 †a Cărtărescu, Mircea](#) 
-  [200 †a Cărtărescu †b Mircea †f 1956-...](#) 
-  [100 †a Cărtărescu, Mircea](#) 



<http://viaf.org>

## THE INITIATIVE

Name ambiguity and attribution are persistent, critical problems imbedded in the scholarly research ecosystem. The ORCID Initiative represents a community effort to establish an open, independent registry that is adopted and embraced as the industry's de facto standard. Our mission is to resolve the systemic name ambiguity, by means of assigning unique identifiers linkable to an individual's research output, to enhance the scientific discovery process and improve the efficiency of funding and collaboration.

[MORE](#)

## News

17-Dec-2009

"Credit Where Credit is Due." *Nature* article helps introduce ORCID Initiative; briefly explores disambiguation benefits beyond journals (datasets, blog posts, etc) [PDF](#) • [LINK](#)

1-Dec-2009

Announcement of intent to collaborate and resolve author name ambiguity [MORE](#)



CONNECT AND PROMOTE  
THE INITIATIVE VIA  
SOCIAL MEDIA

Coming soon! ▼

Please look for our **Facebook** and **Twitter** presence in early 2010. You will be able to follow the Initiative, provide feedback and suggestions on its future, and hear from peers and colleagues.

## Participate As Member Organization

ORCID: Register your organization's interest in participation

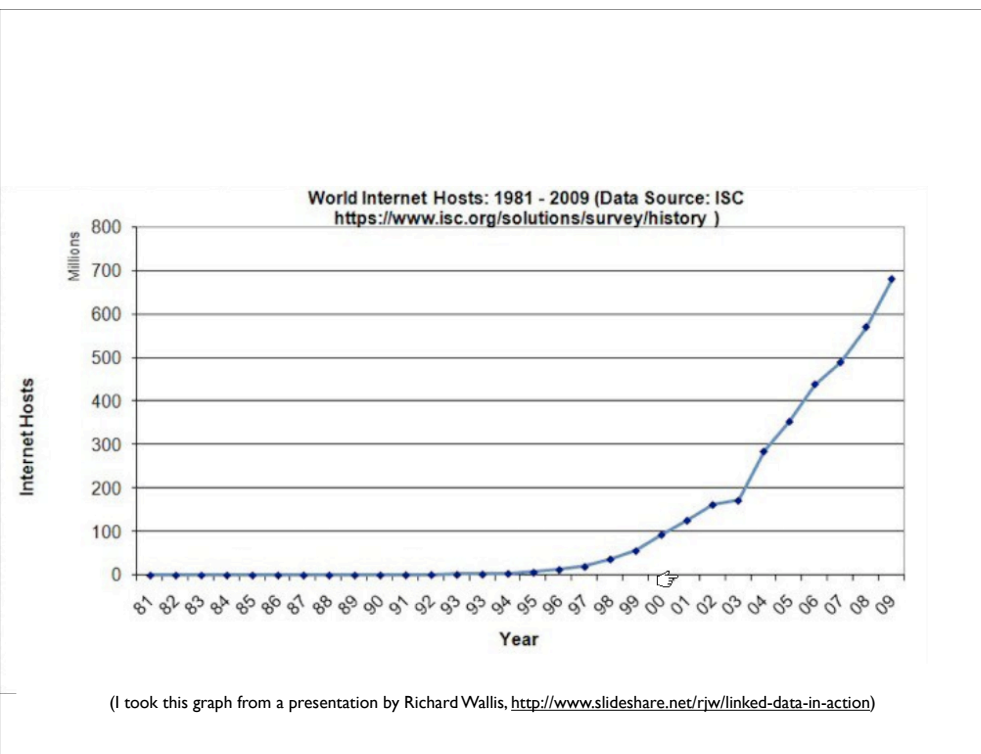
[REGISTER >](#)

## Founding Parties



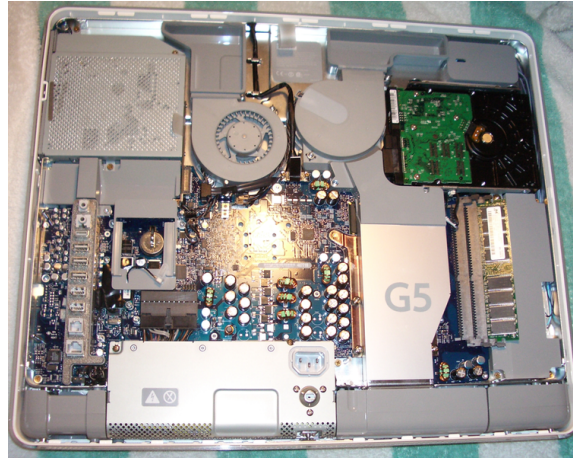
Visit our growing  
member gallery [>](#)

<http://www.orcid.org>





# A Case For Openness...

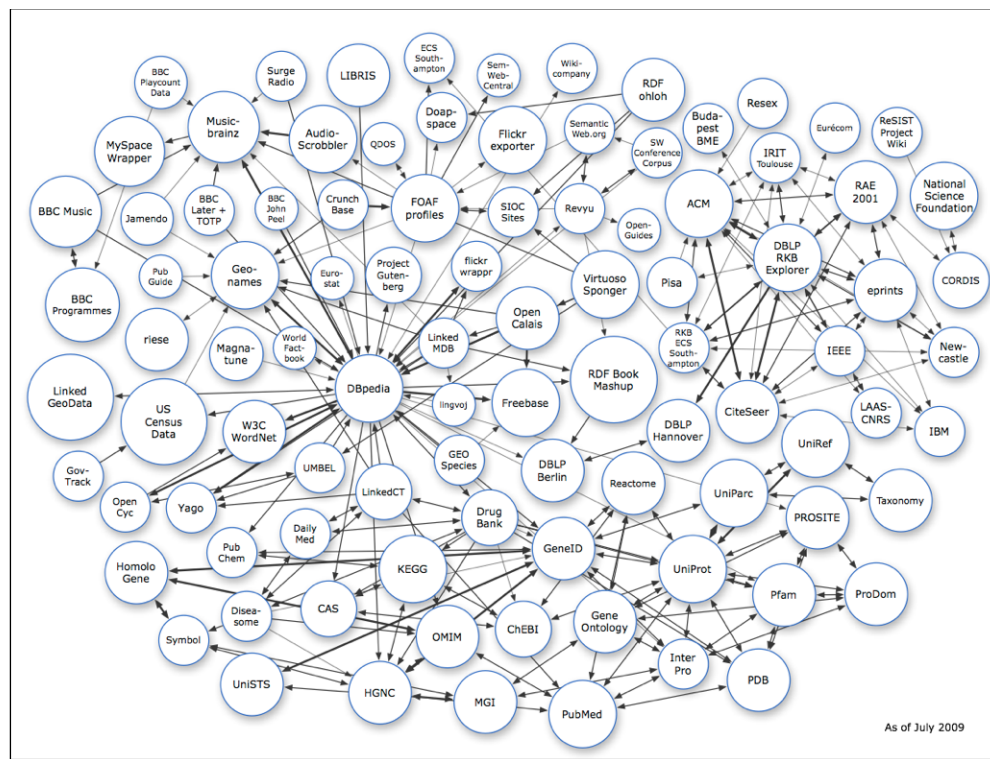


<http://upload.wikimedia.org/wikipedia/commons/9/9d/IMacG5guts.png>

Open World  
vs.  
Closed World

**"A piece of knowledge is open if  
you are free to use, reuse, and  
redistribute it"**

[www.opendefinition.org](http://www.opendefinition.org)



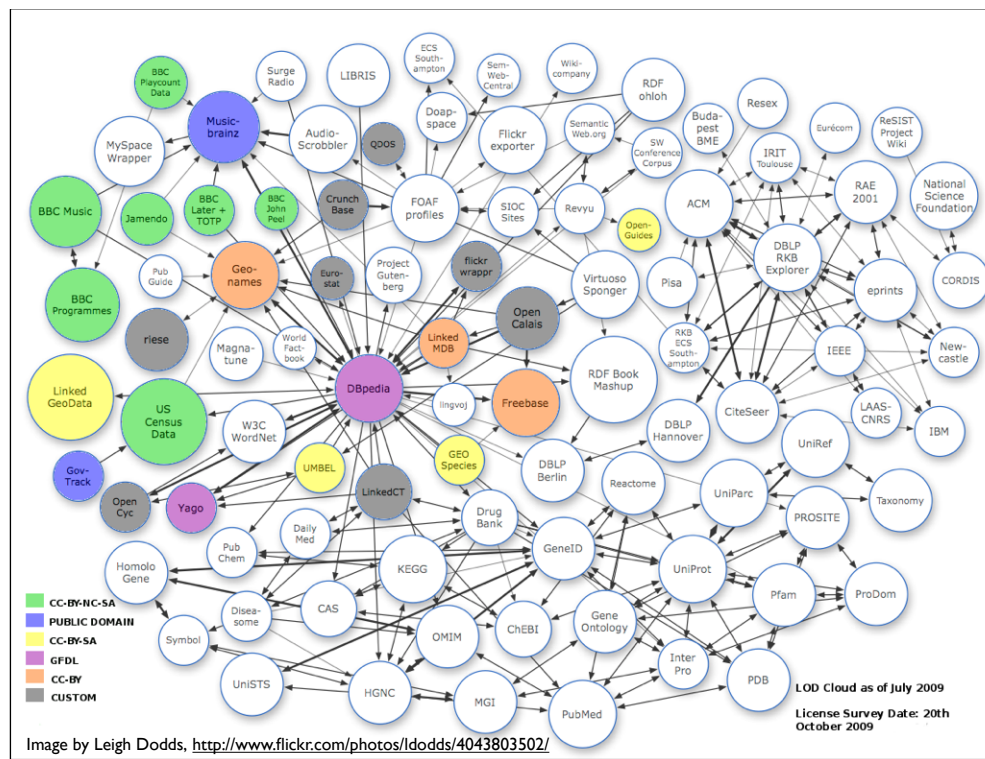
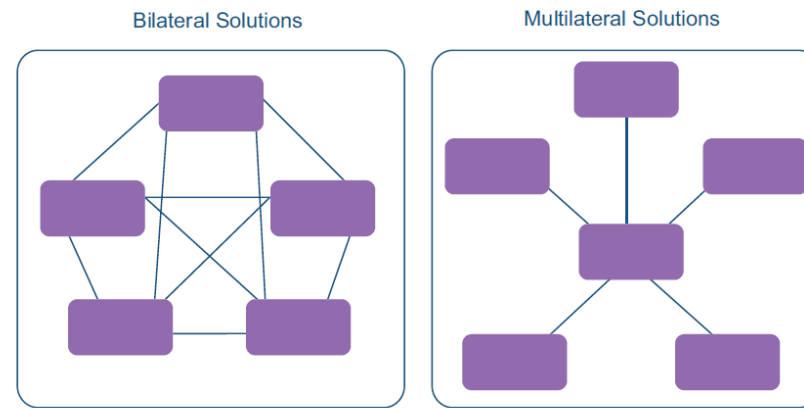


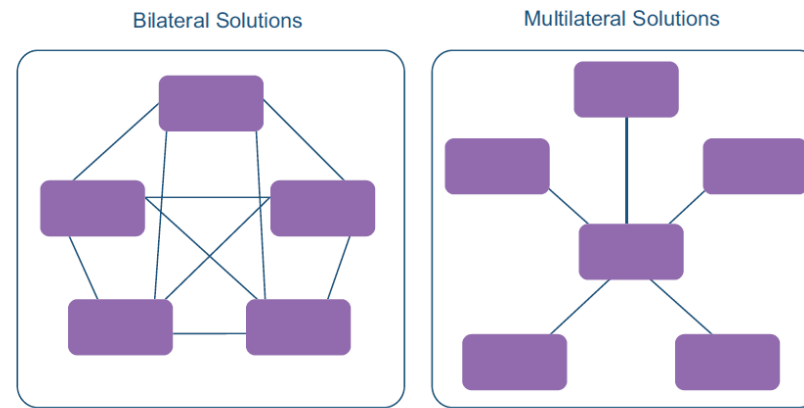
FIGURE 1: USE OF MULTILATERAL SOLUTIONS



European Interoperability Framework, <http://ec.europa.eu/idabc/en/document/3473>

open data  
commons

FIGURE 1: USE OF MULTILATERAL SOLUTIONS



European Interoperability Framework, <http://ec.europa.eu/idabc/en/document/3473>



If you can't open it, you don't own it

<http://makezine.com/04/ownyourown/>



<http://wait.com/content/unintended-restrictions>

# Problems...

- Current library systems are not adapted for linked data
- Current bibliographic thinking is not adapted for linked data
- Current legal framework is not adapted for linked data
- All this will change...

# Things to discuss

- Open networks outpaces walled gardens
- Strong networks require more than only one hub
- Redundancy is not necessarily a problem
- 'Good enough' beats perfection

# Thanks!

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