Why libraries should embrace Linked Data

Anders Söderbäck
National Library of Sweden

Why LIBRIS likes Linked Data

Anders Söderbäck
National Library of Sweden

LIBRIS

- Swedish National Union Catalog
- 170 libraries
- 6 million bib records
- 20 million holdings
- 250k authority records
- National bibliography

LIBRIS

- Library directory
- Library infrastructure (”metadata switch”)
- Online public access (for humans) since 1997
- Marc21 since 2001
- Linked Data since 2008

What is Linked Data?

From http://en.wikipedia.org/wiki/Linked_Data:

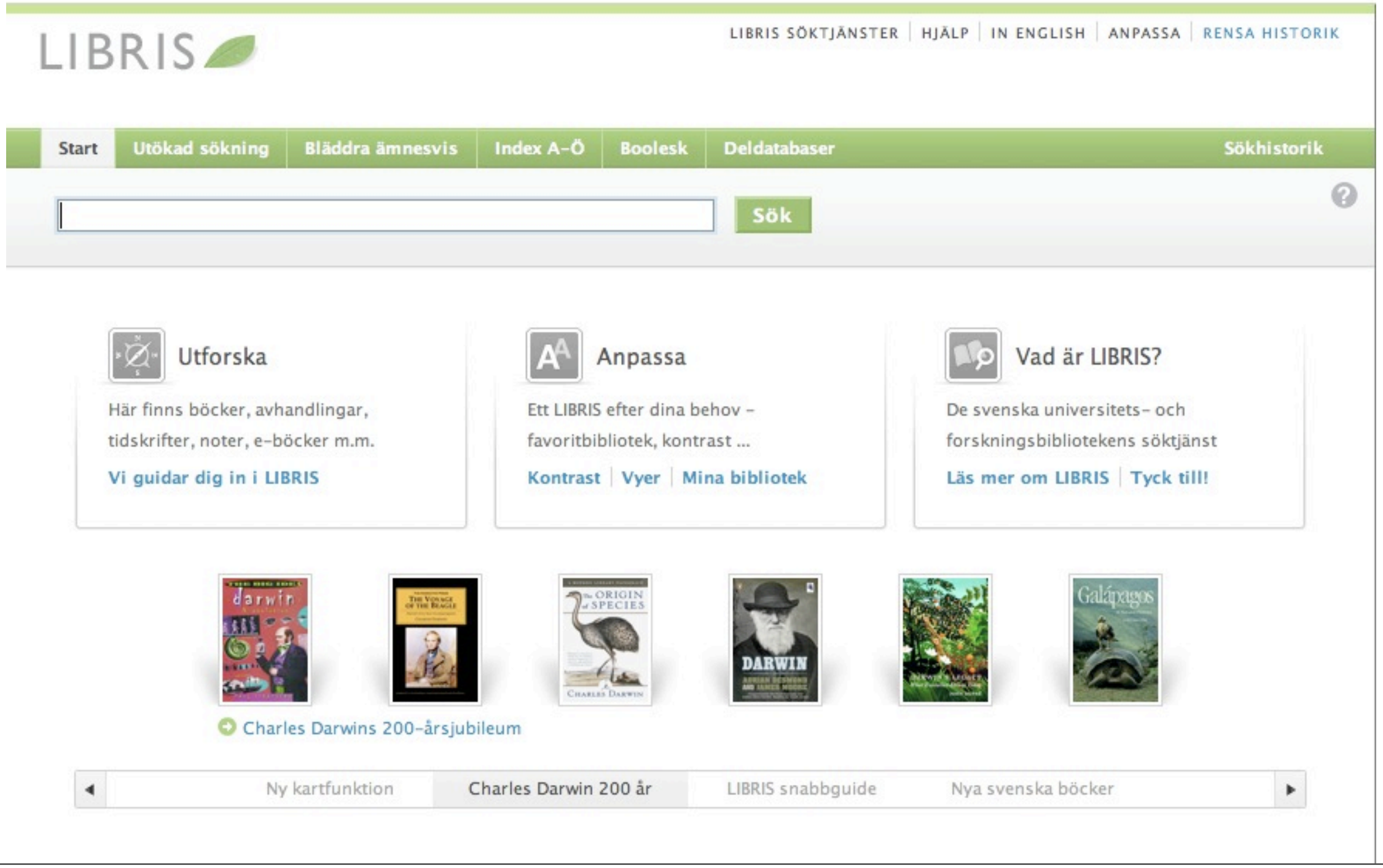
Linked Data is a term used to describe a method of exposing, sharing, and connecting data on the Web via dereferenceable URIs.

Four principles of Linked Data (TBL 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.

Why use Linked Data for your library catalog?

New LIBRIS, dec 2007



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

- Eliel Saarinen

This means...

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

The question is not
”What is a catalog?”
but ”What can a
catalog become?”

What is the Web?

- An infrastructure for moving bits
- An environment for communication, information dissemination, etc...

- The Web is social
- The Web is a network
- The Web is made of links
- Open system, anyone can join / link

Catalogs in Web context

- Need to be open (Get your data out!)
- Need to be linkable
- Needs to provide links
- Must be part of the network
- Can not be an end in itself
- Allow for hackability

Why APIs suck

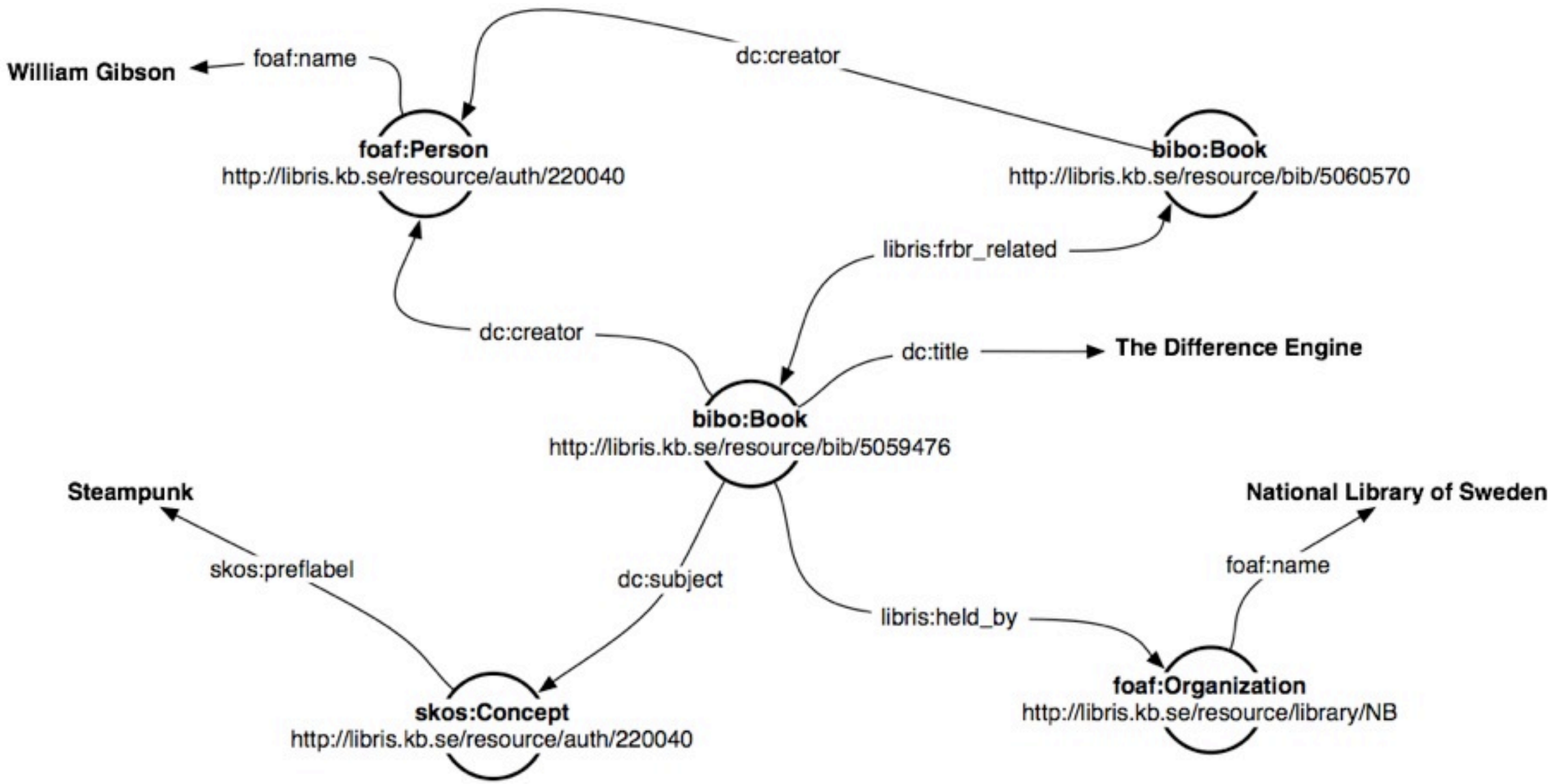
- Context specific / differ from each other
- Too much control in the hands of the producer (too dependant of the producers world view)
- Not hackable enough
- Not really weaved into the Web

- Despite this, we have built some APIs...

Linked Open Data turns the Web into an API.

- Corey A. Harper

So what does it look like?



How do I find it?

- HTTP URI for every resource, ex:
  http://libris.kb.se/resource/bib/5059476
  http://libris.kb.se/resource/auth/220040
  http://libris.kb.se/resource/library/S

HTTP content negotiation

- HTTP 303 See other
  - text/html -> http://libris.kb.se/bib/5059456
  - text/rdf+n3 -> http://libris.kb.se/data/bib/5059456

text/html-view

LIBRIS

LIBRIS SÖKTJÄNSTER | HJÄLP | IN ENGLISH | ANPASSA | RENSA HISTORIK

Start | Utökad sökning | Bläddra ämnesvis | Index A–Ö | Boolesk | Deldatabaser | Sökhistorik

onr:5059476 Sök

Sökning: onr:5059476 > The difference engi...

1 av 1 ◂ Föregående post | Nästa post ▸ Till träfflistan

Översikt | Detaljer

The difference engine / William Gibson & Bruce Sterling

Gibson, William, 1948– (författare)
Sterling, Bruce, 1954– (författare)
ISBN 0-575-04762-3
London : Gollancz, 1990
Engelska 383 s.
Bok

▸ **Sammanfattning** ▸ **Ämnesord**

SPARA | SKAPA REFERENS | MEJLA | ▸ Länka till posten

Hitta | Andra utgåvor

Låna | Fjärrlåna/beställ

Titeln finns på 2 bibliotek. Visa karta • Expandera lista

▾ **Hitta liknande**

Fler titlar av
- Gibson, William, 194 ...
- Sterling, Bruce, 195 ...

Fler titlar om
- Steampunk

▾ **Sök utanför LIBRIS**

Sök vidare i:
- Google
- Google Book Search
- Google Scholar
- Scirus
- LibraryThing
- OAIster

Wikipedia om författaren:
- William Gibson

text/html-view

LIBRIS

LIBRIS SÖKTJÄNSTER | HJÄLP | IN ENGLISH | ANPASSA | RENSA HISTORIK

Start | Utökad sökning | Bläddra ämnesvis | Index A–Ö | Boolesk | Deldatabaser | Sökhistorik

onr:5059476 Sök

```
<script type="text/javascript" src="js/showrecord.js"></script>
<script type="text/javascript" src="js/wiki.js"></script>
<!--<script type="text/javascript" src="js/authorityExpander.js"></script>-->
<script type="text/javascript" src="js/showMore.js"></script>
<script type="text/javascript" src="js/cb.js"></script>
<script type="text/javascript" src="js/se/googleBooks.js"></script>
<!--libris.kb.se-->
<script src="http://maps.google.com/maps?file=api&amp;v=2&amp;key=ABQIAAAA7fEQxiquYckwtSpHsnjFsRTevPMzl2FSxh_JAlnkvHbFivH9
</script>
<script type="text/javascript" src="js/se/getitMap.js"></script>
<script type="text/javascript" src="js/se/plotMap.js"></script>
<link rel="alternate" type="text/rdf+n3" title="RDF Representation" href="http://libris.kb.se/data/bib/5059476?format=text
<link rel="alternate" type="application/rdf+xml" title="RDF Representation" href="http://libris.kb.se/data/bib/5059476?for
<link rel="icon" href="/images/favicon.ico" type="image/x-icon" >
<link rel="shortcut icon" href="/images/favicon.ico" type="image/x-icon" >

<!--[if lt IE 8]>
    <style type="text/css" media="screen, projection">
    @import "null?\"\{";
    @import url(css/kb_ie2.css);
```

▸ Sammanfattning ▸ Ämnesord

SPARA | SKAPA REFERENS | MEJLA | ▸ Länka till posten

Hitta | Andra utgåvor

Låna | Fjärrlåna/beställ

Titeln finns på 2 bibliotek. Visa karta • Expandera lista

- Google
- Google Book Search
- Google Scholar
- Scirus
- LibraryThing
- OAIster

Wikipedia om författaren:

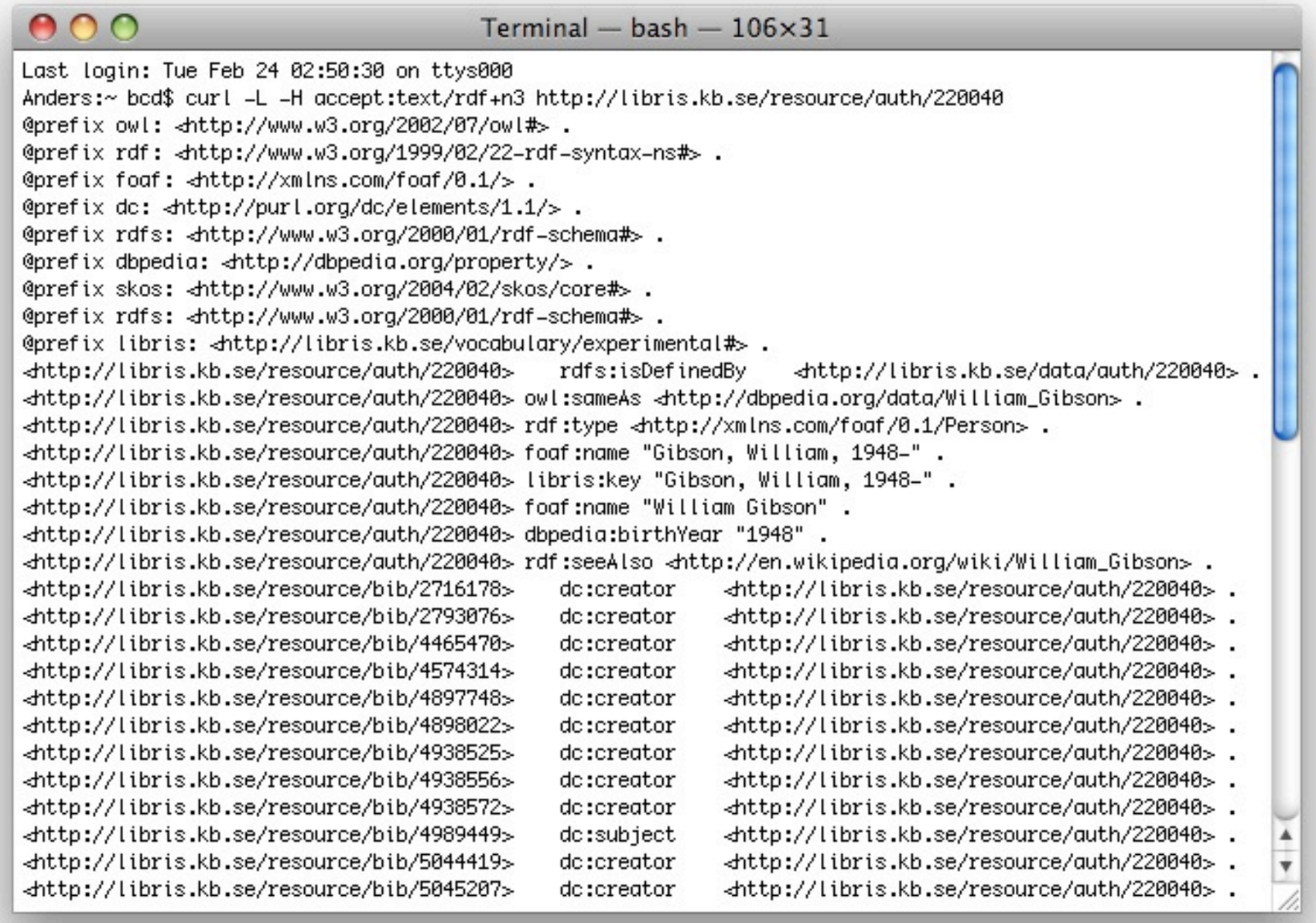
- William Gibson

text/rdf+n3

Terminal — bash — 110×31

```
Last login: Tue Feb 24 02:37:56 on ttys000
Anders:~ bcd$ curl -L -H accept:text/rdf+n3 http://libris.kb.se/resource/bib/5059476
@prefix dc: <http://purl.org/dc/elements/1.1/> .
@prefix owl: <http://www.w3.org/2002/07/owl#> .
@prefix rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#> .
@prefix rdfs: <http://www.w3.org/2000/01/rdf-schema#> .
@prefix libris: <http://libris.kb.se/vocabulary/experimental#> .
@prefix bibo: <http://purl.org/ontology/bibo/> .
<http://libris.kb.se/resource/bib/5059476>    rdfs:isDefinedBy    <http://libris.kb.se/data/bib/5059476> .
<http://libris.kb.se/resource/bib/5059476>    rdf:type    bibo:Book .
<http://libris.kb.se/resource/bib/5059476>    dc:title    "The difference engine"@en .
<http://libris.kb.se/resource/bib/5059476>    dc:creator    "Gibson, William, 1948-" .
<http://libris.kb.se/resource/bib/5059476>    dc:creator    "William Gibson" .
<http://libris.kb.se/resource/bib/5059476>    dc:creator    "Sterling, Bruce, 1954-" .
<http://libris.kb.se/resource/bib/5059476>    dc:creator    "Bruce Sterling" .
<http://libris.kb.se/resource/bib/5059476>    dc:type    "text" .
<http://libris.kb.se/resource/bib/5059476>    dc:publisher    "Gollancz" .
<http://libris.kb.se/resource/bib/5059476>    dc:date    "1990" .
<http://libris.kb.se/resource/bib/5059476>    dc:subject    "Steampunk" .
<http://libris.kb.se/resource/bib/5059476>    dc:identifier    <URN:ISBN:0575047623> .
<http://libris.kb.se/resource/bib/5059476>    bibo:isbn10    "0575047623" .
<http://libris.kb.se/resource/bib/5059476>    dc:creator    <http://libris.kb.se/resource/auth/220040> .
<http://libris.kb.se/resource/bib/5059476>    dc:creator    <http://libris.kb.se/resource/auth/307779> .
<http://libris.kb.se/resource/bib/5059476>    dc:subject    <http://libris.kb.se/resource/auth/308073> .
<http://libris.kb.se/resource/bib/5059476>    dc:subject    <http://libris.kb.se/resource/auth/308074> .
<http://libris.kb.se/resource/bib/5059476>    libris:held_by    <http://libris.kb.se/resource/library/Sk> .
<http://libris.kb.se/resource/bib/5059476>    libris:held_by    <http://libris.kb.se/resource/library/Vvt> .
<http://libris.kb.se/resource/bib/5059476> libris:frbr_related <http://libris.kb.se/resource/bib/5060570> .
Anders:~ bcd$
```

text/rdf+n3 again



Strategies

- Data first
- Represent ILS state
- Use existing vocabularies if possible (DC, SKOS, FOAF, Bibliontology, Geo)
- Make up vocabularies if needed
- Learn by doing

Read

- ”Making a Library Catalog Part of the Semantic Web”, Martin Malmsten 2008 http://libris.kb.se/resource/bib/11306748
- ”LIBRIS - Linked Library Data”, Anders Söderbäck and Martin Malmsten 2008, in Nodalities #5, www.talis.com/nodalities

Coming up next...

- Dbpedia links
- Open Source project for turning ILS:s into linked data (e-mail martin.malmsten@kb.se)
- Hope for network effects

Contact

- http://blog.libris.kb.se/semweb
- anders.soderback@kb.se
  martin.malmsten@kb.se