Bootstrapping the open data ecosystem

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UNIVERSITY OF CAMBRIDGE

Open Knowledge Foundation

We are living in a digital age.

Technological Explosion

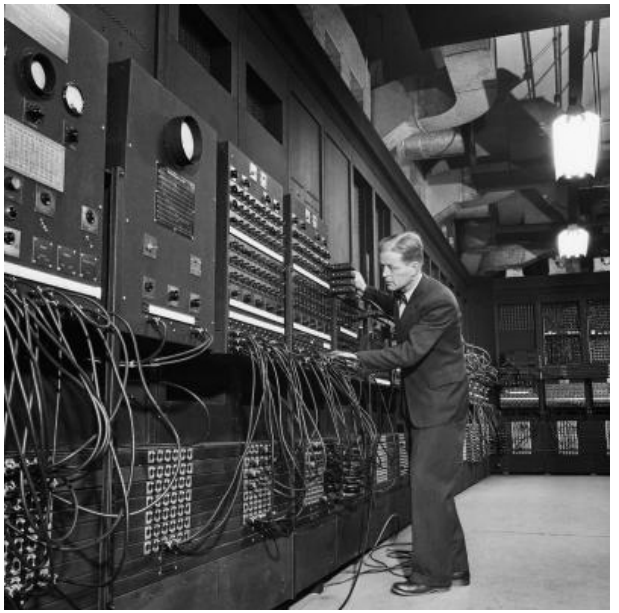
Powerful computers, cheap storage
global communication networks

A shared ecosystem of data?

Social and Commercial Benefits

Life-saving drugs,
improved public services,
increased access to cultural and educational materials ...

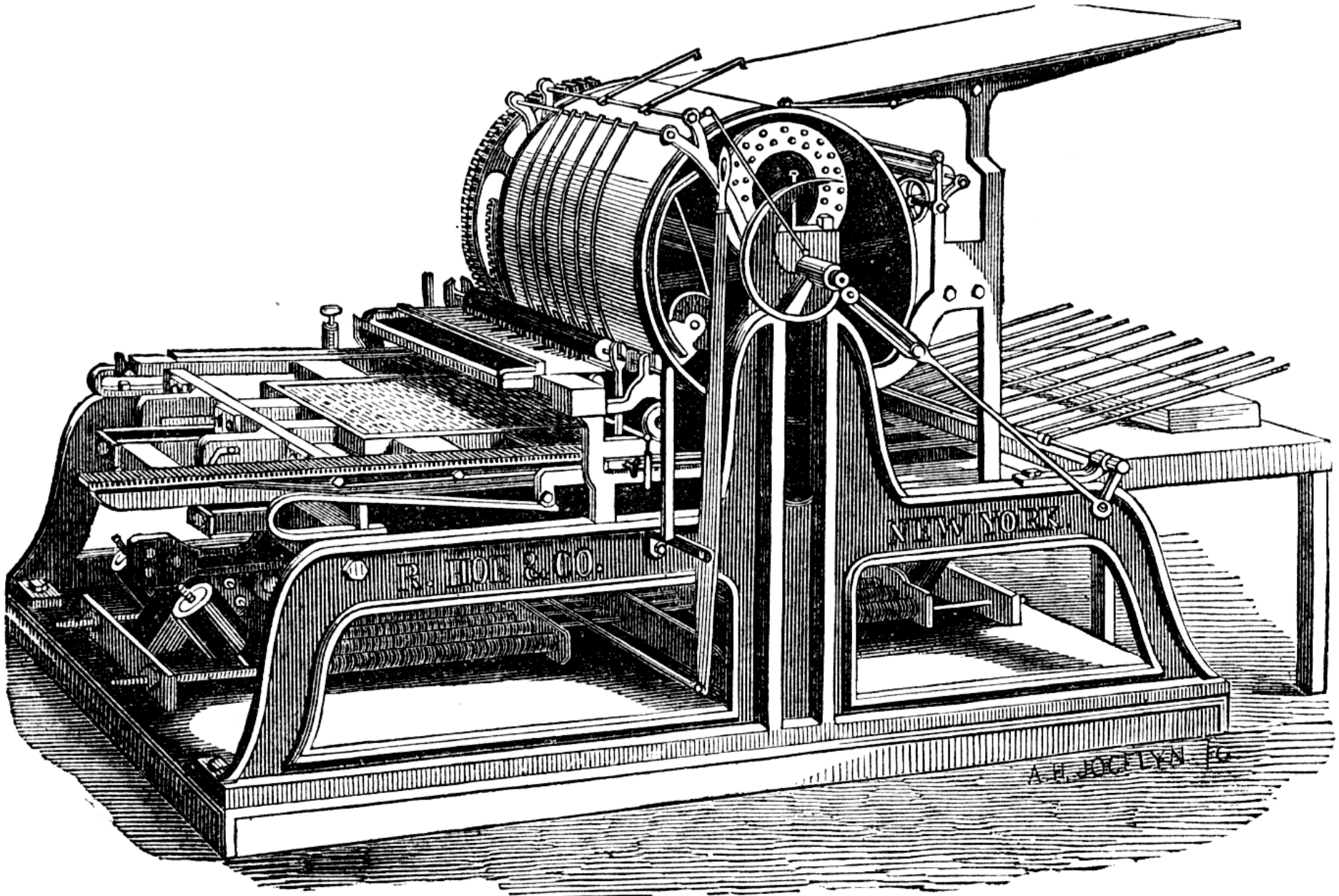
From books to bits…



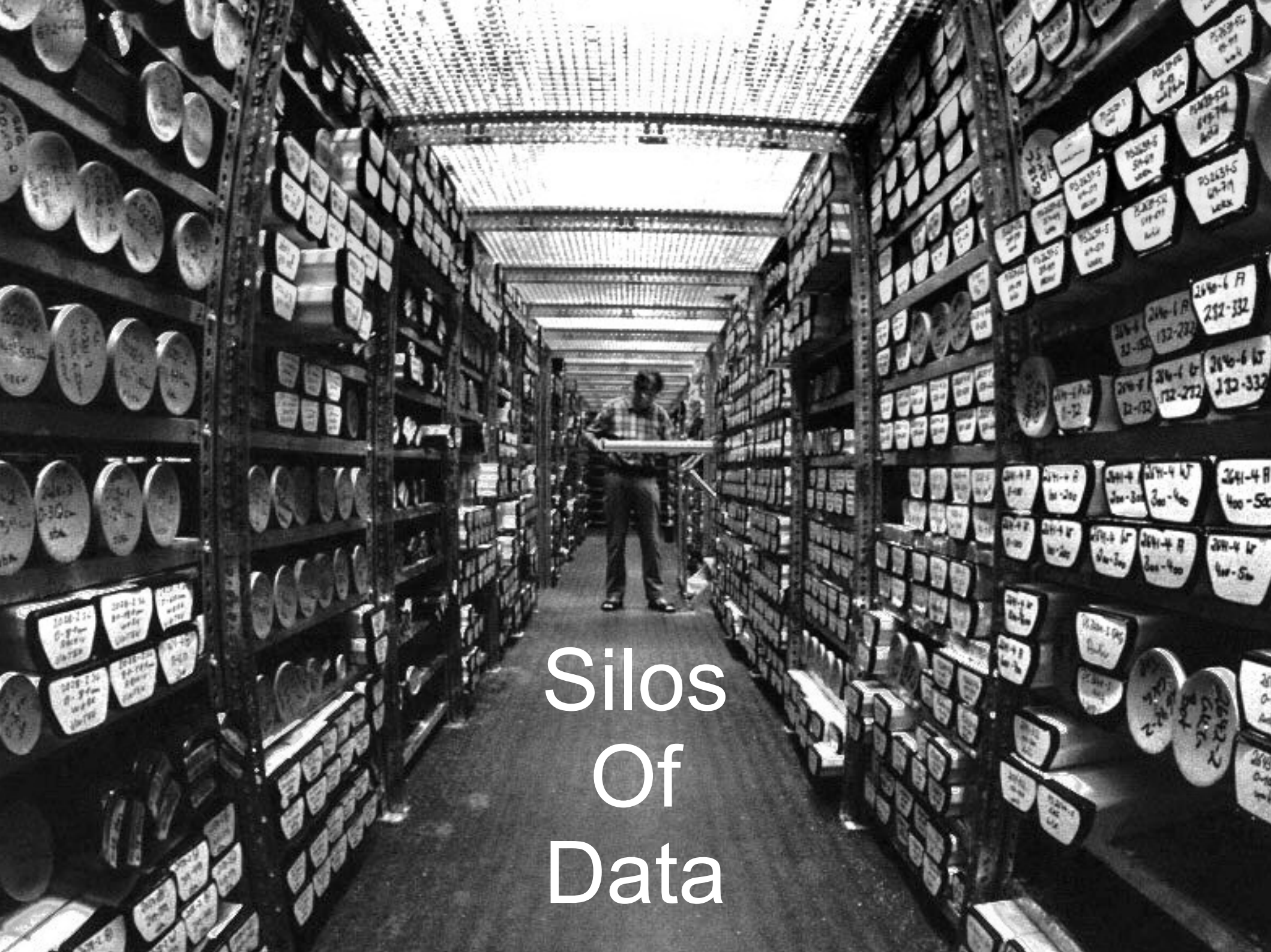
But We're Still Working Out the Details!

ONLINE
≠
OPEN
lenovo
T500

Copyright and IP Law



HOE'S ONE-CYLINDER PRINTING PRESS.


Silos
Of
Data

open knowledge

=

any content or data that anyone is free to use, reuse or redistribute

All forms of content and data

From sonnets to statistics,
genes to geodata…

Some familiar names...

Wikipedia / Wikimedia Projects
Open Street Map
Flickr Commons
Freebase
Geonames
Dbpedia
Project Gutenberg / Runeberg
Librivox
MusicBrainz
Internet Archive / Open Library
Connexions
... and many many more!

Confusing Signals

aldridge
traffic
systems

The best thing to do
with your data will
be thought of by
someone else!
OPEN DATA
DATA
DATA
DATA
DATA

Technically Open

(As well as legally open)

Shiny PDFs and Shiny Front-Ends Aren't What We Want

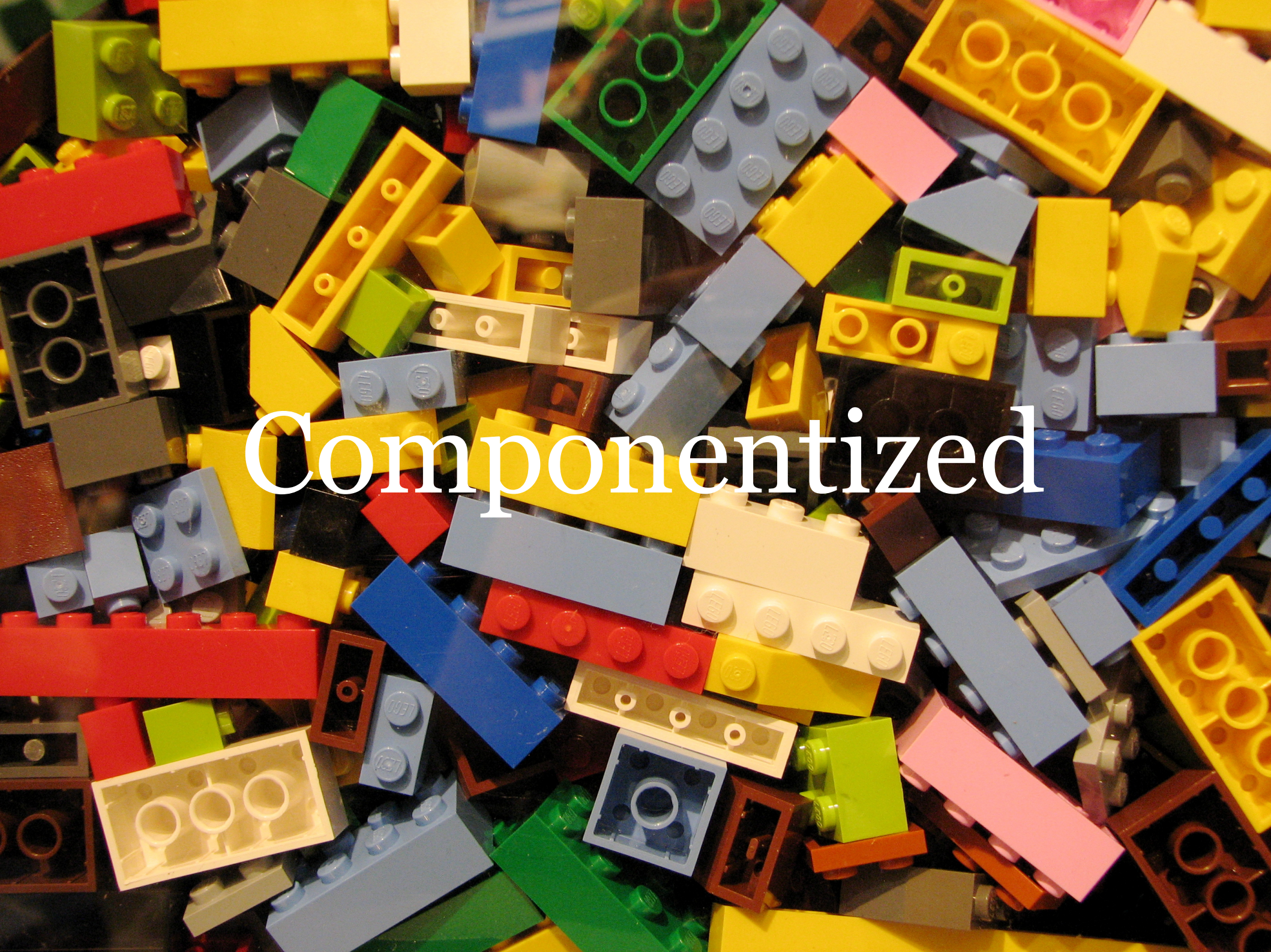
“Raw Data Now!”

How Do We Scale?
What Approach is Required
for Large Scale Collaboration
On Data and Content
“Development”?

Borrow from Free/Open Source

Develop a model that is:

Incremental
Collaborative
Decentralised
Componentised


Componentized

We Can Only Handle So Much Complexity

Create and Share Data Packages

Developing a“Debian” of Data

18,000 Packages
Maintained by 100s of people

The same is possible for data

Componentization allows us to scale
Openness allows us to put
Humpty-Dumpty back together again

Community
Driven

To Many Eyes All Bugs Are Shallow

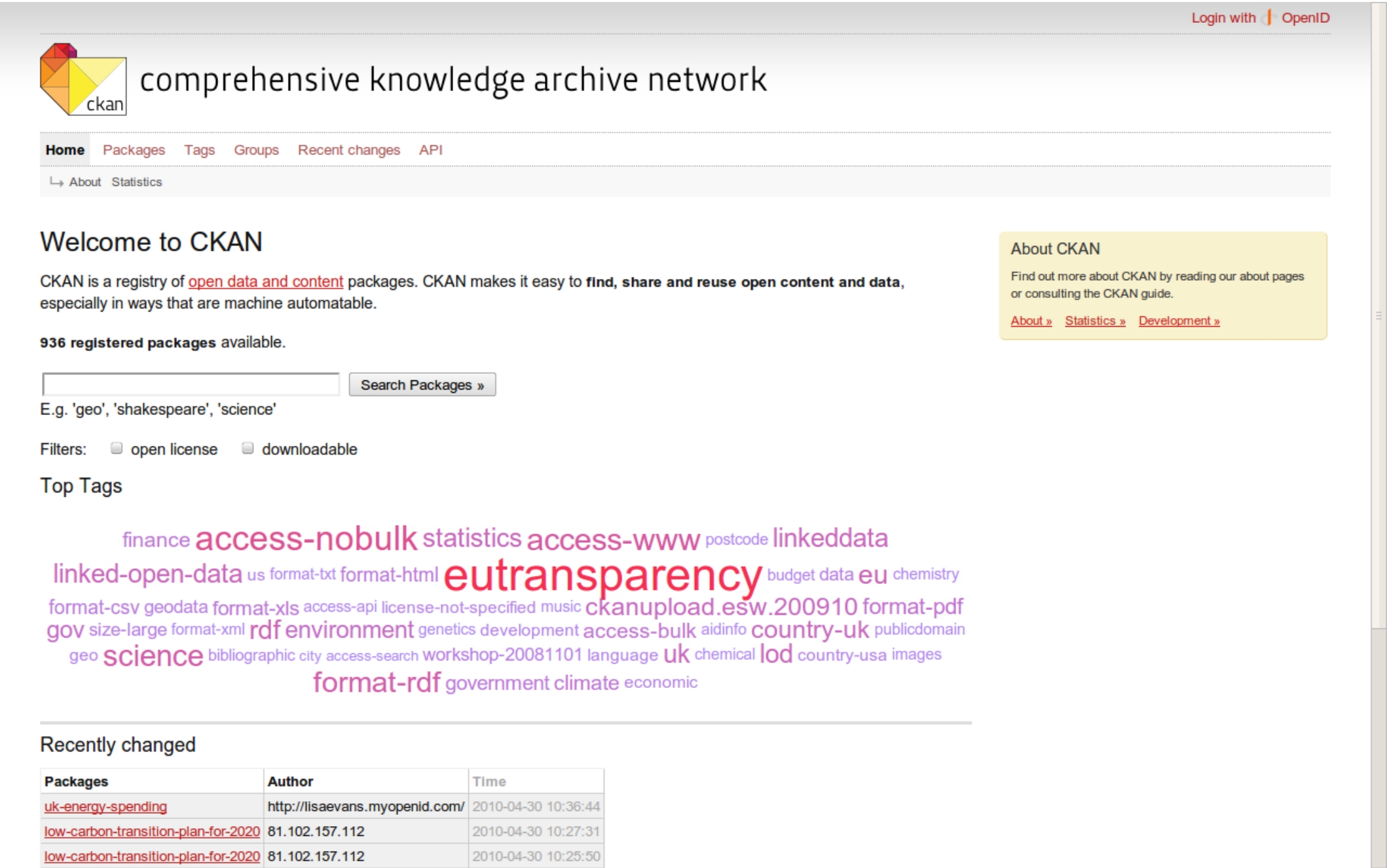
Collaborative developments
Can yield large benefits

OSM and Haiti
MP Expenses

Postboxes to Galaxies, Biodiversity to Dictionaries

Developing the Tools

CKAN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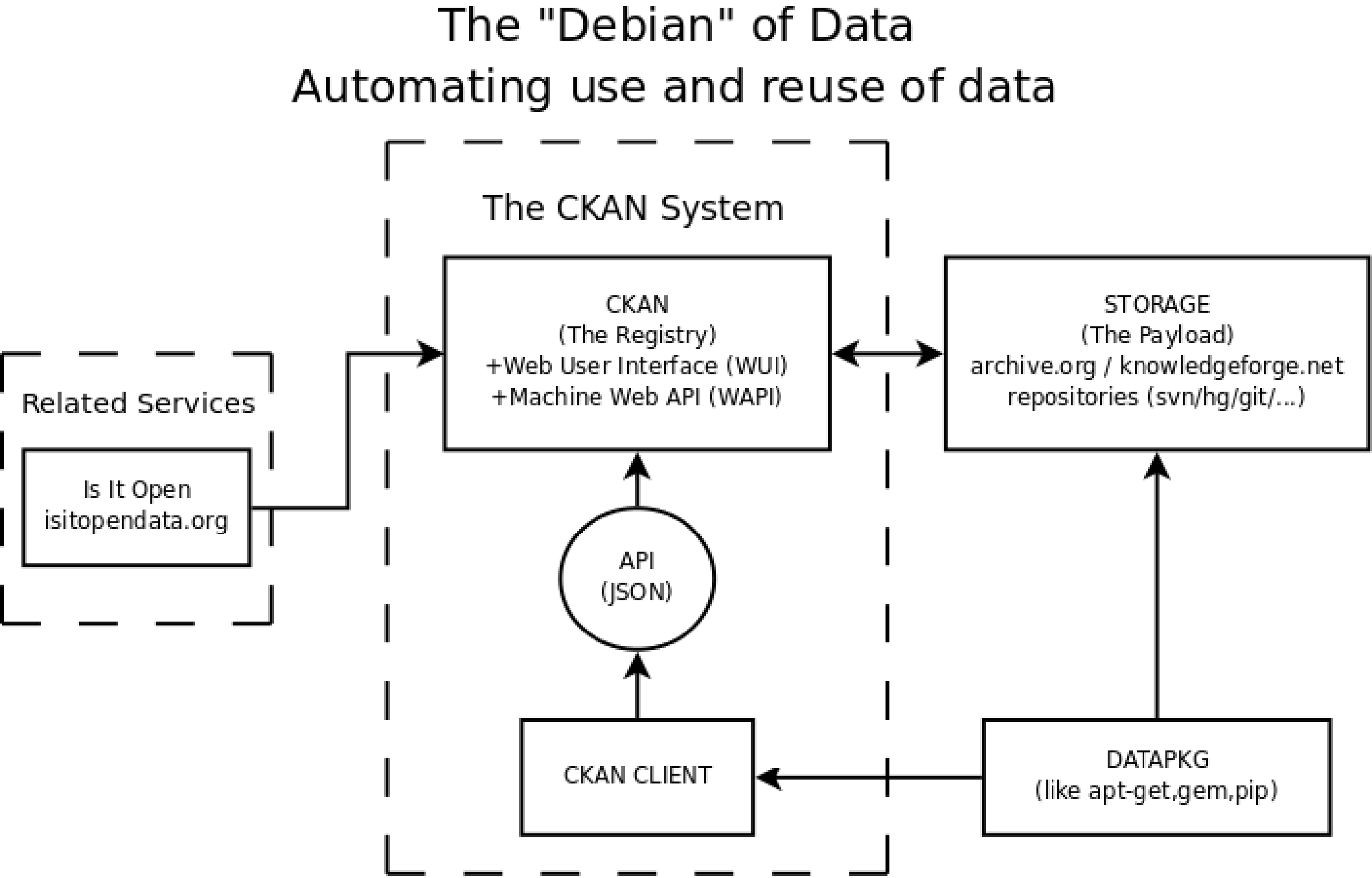
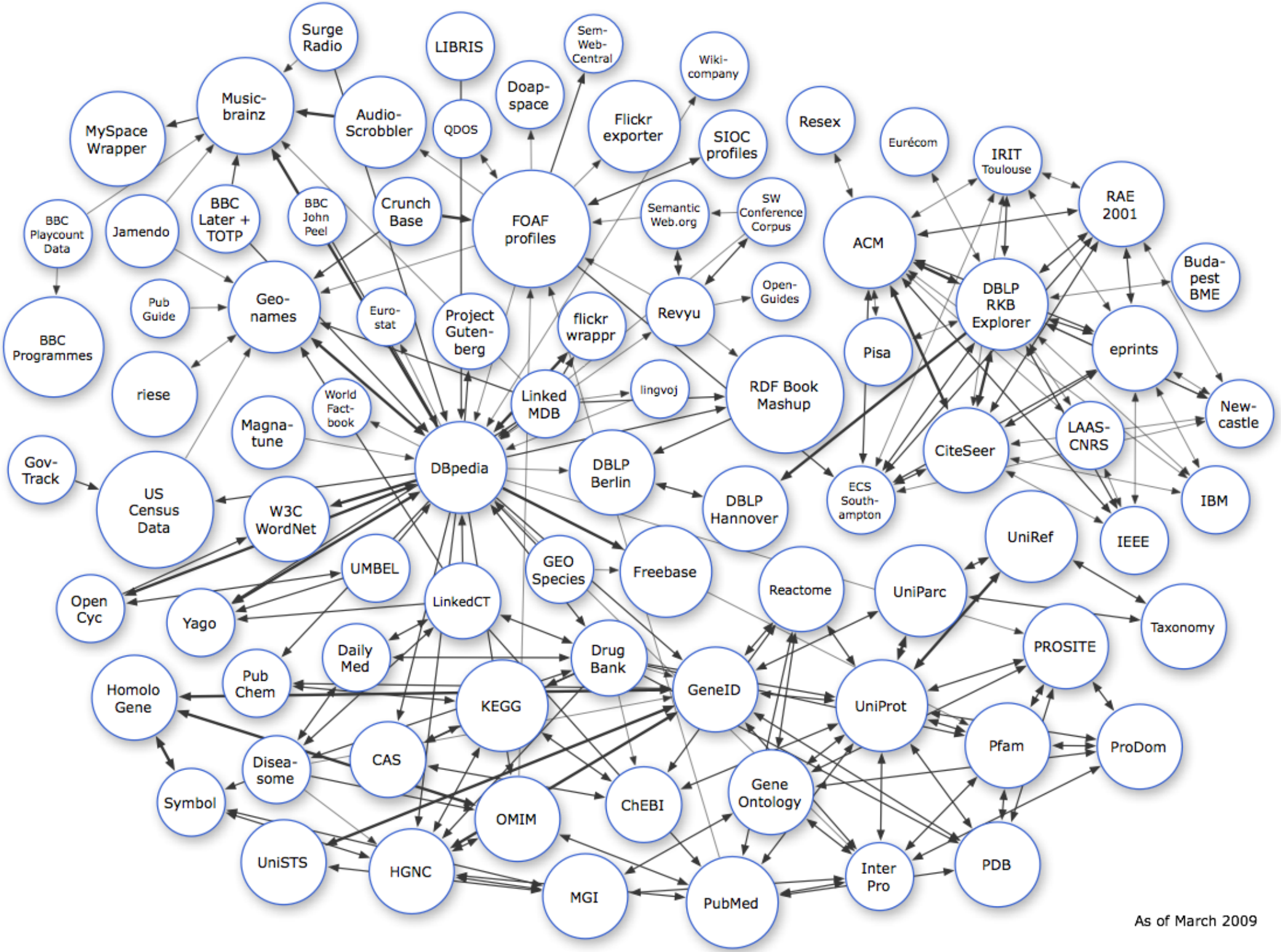

The "Debian" of Data
Automating use and reuse of data
The CKAN System
CKAN
(The Registry)
+Web User Interface (WUI)
+Machine Web API (WAPI)
STORAGE
(The Payload)
archive.org / knowledgeforge.net
repositories (svn/hg/git/...)
Related Services
Is It Open
isitopendata.org
API
(JSON)
CKAN CLIENT
DATAPKG
(like apt-get,gem,pip)


Surge Radio
LIBRIS
Sem-Web-Central
Wiki-company
Music-brainz
Audio-Scrobbler
Doap-space
Flickr exporter
SIOC profiles
Resex
Eurécom
IRIT Toulouse
MySpace Wrapper
QDOS
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SW Conference Corpus
ACM
Buda-pest BME
Pub Guide
Geo-names
Euro-stat
Project Guten-berg
flickr wrappr
Revyu
Open-Guides
DBLP RKB Explorer
BBC Programmes
Pisa
eprints
riese
World Fact-book
Linked MDB
lingvoj
RDF Book Mashup
New-castle
Magna-tune
Gov-Track
DBpedia
DBLP Berlin
CiteSeer
LAAS-CNRS
US Census Data
W3C WordNet
DBLP Hannover
ECS South-ampton
IBM
UMBEL
GEO Species
Freebase
UniRef
IEEE
Open Cyc
Yago
LinkedCT
Reactome
UniParc
Taxonomy
Daily Med
Drug Bank
PROSITE
Homolo Gene
Pub Chem
KEGG
GeneID
UniProt
Pfam
ProDom
Disea-some
CAS
Gene Ontology
Symbol
ChEBI
OMIM
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PubMed
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As of March 2009

PROTOTYPE

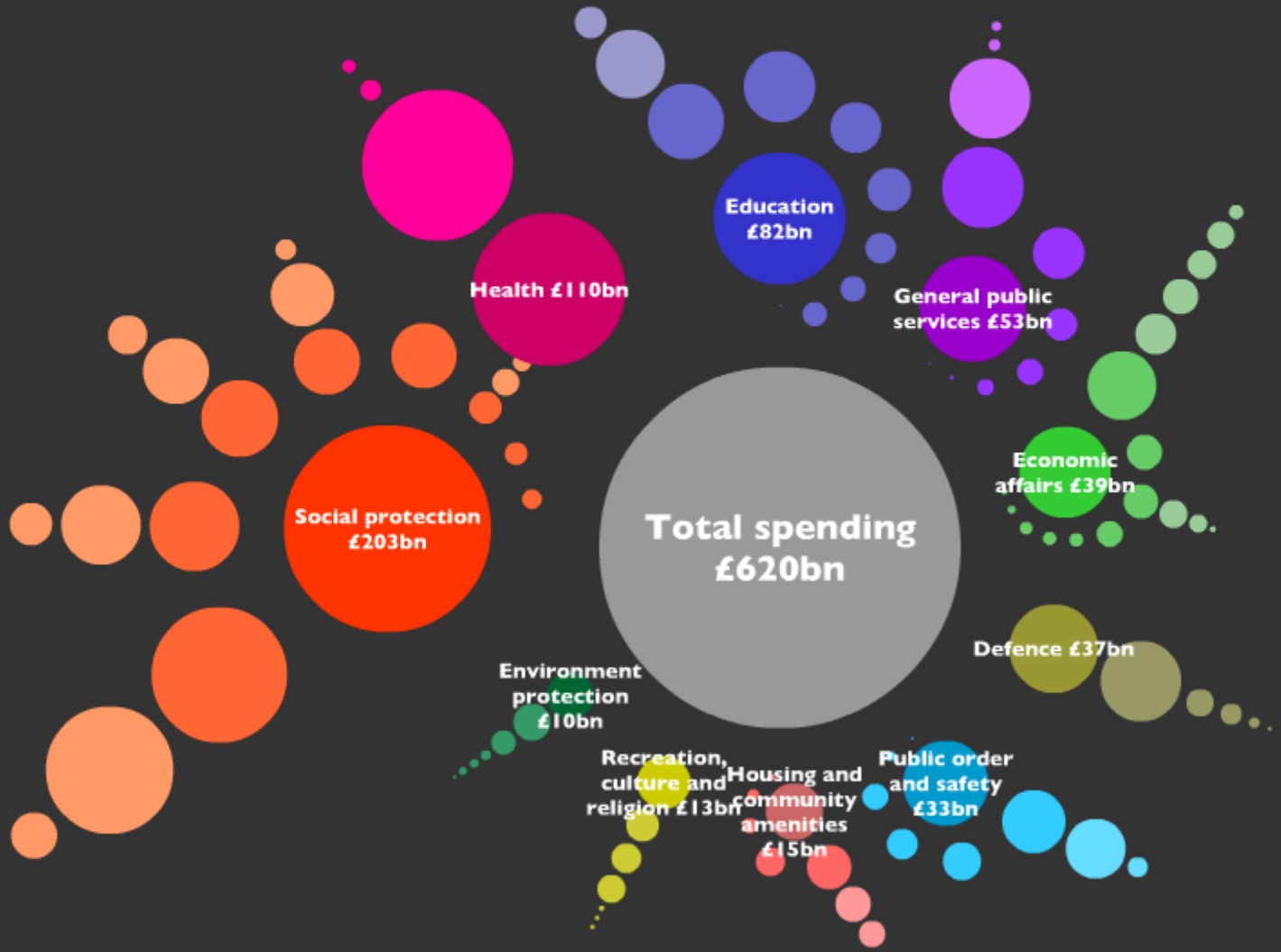
Where Does My Money Go?

UK WIDE | NATIONAL | REGIONAL

Overview | Long-term trends ▶

- Economic affairs
- General public services
- Education
- Health
- Social protection

2003-04



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