Cross-domain metadata use: local specificity and global interoperability

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Core metadata

- We all know that ‘Dublin Core’ metadata was developed by people from a mix of domains: librarians, art collectors, museum curators, news agencies, educators, …
- It was designed to be useful for everyone - simple, utilitarian, and even multi-lingual.

Core metadata

- But sometimes good for everyone means not good enough for anyone.
- Specific communities often have very special needs for metadata that are not suitable for sharing.
- For example, a library might have a local reference system they want included in their metadata.

Educators in IEEE

- Dublin Core was judged to be too simple for adequately describing learning resources.

- IEEE 1484.12.1 – 2002
  Standard for Learning Object Metadata
  - attributes of learning objects to be described include: type of object; author; owner; terms of distribution; format; and pedagogical attributes, such as teaching or interaction style.

Other educators …

Global use and Local needs..

- Interoperability with metadata for resources from many domains and types, such as books, images, government information, ….
- Available tools and expertise ..

But

- With ‘education specific’ terms

-----> DC metadata for education

The education community wanted ..

- Audience identified - age of audience, educational level of audience, audience as teacher or student, …..
- Duration - is this resource good for a topic, a lesson, a week of study, a semester of study
- ….

Would specific terms break DC?

Stu Weibel suggested three criteria.

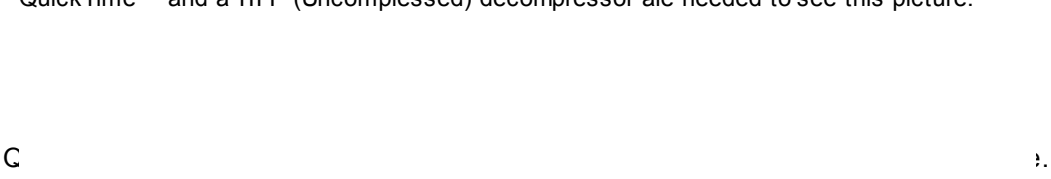
New terms must

- not redefine terms,
- not duplicate terms, and
- follow the dumb-down rule.

In 1999, the Semantic Web idea was already around

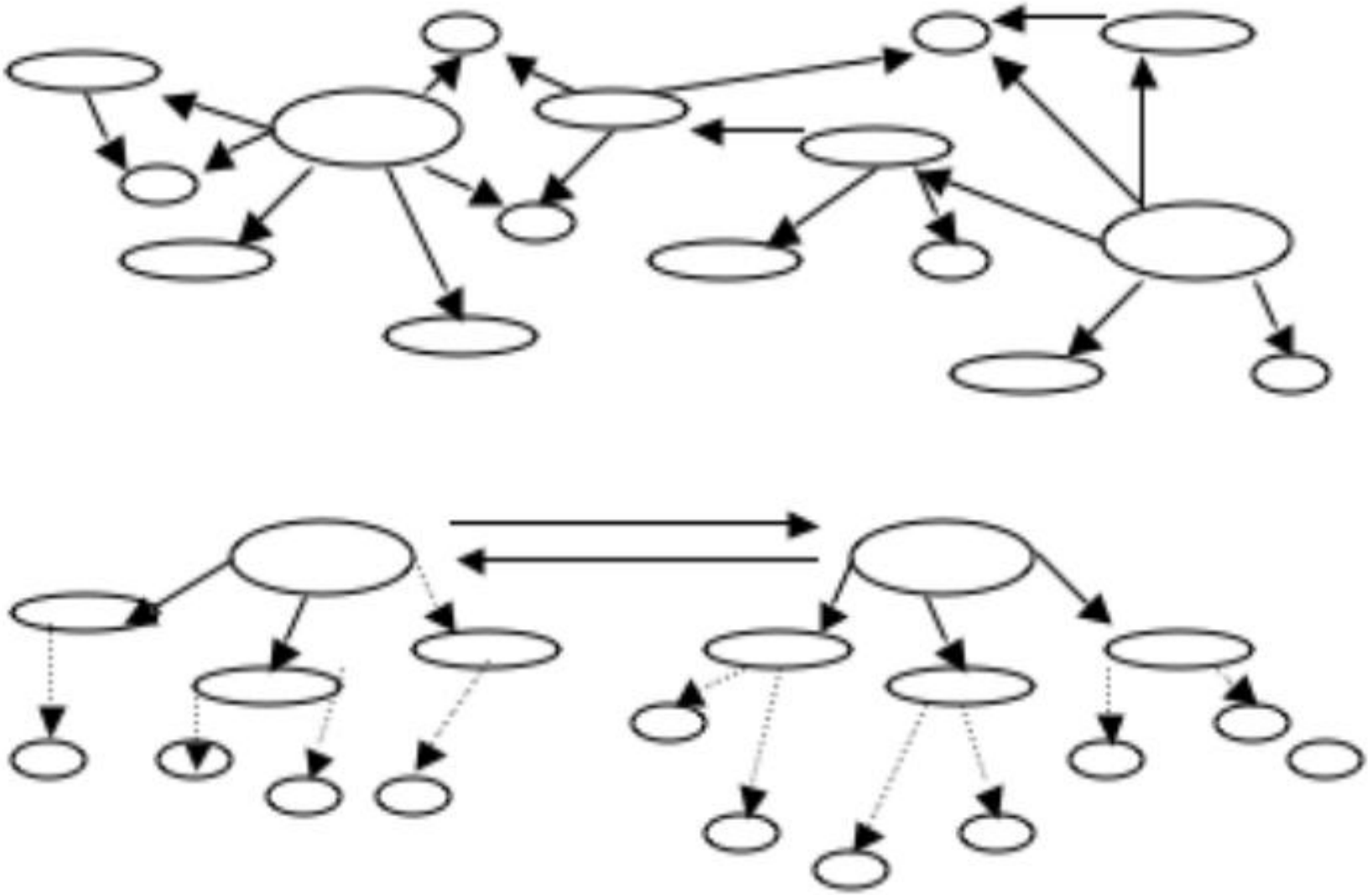
- The Semantic Web would be an endless network of linked descriptions …

Data descriptions could be linked



In 1999, the Semantic Web idea was already around

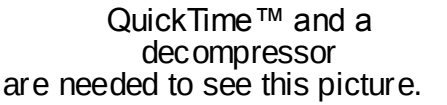
- The Semantic Web would be an endless network of linked data …
- But a Dublin Core metadata record was more like a library catalogue record

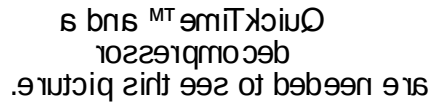


Comparison of the Semantic Web (upper) and Dublin Core models

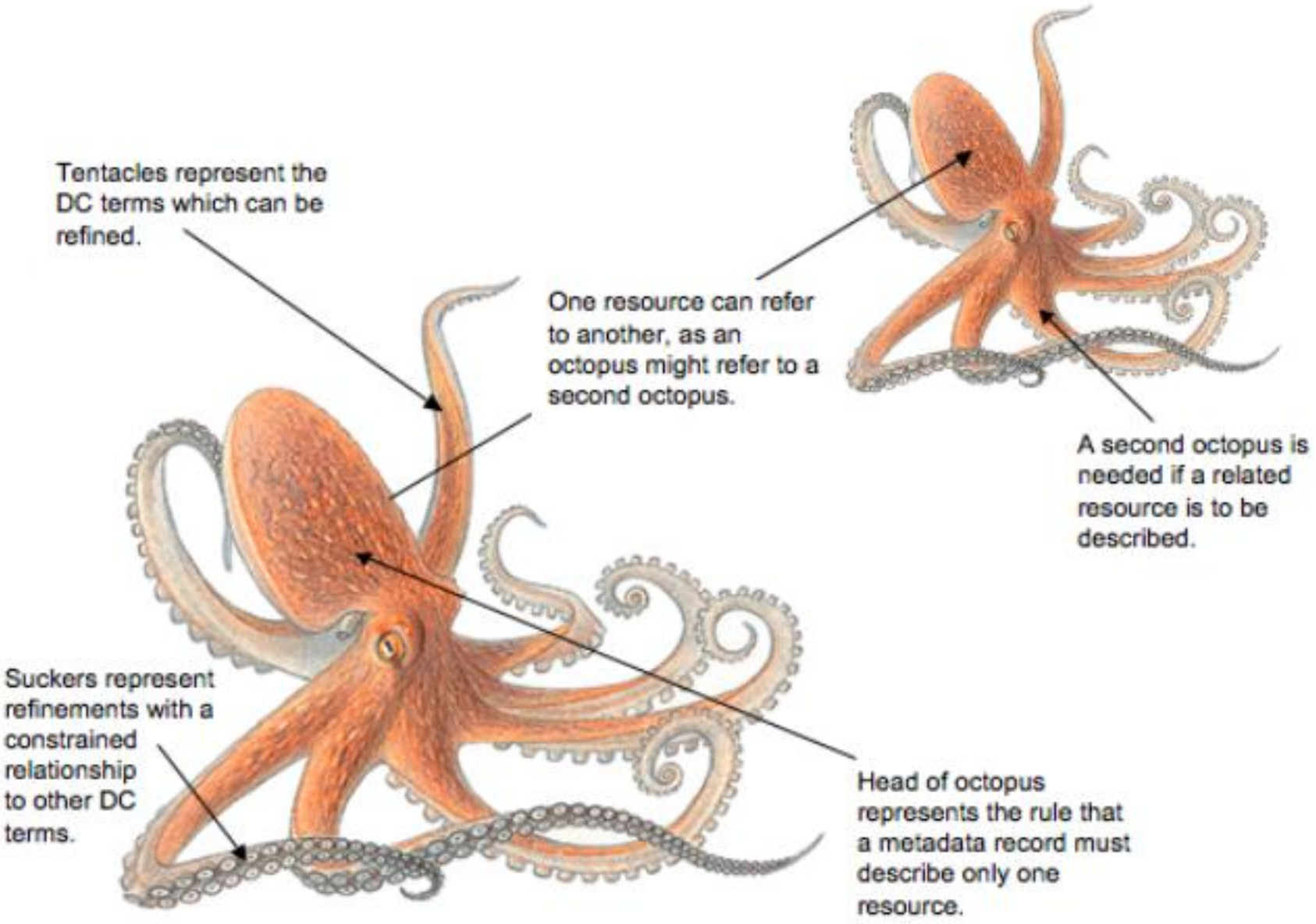
Dublin core records could be linked by linking the resource identity

- I think of DC records as octopuses, floating about as individuals ….





Images from http://www.clker.com/clipart-14385.html



The octopus metaphor (octopus image from http://www.sportsbettingandcasino.com/files/2008/05/octopus.jpg)

New terms…

- Never just renaming old terms
- Either:
  New terms in new class of terms
- Or
  Modifications of older terms
  (always refinements), always within the same class of terms so they can be understood

DC Education

- A community with specific needs introducing terms for domain specificity and local specificity
- ---> DC Government, and many others and the proliferation of Application Profiles
- ---> local specificity while retaining global interoperability

Meanwhile, …

- IEEE LOM -> IEEE/IMS LOM, revised IEEE LOM and very nearly to ISO/IEC LOM
  but
- ISO/IEC JTC1 SC36 has chosen to adopt DCMT and application profiles, fully compatible with Resource Description Framework specifications of W3C

---> ISO/IEC 19788 Metadata for Learning Resources

The accessibility community

- For 13 years have tried to teach people to use technologies inclusively.
- W3C has produced many guidelines for making resources accessible but with very little success.
- Most resources available via the Web are not suitable for some groups of users.

Typical problems

- Wrong language, full of idioms
- Resource is visual but the user has sight difficulties at the time
- Resource uses sound but the user has hearing difficulties at the time

Note: the person may have medical disabilities or the circumstances might make sound, images, etc useless at the time.

Typical situations

- Resource A is not universally accessible but perfect for Person A
- Resource B is not accessible for Person B but there is an alternative at …
- Resource C is not accessible for Person C and there is no alternative so C's friend makes one

Solution?

- Use metadata to describe the access characteristics of resources
- Use metadata to let people describe their access needs at the time
- Match resources to needs

- --> AccessForAll metadata

Advantages?

- If Resource A is not accessible, other people can help solve the problem - cumulative accessibility
- It can be made accessible just-in-time which is much cheaper and more likely to happen than just-in-case
- If Resource A is good for Person A, they can find it

The concept?

“Crowd sourcing of accessibility in the cloud”

AccessForAll metadata

- Originally an IMS GLC specification
- Now an ISO/IEC standard for education (but not yet re-written to fit MLR / DC)
- A work item for DCMI

AccessForAll metadata

- Implemented in LMSs
- Being adopted by governments
- Behind a major project in the USA (National Public Inclusive Infrastructure)

AccessForAll metadata

My recommendation:

- Add the term ‘accessibility’
- Use controlled vocabulary:
  - allTextual, auditoryOnly, hapticOnly, visualOnly, brailleOnly, tactileOnly, olfactoryOnly, hazard.
- Or adopt the application profile

see
http://dublincore.org/groups/access
http://dublincore.org/accessibilitywiki/

- Thank you.