An Introduction to the Open Archives Initiative Object Reuse and Exchange (OAI-ORE)

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This is all pretty new!

- OAI-ORE v1.0 specs released October 17, 2008
- Content, especially diagrams, in this presentation, adapted from http://www.openarchives.org/ore/1.0/toc.html
- Not going to explain all the details, just the ones that look like they'll be useful to production digital libraries

Purposes of OAI-ORE

- Identify "aggregations" of content
- Describe constituents/boundaries of aggregations

That's it.

- Does *not* prescribe a protocol for transferring content between repositories
- Just about identifying in a machine-readable way what's there, rather than providing tools for doing anything with that information

Design principles

- ## Built on web architecture
  - ▫ leverage the integrated nature of the web
  - ▫ use existing infrastructure to build semantics
- ## Uses RDF principles
  - ▫ think "subject," "predicate," object
  - ▫ but not only encoded in RDF
  - ▫ extends into Linked Data and Cool URIs

The problem
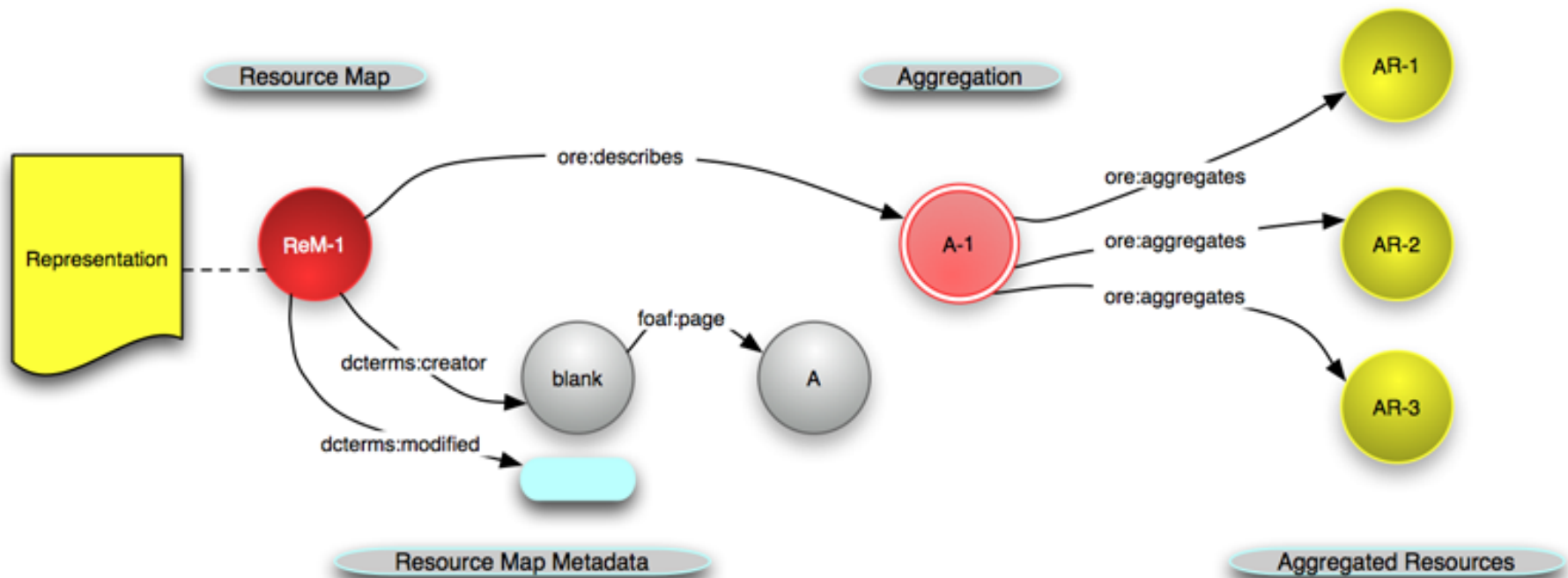
Definitions

- Objects of interest are *resources*
- Resources have *URIs* that identify them
- Aggregations:
  - ▫ stand for a set or collection of resources
  - ▫ an aggregation is itself a resource
- A *resource map* is a resource that describes the aggregation
- A *representation* is a datastream obtained after dereferencing a URI (e.g., for a resource map)

An example

More detail

<A-1>	<ore:aggregates>	<AR-1>
<A-1>	<ore:aggregates>	<AR-2>
<A-1>	<ore:aggregates>	<AR-3>
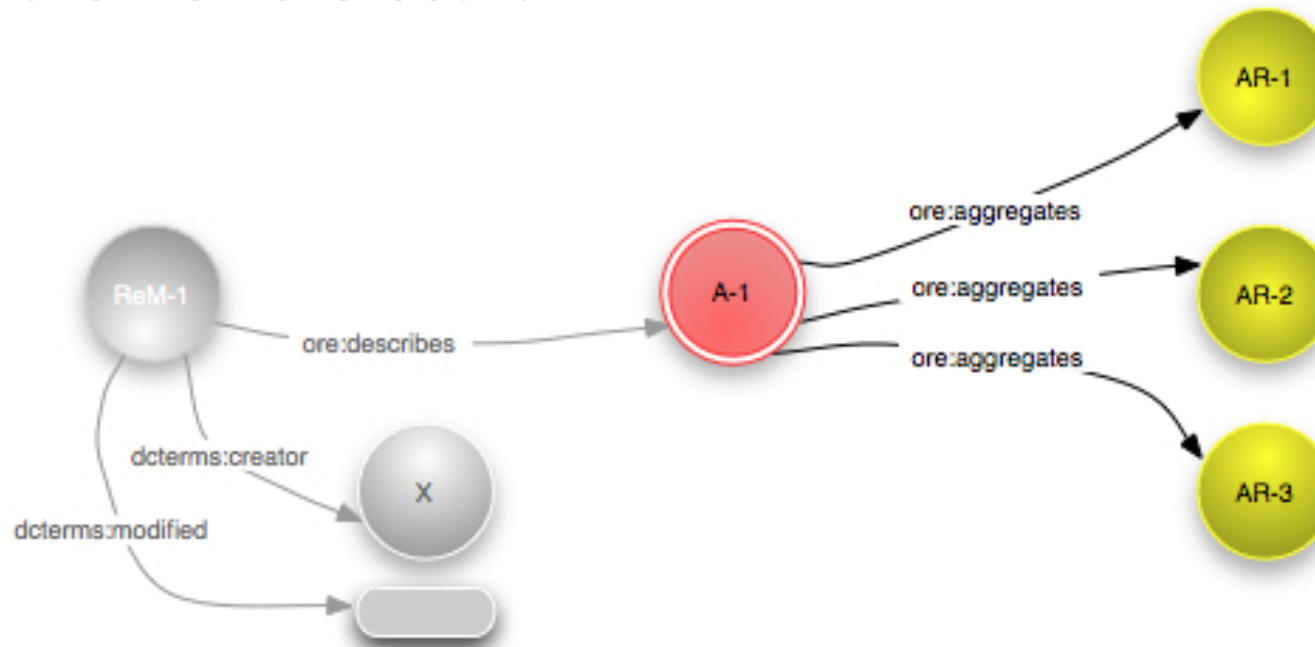
A-1	http://www.dlib.org/dlib/february06/smith/aggregation
AR-1	http://www.dlib.org/dlib/february06/smith/02smith.html
AR-2	http://www.dlib.org/dlib/february06/smith/pg1-13.html
AR-3	http://www.dlib.org/dlib/february06/smith/pg1-13.pdf

Requirements for Resource Maps

- ore:describes
  - referring to the aggregation resource
- dcterms:creator
  - MUST be a reference to a Resource of type http://purl.org/dc/terms/Agent
  - and be a human (???)
- dcterms:modified
  - referring to when the RM was last updated

Some potential features for Aggregations

- ore:aggregates
  - referring to resources that make up the aggregation
- rdf:type
  - no defined vocabulary
  - expected to use vocabularies other (reputable?) bodies develop (e.g., DCMI Type)

So what's the point of all of this again?

- A fancy way to say things belong together
  - machine-readable
  - machine-understandable?
- Fundamentals that could enable many higher-level services
  - presumably including "re-use" and "exchange"
  - but don't define those services here

Another possible feature of Resource Maps

- MAY include additional properties about the Aggregation and Aggregated Resources, such as:
  - ▫ relationships among the Aggregated Resources,
  - ▫ relationships from the Aggregated Resources to other Resources,
  - ▫ and other properties
- RMs are probably not all that useful to DLs unless this feature is employed

Some potential relationships between Aggregated Resources

- dcterms:isVersionOf
- dcterms:replaces
- dcterms:references

Serializations

- Atom
- RDF/XML
- RDFa
- METS serialization tentatively planned

Accessing Resource Maps over HTTP

- RECOMMENDED: 303 redirection and content negotiation
- Simpler use of 303 redirection for a single Resource Map
- Limited but simple strategy using hash URIs
- RFDa (or microformats) either alone or in addition to other formats
- HTTP Proxy URIs and ORE Proxy URI resolver at http://oreproxy.org/r

Possible ReM for digitized book

B-1agg	Book object
AR-TEI	XML version of the book
AR-Images	High-res page aggregation
AR-PI1, AR-PI2, ...	High-res page images
AR-Annotations	Aggregations of annotations
AR-A1, AR-A2, ...	Annotations
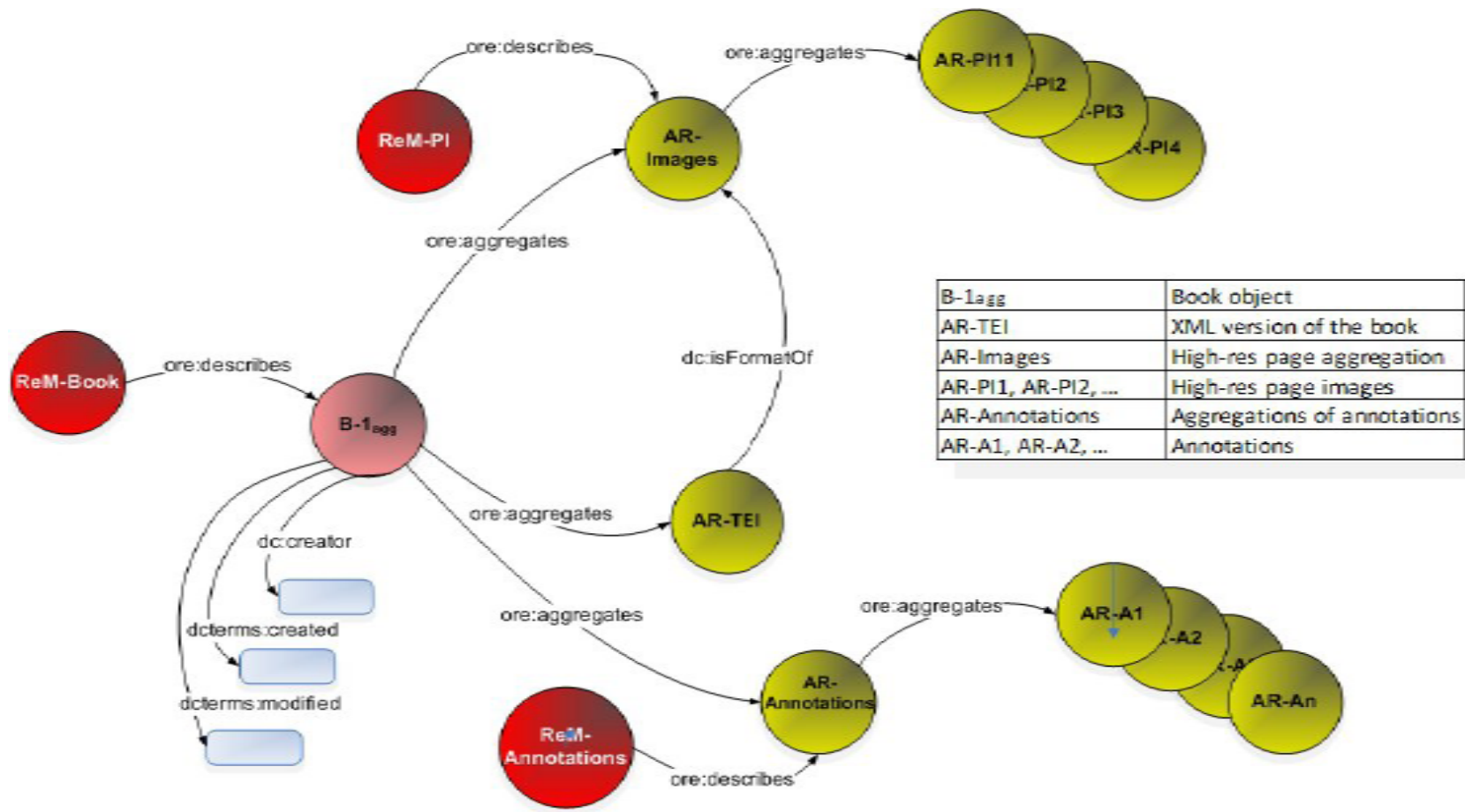
Diagram by Tim Cole, UIUC

Possible ReM for annotation of a text

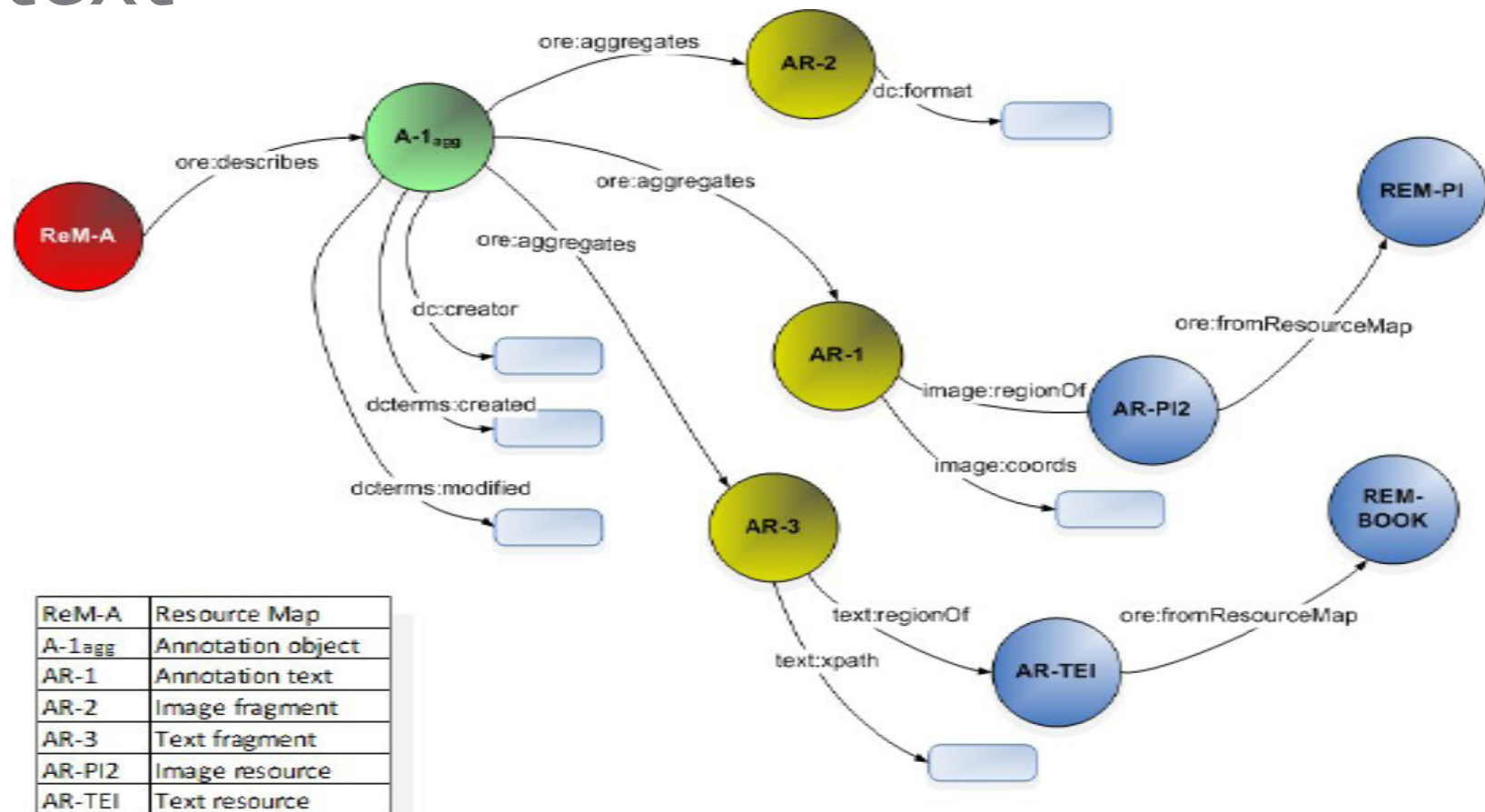| ReM-A	Resource Map
A-1agg	Annotation object
AR-1	Annotation text
AR-2	Image fragment
AR-3	Text fragment
AR-PI2	Image resource
AR-TEI	Text resource

Diagram by Tim Cole, UIUC

Possible ReM for data and published paper based on it
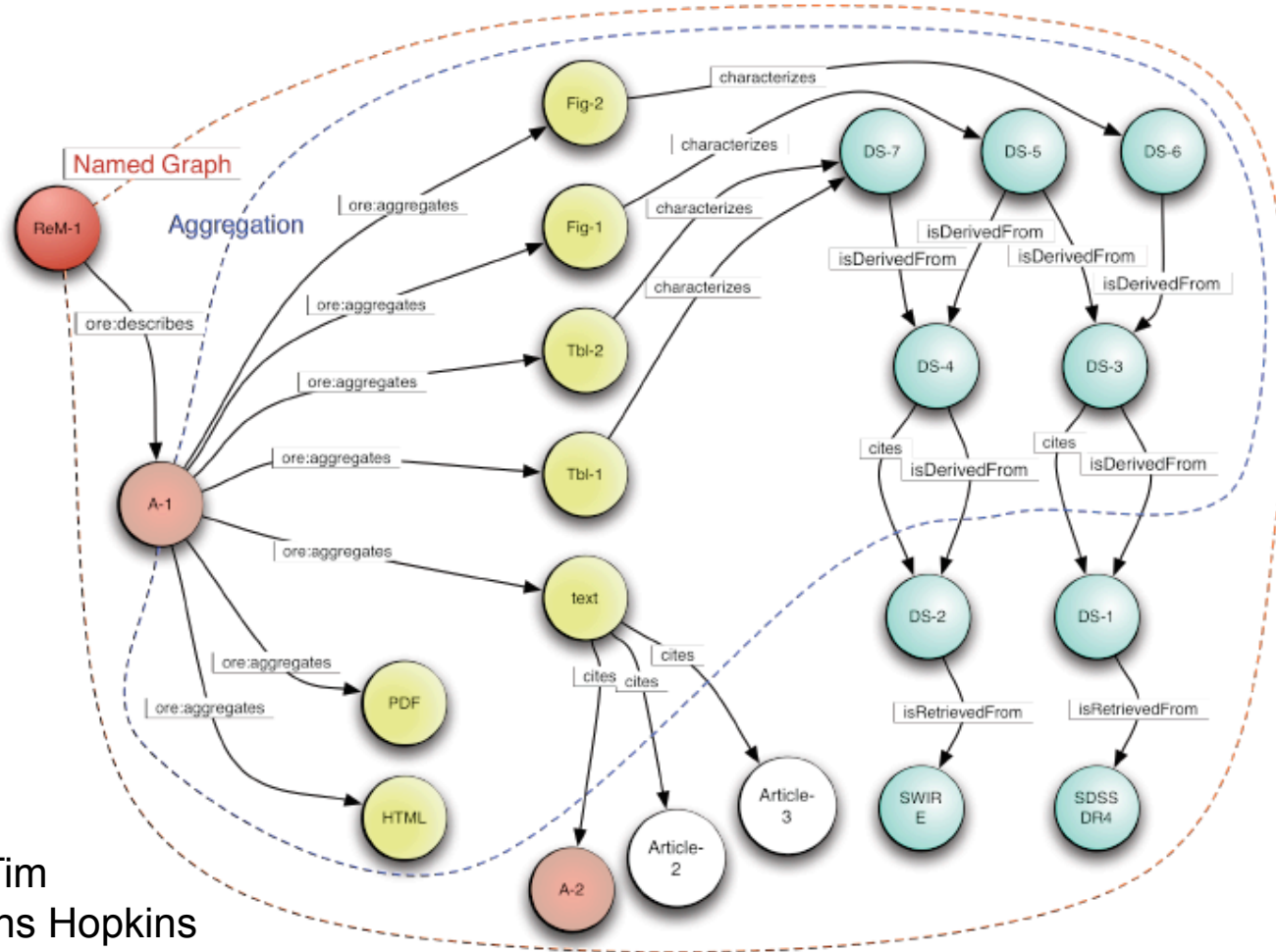

Diagram by Tim
DiLauro, Johns Hopkins

How the DLP could use OAI-ORE

- As shared data representation for scenarios like those we just saw
- ReMs in RDFa behind individual item HTML displays to describe multiple versions
- Treat "collections" as aggregations and expose ReMs from DLP home page
- Connect online secondary sources to primary sources we deliver
- ???

The bottom line

- OAI-ORE *adds* a tool to our ever-growing cabinet
- Won't solve all of our problems
- But looks promising as one strategy for putting our collections *in the flow.*

Thank you!

- ## For more information:
  - ▫ jenlrile@indiana.edu
  - ▫ These presentation slides: <http://www.dlib.indiana.edu/~jenlrile/presentations/bbfall08/ore/oaiore.ppt>
  - ▫ OAI-ORE Specifications and User Guides: <http://www.openarchives.org/ore/1.0/toc.html>