# Revised BibCitations proposal

## Working Draft, May 18, 2017

## Introduction

Previous RareMat discussions had posited two general use cases for bibliographic citations: first, to identify a resource (as a subclass of bf:Identifier) and second, to support descriptive information (using the Web Annotation model). At the ArtFrame/RareMat in-person meeting held at Columbia, the consensus was that it would be problematic to model citations as identifiers and that a single pattern based on Web Annotations would be preferable.

The Web Annotation model provides a flexible framework for asserting relationships between two resources (the annotation body and the annotation target). Annotators are given considerable autonomy in defining the content of annotation bodies. The difficulty in modeling citations lies primarily in the structure of the citation itself. At the Columbia meeting, participants from ArtFrame drew attention to the role of bibliographic citations in resource collocation: for example, being able to identify and select all resources indexed in a standard reference source such as the English Short Title Catalog. Reference sources listed in the Standard Citation Forms database are typically cited using a controlled string that identifies the source (for example, "Wing") and a value (numeric, string, or mixed) that specifies the location within the source where the item being cataloged is described. Users should be able to query on both source and location.

## Proposals

### Web Annotation Model and Vocabulary

An additional motivation, ld4l:citing, should be created as a narrower term under oa:linking (or else oa:describing).

### Citation resources

See the RDF Turtle markup below for examples of these recommendations.

* Use the existing [madsrdf:Source](http://www.loc.gov/standards/mads/rdf/v1.html#Source) class (defined as "a type of citation") for citation resources.
* Use the madsrdf:citationSource property to indicate the Standard Citation Form, if available; otherwise, a BIBFRAME or bibliotek-o title can be used.
* Use the madsrdf:citationStatus property to indicate whether or not the described resource was found in the standard reference source.
* Create new named individuals for ld4l:found and ld4l:notFound in preference to the current MADSRDF practice of using the uncontrolled strings "found" and "not found."
* Use the ld4l:atLocation property to specify the location of a relevant entry or description within a reference source. The object of ld4:atLocation may be divided into multiple sublocations (ordered using vivo:rank) to accommodate hierarchical location designators: for example, "BM 15th cent., II, p. 498 (IB 8615)."
* Use bf:unit to specify the appropriate unit for each designator.
* Create new named individuals for designators (such as "volume," "page," and "entry").
* If URIs were ever to be minted for entries in the Standard Citation Forms database, they could be linked to using owl:sameAs from the citation resource.
* A Work URI could be linked to using a property like bf:references.
* Questions:
* Is this a valid use of ld4l:atLocation? My sense was it could be used abstractly to specify any kind of location.

### Examples in RDF

#### Example 1. Modeling the identifer use case with annotations.

``` ex:anno1 a oa:Annotation ; dcterms:creator :rarematters oa:hasBody [ a oa:SpecificResource ;  
oa:hasSource ex:source1 ;  
oa:hasPurpose ex:citing ] ; oa:hasTarget ex:instance1 ; oa:motivatedBy oa:identifying .

ex:source1 a madsrdf:Source ; madsrdf:citationSource "Proctor, R. Index to the early printed books in the British Museum" ; madsrdf:citationStatus ex:found ; ld4l:atLocation [ a prov:Location ; bf:unit ex:entry ; rdf:value "2383"  
] ; owl:sameAs <https://rbms.info/scf/?scf_entries=proctor-r-g-c-index-to-the-early-printed-books-in-the-british-museum> ;  
bf:references <http://worldcat.org/entity/work/id/28799484> .

ex:instance1 a bf:Instance ; dcterms:title "Malleus maleficarum" . ```

#### Example 1.1 Modeling multipart citation locations

ex:citationX ld4l:atLocation [ a prov:Location ; bf:hasPart [ a prov:Location ; bf:unit ex:volume ; vivo:rank "1" ; rdf:value "II" ] , [ a prov:Location ; bf:unit ex:page ; vivo:rank "2" ; rdf:value "498" ] , [ a prov:Location ; bf:unit ex:entry ; vivo:rank "3" ; rdf:value "IB 8615" ] ] .

#### Example 2. Modeling the descriptive information use case with annotations.

``` ex:anno2 a oa:Annotation ; dcterms:creator :rarematters oa:hasBody [ a oa:SpecificResource ;  
oa:hasSource ex:source2 ;  
oa:hasPurpose oa:commenting , ex:citing ; ] ; oa:hasTarget ex:instance2 ; oa:motivatedBy oa:identifying .

ex:source2 a madsrdf:Source ; madsrdf:citationSource "Wing, D.G. Short-title catalogue of books printed in England, Scotland, Ireland, Wales, and British America, and of English books printed in other countries, 1641-1700 (2nd ed.)" ; madsrdf:citationStatus ex:notFound ; madsrdf:citationNote "Not listed in Wing" ; owl:sameAs <https://rbms.info/scf/?scf_entries=wing-d-g-short-title-catalogue-of-books-printed-in-england-scotland-ireland-wales-and-british-america-and-of-english-books-printed-in-other-countries-1641-1700-2nd-edition> ; bf:references <http://worldcat.org/entity/work/id/131317620> .

ex:instance2 a bf:Instance ; dcterms:title "Some title" . ```