**Name of Standard: Arts & Rare Materials BIBFRAME Ontology Extension**

**URL:** <https://github.com/LD4P/arm>

**Related Resources:** <https://alcts.ala.org/metadatablog/wp-content/uploads/2018/08/Kovari_OntologyExtension_ALAAC2018.pdf>

<https://wiki.duraspace.org/display/LD4P/Rare+Materials+Ontology+Extension>

<https://wiki.duraspace.org/display/LD4P/ArtFrame>

**Summary (1-2 sentences):**

**Discussion:**

1. **Background (a few words)**
   1. **What kind of a standard is it? (Conceptual model, ontology, …)**

ontology extension

* 1. **Who maintains this standard?**

Joint development between Andrew W. Mellon Foundation funded Linked Data for Production (LD4P) project, 2016-2018, and its partner Institutions: Cornell and Columbia; RBMS' Bibliographic Standards Committee; ARLIS' Cataloging Advisory Committee.

Adoption, maintenance, and use of these ontologies will be determined by RBMS-BSC and ARLIS CAC following initial development and assessment.

* 1. **How old is it?**

This standard grew out of two separate LD4 Labs grant efforts (2016-2018), ArtFrame and RareMat.

Columbia University led [ArtFrame](https://wiki.duraspace.org/display/LD4P/ArtFrame), an ontology extension for the description of two-and three-dimensional artworks, in collaboration with the Art Libraries Society of North America's [Cataloging Advisory Committee](https://www.arlisna.org/organization/committees/76-cataloging-advisory-committee)(ARLIS CAC), the Library of Congress Prints and Photographs Division, The Clark Library, and the Morgan Library & Museum.

Cornell University led the [Rare Materials Ontology Extension](https://wiki.duraspace.org/display/LD4P/Rare+Materials+Ontology+Extension) (RareMat) in collaboration with the ACRL Rare Books and Manuscript Section's [Bibliographic Standards Committee](http://rbms.info/committees/bibliographic_standards/) (RBMS-BSC); RareMat was intended to provide modeling for the complexity of rare materials, particularly item-level description not addressed in BIBFRAME.

* 1. **What is its stated purpose and scope?**

Serve as extension of the BIBFRAME ontology for generalized bibliographic description to provide specialized modeling in the art and rare materials domains.

1. **Relation to Archival Description (1-2 sentences)**
   1. **ARM provides:**
      1. A set of controlled vocabularies for arrangement of physical objects (e.g., rolled and unrolled), origin (e.g., of titles), status (e.g., of identifiers), typefaces, and handwriting types.
      2. Additional ontologies for Activity, Award, Custodial History, Measurement, Arrangement, Handwriting Type, Origin, Typeface, Status (some coming from bibliotek-o)
      3. Detailed documentation of each model. These include use cases; model overviews, with motivation and rationale in reference to the use cases and legacy data; diagrams; RDF samples; term specifications; recommendations for future modifications to BIBFRAME, where applicable; and lists of related topics out-of-scope of the current project but of interest for future research.
      4. Application profiles, formalized in SHACL and accompanied by external ontologies and vocabularies, to support form and display interfaces in VitroLib, an RDF cataloging tool under development in the associated Linked Data for Libraries Labsproject.
      5. SHACL validation profiles stored with the associated ontologies to support application-independent implementation (experimental).
   2. **If archival description is outside the stated purpose/scope, explain how it could be used for archival metadata**

Archival description is in scope, but it isn’t really addressed in the classes and properties defined in ARM itself (see below). ARM leaves all of that to BIBFRAME. So work needs to be done either to extend ARM or to extend BIBFRAME.

1. **What it does well (1-2 sentences)**

It’s evident that this is the product of people with tons of cataloging expertise working with people who know how to model data, which is a wonderful combination. The scopes and constraints are well thought-out, and superclasses are being added (e.g. binding and dustjacket has a superclass enclosure; a binder’s ticket has a superclass marking; a bound collection has a tentative superclass item etc.).

1. **Shortcomings (1-2 sentences)**

It really gets down in the weeds, and we could probably have an argument about where the need for structured data ends and the place for strings begins. Then again, as long as no cardinality requirements are imposed, the complexity/granularity of the model shouldn’t matter. Another question is whether at that level of detail, it can be completed to encompass a generalized “art and rare materials” environment. I have a fear that it might go the way of bibliotek-o.

1. **Possible Impact on Structured Archival Data (2-5 sentences)**

Some professionals, in particular those less skeptical of BIBFRAME than I am, see BIBFRAME+ as the next step for 1) a unified descriptive ecosystem in 2) a linked data world. The developers of ARM seem to subscribe to this view--they have, in some recent presentations, included a slide citing Leigh Ann Martin’s phrase “BIBFRAME IS COMING” (from her book “Knocking Down the Machine-Readable Language Barrier”). I don’t see that premise as quite that foregone conclusion. First of all, BIBFRAME is conceptually deficient in my opinion because of its misguided implementation of a stunted FRBR. It is also not production-ready and, in my view, competing with more intuitive approaches that are. So the ARM extension isn’t, in my opinion, such a clear path forward for archival description, even if it were perfect.

That said, it is still emerging, and the team is currently seeking volunteers to provide informed input and collaborate with colleagues on its ongoing development:

<https://www2.archivists.org/news/2019/call-for-volunteers-art-and-rare-materials-bibframe-ontology-extension-arlis-rbms-saa-join>

**APPENDIX**

**Core classes:**

* **[Accession number](https://ld4p.github.io/arm/core/ontology/0.1/core.html#AccessionNumber)**
* **[Arrangement](https://ld4p.github.io/arm/core/ontology/0.1/core.html#Arrangement)**
* **[Attribution](https://ld4p.github.io/arm/core/ontology/0.1/core.html#Attribution)**
* **[Autograph](https://ld4p.github.io/arm/core/ontology/0.1/core.html#Autograph)**
* **[Binder's ticket](https://ld4p.github.io/arm/core/ontology/0.1/core.html#BindersTicket)**
* **[Binding](https://ld4p.github.io/arm/core/ontology/0.1/core.html#Binding)**
* **[Bound collection](https://ld4p.github.io/arm/core/ontology/0.1/core.html#BoundCollection)**
* **[Caption note](https://ld4p.github.io/arm/core/ontology/0.1/core.html#CaptionNote)**
* **[Citation](https://ld4p.github.io/arm/core/ontology/0.1/core.html#Citation)**
* **[Condition assessment](https://ld4p.github.io/arm/core/ontology/0.1/core.html#ConditionAssessment)**
* **[Contents note](https://ld4p.github.io/arm/core/ontology/0.1/core.html#ContentsNote)**
* **[Descriptive note](https://ld4p.github.io/arm/core/ontology/0.1/core.html#DescriptiveNote)**
* **[DustJacket](https://ld4p.github.io/arm/core/ontology/0.1/core.html#DustJacket)**
* **[Enclosure](https://ld4p.github.io/arm/core/ontology/0.1/core.html#Enclosure)**
* **[Entry](https://ld4p.github.io/arm/core/ontology/0.1/core.html#Entry)**
* **[Exhibition](https://ld4p.github.io/arm/core/ontology/0.1/core.html#Exhibition)**
* **[Font](https://ld4p.github.io/arm/core/ontology/0.1/core.html#Font)**
* **[Font style](https://ld4p.github.io/arm/core/ontology/0.1/core.html#FontStyle)**
* **[Frame](https://ld4p.github.io/arm/core/ontology/0.1/core.html#Frame)**
* **[Handwriting](https://ld4p.github.io/arm/core/ontology/0.1/core.html#Handwriting)**
* **[Handwriting type](https://ld4p.github.io/arm/core/ontology/0.1/core.html#HandwritingType)**
* **[Inaccuracy note](https://ld4p.github.io/arm/core/ontology/0.1/core.html#InaccuracyNote)**
* **[Inscription](https://ld4p.github.io/arm/core/ontology/0.1/core.html#Inscription)**
* **[Label](https://ld4p.github.io/arm/core/ontology/0.1/core.html#Label)**
* **[Limitation note](https://ld4p.github.io/arm/core/ontology/0.1/core.html#LimitationNote)**
* **[Marking](https://ld4p.github.io/arm/core/ontology/0.1/core.html#Marking)**
* **[Mount](https://ld4p.github.io/arm/core/ontology/0.1/core.html#Mount)**
* **[OCLC number](https://ld4p.github.io/arm/core/ontology/0.1/core.html#OclcNumber)**
* **[Page](https://ld4p.github.io/arm/core/ontology/0.1/core.html#Page)**
* **[Pagination foliation](https://ld4p.github.io/arm/core/ontology/0.1/core.html#PaginationFoliation)**
* **[Pedestal](https://ld4p.github.io/arm/core/ontology/0.1/core.html#Pedestal)**
* **[Physical Condition](https://ld4p.github.io/arm/core/ontology/0.1/core.html#PhysicalCondition)**
* **[Preferred citation](https://ld4p.github.io/arm/core/ontology/0.1/core.html#PreferredCitation)**
* **[Related material note](https://ld4p.github.io/arm/core/ontology/0.1/core.html#RelatedMaterialNote)**
* **[Seal](https://ld4p.github.io/arm/core/ontology/0.1/core.html#Seal)**
* **[Signature statement](https://ld4p.github.io/arm/core/ontology/0.1/core.html#SignatureStatement)**
* **[SlipCase](https://ld4p.github.io/arm/core/ontology/0.1/core.html#SlipCase)**
* **[Stamp](https://ld4p.github.io/arm/core/ontology/0.1/core.html#Stamp)**
* **[Style/Period](https://ld4p.github.io/arm/core/ontology/0.1/core.html#StylePeriod)**
* **[Subject note](https://ld4p.github.io/arm/core/ontology/0.1/core.html#SubjectNote)**
* **[Summary note](https://ld4p.github.io/arm/core/ontology/0.1/core.html#SummaryNote)**
* **[Supplementary content note](https://ld4p.github.io/arm/core/ontology/0.1/core.html#SupplementaryContentNote)**
* **[Text block](https://ld4p.github.io/arm/core/ontology/0.1/core.html#TextBlock)**
* **[Typeface](https://ld4p.github.io/arm/core/ontology/0.1/core.html#Typeface)**
* **[Watermark](https://ld4p.github.io/arm/core/ontology/0.1/core.html#Watermark)**
* **[Wrap around band](https://ld4p.github.io/arm/core/ontology/0.1/core.html#WrapAroundBand)**
* **[Wrapper](https://ld4p.github.io/arm/core/ontology/0.1/core.html#Wrapper)**

**Properties**

* **[agent of](https://ld4p.github.io/arm/core/ontology/0.1/core.html#agentOf)**
* **[at location](https://ld4p.github.io/arm/core/ontology/0.1/core.html#atLocation)**
* **[carries](https://ld4p.github.io/arm/core/ontology/0.1/core.html#carries)**
* **[cited by](https://ld4p.github.io/arm/core/ontology/0.1/core.html#citedBy)**
* **[cites](https://ld4p.github.io/arm/core/ontology/0.1/core.html#cites)**
* **[covered in](https://ld4p.github.io/arm/core/ontology/0.1/core.html#coveredIn)**
* **[covers](https://ld4p.github.io/arm/core/ontology/0.1/core.html#covers)**
* **[described by](https://ld4p.github.io/arm/core/ontology/0.1/core.html#describedBy)**
* **[describes](https://ld4p.github.io/arm/core/ontology/0.1/core.html#describes)**
* **[has arrangement](https://ld4p.github.io/arm/core/ontology/0.1/core.html#hasArrangement)**
* **[has attribution](https://ld4p.github.io/arm/core/ontology/0.1/core.html#hasAttribution)**
* **[has citation](https://ld4p.github.io/arm/core/ontology/0.1/core.html#hasCitation)**
* **[has exhibition](https://ld4p.github.io/arm/core/ontology/0.1/core.html#hasExhibition)**
* **[has handwriting type](https://ld4p.github.io/arm/core/ontology/0.1/core.html#hasHandwritingType)**
* **[has input](https://ld4p.github.io/arm/core/ontology/0.1/core.html#hasInput)**
* **[has material](https://ld4p.github.io/arm/core/ontology/0.1/core.html#hasMaterial)**
* **[has material](https://ld4p.github.io/arm/core/ontology/0.1/core.html#isMaterialOf)**
* **[has origin](https://ld4p.github.io/arm/core/ontology/0.1/core.html#hasOrigin)**
* **[has physical condition](https://ld4p.github.io/arm/core/ontology/0.1/core.html#hasPhysicalCondition)**
* **[has preferred title](https://ld4p.github.io/arm/core/ontology/0.1/core.html#hasPreferredTitle)**
* **[has signature statement](https://ld4p.github.io/arm/core/ontology/0.1/core.html#hasSignatureStatement)**
* **[has source](https://ld4p.github.io/arm/core/ontology/0.1/core.html#hasSource)**
* **[has style](https://ld4p.github.io/arm/core/ontology/0.1/core.html#hasStyle)**
* **[has style/period](https://ld4p.github.io/arm/core/ontology/0.1/core.html#hasStylePeriod)**
* **[has typeface](https://ld4p.github.io/arm/core/ontology/0.1/core.html#hasTypeface)**
* **[is applied material of](https://ld4p.github.io/arm/core/ontology/0.1/core.html#isAppliedMaterialOf)**
* **[is arrangement of](https://ld4p.github.io/arm/core/ontology/0.1/core.html#isArrangementOf)**
* **[is attribution of](https://ld4p.github.io/arm/core/ontology/0.1/core.html#isAttributionOf)**
* **[is base material of](https://ld4p.github.io/arm/core/ontology/0.1/core.html#isBaseMaterialOf)**
* **[is citation of](https://ld4p.github.io/arm/core/ontology/0.1/core.html#isCitationOf)**
* **[is color content of](https://ld4p.github.io/arm/core/ontology/0.1/core.html#isColorContentOf)**
* **[is exhibition of](https://ld4p.github.io/arm/core/ontology/0.1/core.html#isExhibitionOf)**
* **[is input to](https://ld4p.github.io/arm/core/ontology/0.1/core.html#isInputTo)**
* **[is location of](https://ld4p.github.io/arm/core/ontology/0.1/core.html#isLocationOf)**
* **[is on carrier](https://ld4p.github.io/arm/core/ontology/0.1/core.html#isOnCarrier)**
* **[is physical condition of](https://ld4p.github.io/arm/core/ontology/0.1/core.html#isPhysicalConditionOf)**
* **[is preferred title of](https://ld4p.github.io/arm/core/ontology/0.1/core.html#isPreferredTitleOf)**
* **[is source of](https://ld4p.github.io/arm/core/ontology/0.1/core.html#isSourceOf)**
* **[is style/period of](https://ld4p.github.io/arm/core/ontology/0.1/core.html#isStylePeriodOf)**
* **[marked by](https://ld4p.github.io/arm/core/ontology/0.1/core.html#markedBy)**
* **[marks](https://ld4p.github.io/arm/core/ontology/0.1/core.html#marks)**
* **[notates](https://ld4p.github.io/arm/core/ontology/0.1/core.html#notates)**
* **[subject of](https://ld4p.github.io/arm/core/ontology/0.1/core.html#subjectOf)**
* **[title of](https://ld4p.github.io/arm/core/ontology/0.1/core.html#titleOf)**
* **[written in](https://ld4p.github.io/arm/core/ontology/0.1/core.html#writtenIn)**