BF Interlingua

Interoperability among BIBFRAME linked data vocabularies

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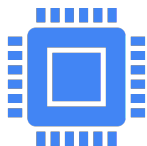
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Interlingua

The name Interlingua comes from the Latin words *inter*, meaning "between", and *lingua*, meaning "tongue" or "language"... thus "Interlingua" would mean "between language".

Borrowing from a successful method …

One approach to interchange borrows from a method that was used to great effect in making all manner of ebook content interoperable across a range of mobile devices.
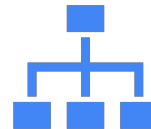
The OEBPS or Open EBook Forum Publication Structure was a success in interoperability. This success lives on as the EPUB format.

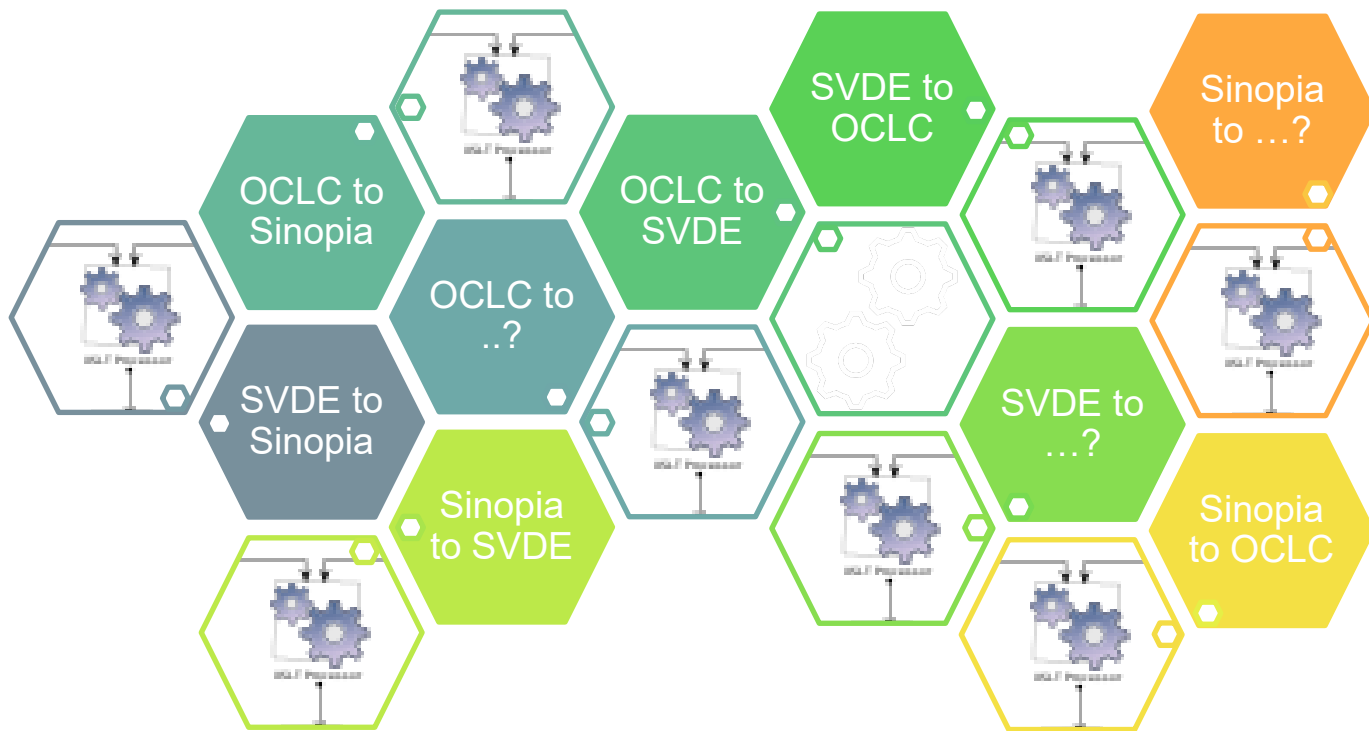(Renear & Golovchinsky, 2001; Renear & Salo, 2003)

The OEBPS used an intermediary shape, which we can call *I* and this intermediary shape (*I*) is what disparate vendors transformed their data into.
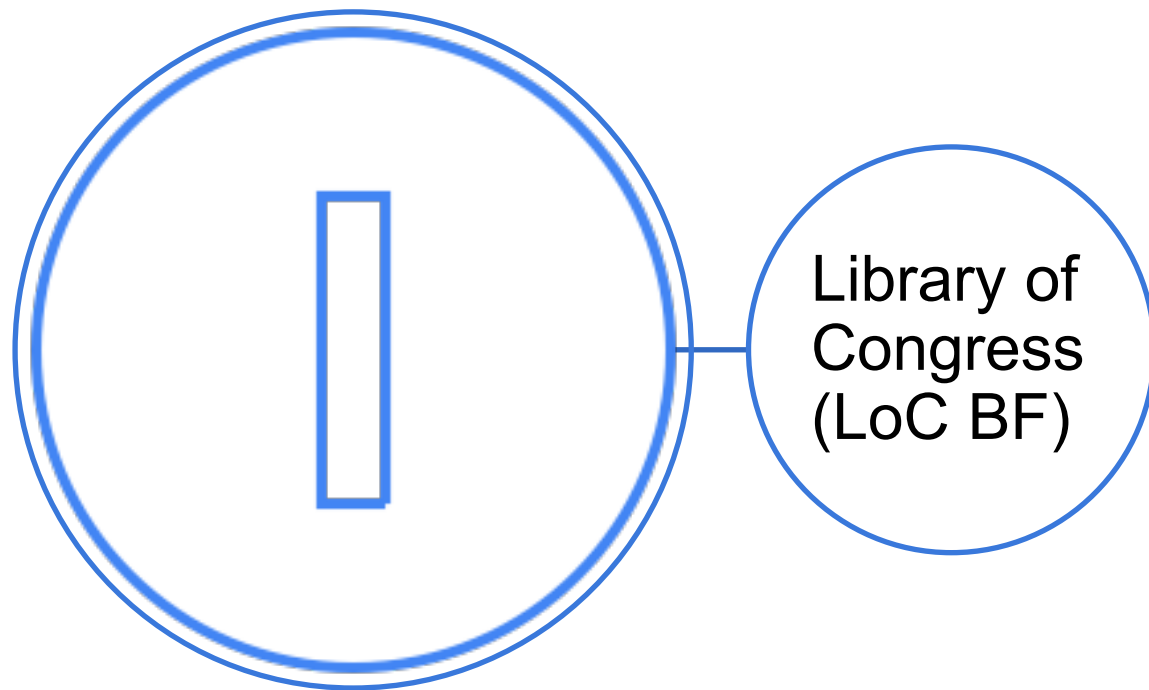
Because the intermediary shape was known to all and allowed any namespaces into the structure (with some exceptions); the transformation from any given format into the (I) structure respected local variation, while providing a target for interchange.

Problem: combinatorial explosion of BF Implementations

Interlingua: single common interchange shape

- SVDE to LoC
- Sinopia to LoC
- OCLC to LoC
- … to LoC

Library of Congress (LoC BF)

BF Interlingua: BIBFRAME from Library of Congress

BF Interlingua is the BIBFRAME shape from Library of Congress

The shape of Library of Congress BIBFRAME in any RDF serialization is the target for **I** -- e.g. may use RDF/XML, or TTL, or JSONLD, or NT.
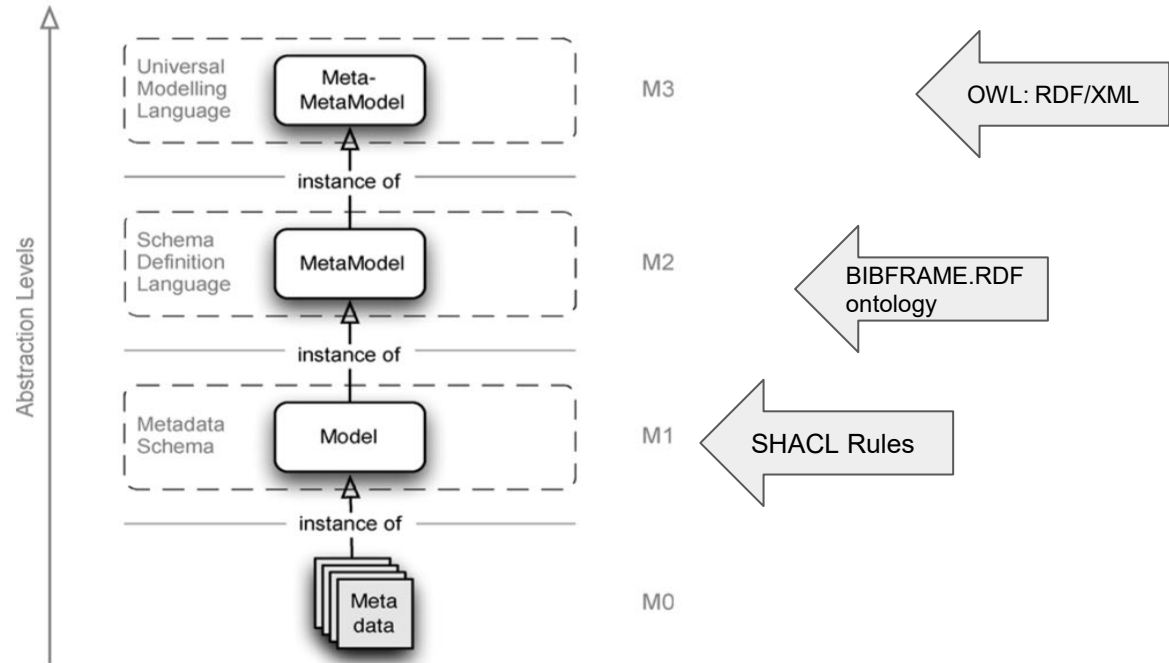
Caveats:

1. Where appropriate URI namespace of your source ontology is incorporated into **BF Interlingua** -- e.g. SVDE; Sinopia, BFLC; and others.
2. **BF Interlingua** can include one or all of the following: Work, Instance, and Item; add any additional entities found in a published BF ontology from LC.
    a. source and target ontology are declared by URI namespace

Benefits of LC BIBFRAME as BF Interlingua, or (I)

1. Crosswalks to and from MARCXML and LC BIBFRAME are well developed and maintained;
2. Local BF Implementations can re-use LC crosswalks when mapping into BF Interlingua
3. Solves an easier problem to dataset interchange
4. Local BF Implementation can map into BF Interlingua and keep any desired local variations in their systems
5. BF Interlingua may already be a close match to Local BF Implementation (e.g., SVDE is an extension to LoC BIBFRAME)
6. Linked Data Editor Support: Marva uses BIBFRAME from Library of Congress as their target BIBFRAME implementation;
7. Some existing/emergent ILS Support : Alma can store BIBFRAME from Library of Congress in the RDF/XML serialization in the emerging BIBFRAME implementation;

Metadata building blocks from a model perspective

Universal Modelling Language — Meta-MetaModel — M3 — OWL: RDF/XML

Schema Definition Language — MetaModel — M2 — BIBFRAME.RDF ontology

Metadata Schema — Model — M1 — SHACL Rules

Meta data — M0

instance of

Abstraction Levels

Bernhard Haslhofer & Wolfgang Klas. (2010, p7).

SHACL derived from BF Ontology


```ttl
bibframe-owl2sh-open-2023-01-19(1).ttl  ×

Users › jimhahn › Downloads › ≡ bibframe-owl2sh-open-2023-01-19(1).ttl
1   @prefix cc:      <http://creativecommons.org/ns#> .
2   @prefix bf:      <http://id.loc.gov/ontologies/bibframe/> .
3   @prefix rdf:     <http://www.w3.org/1999/02/22-rdf-syntax-ns#> .
4   @prefix owl:     <http://www.w3.org/2002/07/owl#> .
5   @prefix bflc:    <http://id.loc.gov/ontologies/bflc/> .
6   @prefix sh:      <http://www.w3.org/ns/shacl#> .
7   @prefix xsd:     <http://www.w3.org/2001/XMLSchema#> .
8   @prefix skos:    <http://www.w3.org/2004/02/skos/core#> .
9   @prefix dcterms: <http://purl.org/dc/terms/> .
10  @prefix rdfs:    <http://www.w3.org/2000/01/rdf-schema#> .
11  @prefix foaf:    <http://xmlns.com/foaf/0.1/> .
12
13  bf:Item-http___id.loc.gov_ontologies_bibframe_physicalLocation
14          a                sh:PropertyShape ;
15          sh:nodeKind  sh:Literal ;
16          sh:path      bf:physicalLocation .
17
18  bf:Instance-http___id.loc.gov_ontologies_bibframe_layout
19          a                sh:PropertyShape ;
20          sh:class     bf:Layout ;
21          sh:path      bf:layout .
22
23  bf:Work-http___id.loc.gov_ontologies_bibframe_musicMedium
24          a                sh:PropertyShape ;
25          sh:class     bf:MusicMedium ;
26          sh:path      bf:musicMedium .
```

OWL2SH-BF (ttl file)

Works consulted

Allen H. Renear & Gene Golovchinsky. (2001). Content Standards for Electronic Books, *Journal of Library Administration,* 35:1-2, 99-123, DOI: https://doi.org/10.1300/J111v35n01_07

Allen H. Renear & Dorothea Salo. (2003). Electronic Books and the Open eBook Publication Structure, Chapter 11 *in The Columbia Guide to Digital Publishing,* William Kasdorf (ed) Columbia University Press, 2003. Final MS https://www.ideals.illinois.edu/items/34045

Bernhard Haslhofer & Wolfgang Klas. (2010). A survey of techniques for achieving metadata interoperability. *ACM Computing Surveys*. 42, 2, Article 7 (February 2010), 37 pages. https://doi.org/10.1145/1667062.1667064

Jerome McDonough. (2008). Structural Metadata and the Social Limitation of Interoperability: A Sociotechnical View of XML and Digital Library Standards Development. Balisage Paper: Structural Metadata and the Social Limitation of Interoperability: A Sociotechnical View of XML and Digital Library Standards Development