



IFLA Cataloguing Section

ISBD Review Group

ISBD/Linked Data Study Group

<http://www.ifla.org/node/1795>

Minutes of the ISBD Linked Data Study Group's Meeting

Paris, Bibliothèque nationale de France, 7-9 April 2014

Attendees: Gordon Dunsire, Massimo Gentili Tedeschi, Françoise Leresche, Mirna Willer, Patrick Le Bœuf (8-9 April), François-Xavier Pelegrin (ISSN International Center) (8-9 April)

Skype Attendance: Elena Escolano Rodriguez, Dorothy McGarry

1. Guidelines for translations of RDF representations of ISBD

The need for specific guidelines for ISBD was discussed and it was decided to prepare a specific document for Guidelines on translation of the ISBD namespaces in order to allow for people interested only in ISBD to find such guidelines on the ISBD web pages.

This document will not repeat the general guidelines for all IFLA namespaces but refer to this document (The ISBD RG encourages the translation of the ISBD namespaces using the published *Guidelines for translations of IFLA namespaces in RDF* (with the link to the published document on the Namespaces Technical Group's web page¹)) and give some examples from the ISBD vocabularies and element set illustrating the guidelines (for example, how to deal with genre, which is a problem we have to deal with in the vocabularies for Area 0) and additional instructions.

It will also indicate that the ISBD RG should be contacted 1) to declare the intention of translating the namespaces and 2) to publish the translation, and give some recommendations about the maintenance and updating of the translation.

¹ <http://www.ifla.org/node/5353>

Action 1:

Prepare a specific document for Guidelines on translation of the ISBD namespaces (Elena Escolano Rodriguez and Dorothy McGarry).

2. Unconstrained properties for ISBD

Unconstrained properties for ISBD will be published into a sub-domain of the official, constrained namespace: their primary domain will therefore change, since it will accommodate the “unc” sub-domain. The label, however, remains the same. Likewise, the definition can remain unchanged, still using the word “Resource” (rather than “Thing”, too generic and vague a term that tends to blur definitions). For each property though, the domain will be unspecified (it will be empty). This publication work can be automated in a spreadsheet. Such a methodology will ease the updating of the namespace in case the constrained namespace should be modified or updated, and it is furthermore lighter in terms of processes and translation efforts, since it affects neither labels nor definitions.

The unconstrained namespace should be published by June, based on the OMR developments occurring here. There is no need to plan for a budget.

Action 2:

By June 2014, publish the unconstrained properties for ISBD in a separate sub-domain of the ISBD namespaces.

3. Use of ISBD as linked data

3.1 RDF representation of ISBD resources and use of ISBD classes and properties in library linked data triples: ABES and BnF work

Patrick Le Boeuf presented the RDF data model elaborated jointly between the ABES and the BnF to account for area 1 of ISBD, as well as all the implicit semantics induced by the repetition and order of elements within the area (cf. Appendix).

This approach differs from that taken on for the Application Profile. The interest of the model developed by the ABES and the BnF is that it manages both data organization and layout, thus integrating a syntax encoding scheme. Being a reflection of the cataloguer’s method when creating a record, it fits well into current cataloguing.

3.2 Guidelines for use of ISBD as linked data

The drafting of these Guidelines may stem from the works of this meeting, taking the work of the ABES and the BnF as an example of how to make use of ISBD properties.

The document should specify that there exist two sets of properties – constrained properties and unconstrained properties – and provide examples.

It should account for the different uses of these properties:

- using constrained properties

- using unconstrained properties, while remaining within the framework of resource description
- using both constrained properties (on a level of general description, such as the ISBD area) and unconstrained properties (for specific properties, on a more detailed level of description).

It should also:

- recall that one single data model is to be used within a given application, consistently carried out in the data set
- regarding data presentation and layout, touch upon the project for an application profile
- lastly, touch upon mappings.

Action 3:

Produce a Guidelines draft (as a discussion paper?) for the meeting during the IFLA conference in Lyon.

4. Alignment between ISBD and FRBR namespaces: ISBD to FRBRer mappings

An important part of the meeting was dedicated to carrying out the work of putting ISBD properties on line with those of the FRBRer model.

The table still needs to be completed for the notes area. A presentation of the alignment needs to be written out as well, before the completed table runs in ISBD RG and FRBR RG. The aim is for the two RGs to endorse the alignment during the IFLA conference Lyon, so that the Standing Committee of the Cataloguing Section may approve it before it is published.

Action 4:

Complete the ISBD to FRBRer mapping for the notes area. (Françoise Leresche)
Produce an introduction to the mapping with explanations on the method. (Françoise Leresche)

Schedule:

- 1) Send the mapping to ISBD LD SG by April, 30 for comments
- 2) Send the mapping to ISBD RG and FRBR RG by the end of May for comments
- 3) Consider the comments received by July,15
- 4) Approval during the IFLA conference in Lyon

5. Alignment between ISBD and RDA namespaces: ISBD to RDA mapping V3

Gordon Dunsire produced a new version of the ISBD to RDA mapping so as to account for the changes the JSC brought to RDA during its November 2013 meeting. This updated version, aligned on the April 2014 version of RDA, is the 3rd version of the mapping, the 2nd one – elaborated during the Singapour conference – taking into account the JSC Response to the alignment prepared by the ISBD Review Group.

To understand this RDF mapping, it is important to keep in mind that:

- if the alignment defines an ISBD property as broader (>) than a RDA property, in RDF the RDA property is a sub-property of the ISBD property
- in return, if the alignment defines an ISBD property as narrower (<) than an RDA property, in RDF the ISBD property is a sub-property of the RDA property.

Besides, aggregated elements are treated specifically.

During the meeting it has been suggested that the elements “Addition to Place of Publication” and “Addition to Parallel Place of Publication” should be removed from the mapping because they belong to aggregated elements.

A few notes for consideration during the revision of ISBD:

- The mapping has evidenced that two ISBD properties may correspond to a single RDA property: does that mean that one is a sub-property of the other?
- Since this case is frequently come across with notes (for instance the element “Format of Notated Music” (<http://rdaregistry.info/Elements/u/P60488>) corresponds to two ISBD elements – “Musical format Statement” (<http://iflastandards.info/ns/isbd/elements/P1014>) and “Note on Material Type or Resource Specific Type” (<http://iflastandards.info/ns/isbd/elements/P1038>)), a general reflexion on notes should be undertaken to set out their functions. Two types of notes should be particularly distinguished:
 - notes on the element which applies to the described resource (for instance, so as to complete the content of this element) [function = addendum];
 - notes on the value which applies to the described resource (for instance, so as to justify or correct this value, indicate its source, etc.) [function = comment].

The issue of the publication of these mappings was also raised. Where should they be published? GitHub – the solution JSC took on for RDA – could work just as well for the ISBD RG. One of its main assets is that it is public. This should be discussed with the IFLA Committee on Standards.

Action 5:

Remove the elements “Addition to Place of Publication” and “Addition to Parallel Place of Publication” from the mapping (Gordon Dunsire);

Draft a cover document to this version of the mapping, indicating the methodology and the specific choices that were made. (Gordon Dunsire).

Action 6:

Send out ISBD records turned into RDF so as to assess the ISBD to RDA mapping (all)

6. Alignment between ISBD and RDA/ONIX Framework (ROF)

Gordon Dunsire produced the mappings between area 0 of the ISBD and RDA/ONIX Framework, consisting of two tables – one for the element “Content Form” and another for the element “Media Type”.

A few notes for consideration during the revision of ISBD:

- A survey of the table for the element “Content Form” has evidenced the need to work on area 0 of the ISBD so that the norm defines the potential combinations between content form and content qualification.
- The definitions of the qualification “Specification of Dimensionality” (“2-dimensional” / “3-dimensional”) should be revised to specify that it applies to the image and its perception only.

Action 7:

Send the mappings between area 0 of the ISBD and RDA/ONIX Framework out to ISBD LD SG and ISBD RG, allowing 1 to 1.5 month for feedback. (Françoise Leresche)

Action 8:

Post the mappings between area 0 of the ISBD and RDA/ONIX Framework on GitHub to collect feedback from the whole community, technicians especially (Gordon Dunsire).

7. Relationships and future alignments with other namespaces

The ISBD LD SG is currently working on various alignments with RDA, FRBRer, etc., as a response to two major needs that can be thus summed up:

- ensure interoperability: that is particularly the case for the ISBD to RDA alignment undertaken after the Glasgow meeting;
- provide input on the evolution of the ISBD: this is particularly the case for the ISBD to FRBRer alignment, the analysis of which will eventually provide some help in the revision process of ISBD and lead to FRBRized cataloguing.

7.1 FRBRoo

An ISBD to FRBRoo alignment can be produced, but no RDF mapping: this could indeed be but a mapping between unconstrained namespaces, and FRBRoo has no unconstrained namespace.

Besides, the usefulness of such a mapping is questionable, insofar as the *FRBRoo Definition* contains a mapping from FRBRer to FRBRoo, in which to each FRBRer property corresponds one (or several) chain(s) of FRBRoo properties. The alignment between the ISBD and FRBRoo may therefore be indirect, passing from the ISBD to FRBRer alignment onto the FRBRer to FRBRoo alignment.

7.2 PRESSoo

The PRESSoo model was validated from a technical standpoint by the CIDOC during the last meeting of the Working Group on FRBR/CRM Dialogue in The Hague. But serials specialists should be consulted as well: it would be useful to consult with the Section on Serials and Other Continuing Resources for a joint approval with the Cataloguing Section.

Besides, the model ought to follow the usual validation circuit within the Cataloguing Section: endorsement by FRBR RG, then by the Section's Standing Committee. The formal IFLA endorsement may occur during the IFLA conference in Lyon.

François-Xavier Pelegrin (ISSN IC) reminded the group that the ISSN International Centre intends to use the PRESSoo model for the ROAD project, and that it therefore needs a formal IFLA endorsement, followed by a namespace for PRESSoo.

7.3 UNIMARC/B namespaces

In the context of the UNIMARC to RDF project, Mirna Willer produced a UNIMARC/B (UNIMARC Bibliographic Format) to ISBD mapping for the 2XX fields in UNIMARC/B. For the whole of ISBD to be covered, the 3XX (the equivalent of area 7 of the ISBD) and OXX (where the identifiers in area 8 of the ISBD are coded) blocks in UNIMARC/B are still to be included. The tables for the three UNIMARC/B blocks were sent out for feedback by Mirna Willer to the members of the ISBD LD SG on April 17, 2014.

The mapping will be modified based on feedback and Mirna Willer will draft a final project for the IFLA conference in Lyon.

The reciprocal alignment (ISBD to UNIMARC/B) will then have to be drafted by the ISBD Linked Data SG.

8. Preparation for the regular ISBD revision process: Use of the ISBD FRBRer mappings as a basis for recommendations for FRBRized cataloguing rules

Judging from the publication of ISBD properties in RDF and from the first alignments produced, it is necessary that the ISBD text should be thoroughly analysed once again, and all the rules surveyed so as to define all the elements (properties in RDF) needed to account for these rules. For instance, introducing corrected forms or information supplied by the cataloguer will entail defining new elements matching that kind of information.

As of today, the following needs have been identified:

Refining elements:

- Statements of responsibility (area 1): allow a difference to be made between "First statement of responsibility" and "Subsequent statement of responsibility", so as to manage the prescribed order and punctuation in the RDF data.

- Publication, production, distribution, etc. (area 4): allow a difference to be made between “Correct place of publication”, “Incorrect place of publication”, and “Place of publication (unspecified)”, so as to account for the rule given in ISBD 4.1.2: *“If the information appearing on the prescribed source of information is known to be incorrect, a correction may be supplied in square brackets (see A.8) and/or an explanation given in area 7 (see 7.4.1).”*.
The same difference should be allowed for the element “Name of publisher” (area 4) so as to account for erroneous or false addresses, frequently seen in older monographic resources (counterfeited copies, etc.).
- Additions to place of publication (4.1.9): this is an ambiguous element because it has a twofold purpose – disambiguating place names (ex. Cambridge, Mass.) and providing additional information to identify a little-known publisher (*“If it is considered necessary for identification, the full address of the publisher, producer or distributor is added to the place name”*). These two different functions should be kept into different elements.
- Specific material designation / Extent: as of now, the two definitions are on a par, while the two elements do not cover the same scope. *hasExtent* should be defined as a property with two sub-properties – *hasNumberOfUnits* and *hasSpecificMaterialDesignation*, and “and the number of units” should be removed from the definition of Specific material designation
- Composition of material (5.2.2): a difference should be made between “Base material” and “Added material”
- Etc.

Structure of the standard:

The outline of the standard should be revised. ISBD should be more structured, laid out element by element (instead of following the bibliographic description). Each element should be covered within a chapter, with a label and number. This would make referencing easier.

This is not the case today: the ISBD outline and numbering reflect broad elements of information and the writing out of the rules to which they are subjected, but these rules may refer to specific elements of information which are not identified as such and to which no label or number is linked.

Action 9:

Produce a document listing down all the elements concerned by the revision of the ISBD.

Respectfully submitted,
 Françoise Leresche
 ISBD Linked Data Study Group chair, July 31th, 2014

Appendix:

Coping with ISBD Area 1: presentation of the RDF data model elaborated jointly between the ABES and the BnF to account for area 1 of ISBD

NB: The following presentation reflects the state of the art in April 2014. Some changes have occurred further to the discussion during the meeting.

ISBD elements on OMR: all properties' domain is "Resource".

Label:	has other title information
Name:	hasOtherTitleInformation
URI:	http://iflastandards.info/ns/isbd/elements/P1006 (RDF)
Description:	Relates resource to a word or phrase, or a group of characters, appearing in conjunction with, and subordinate to, the title proper of the resource
Comment:	
Type:	subproperty
Parent:	has title
Domain:	http://iflastandards.info/ns/isbd/elements/C2001
Range:	
Status:	
Language:	
Note:	

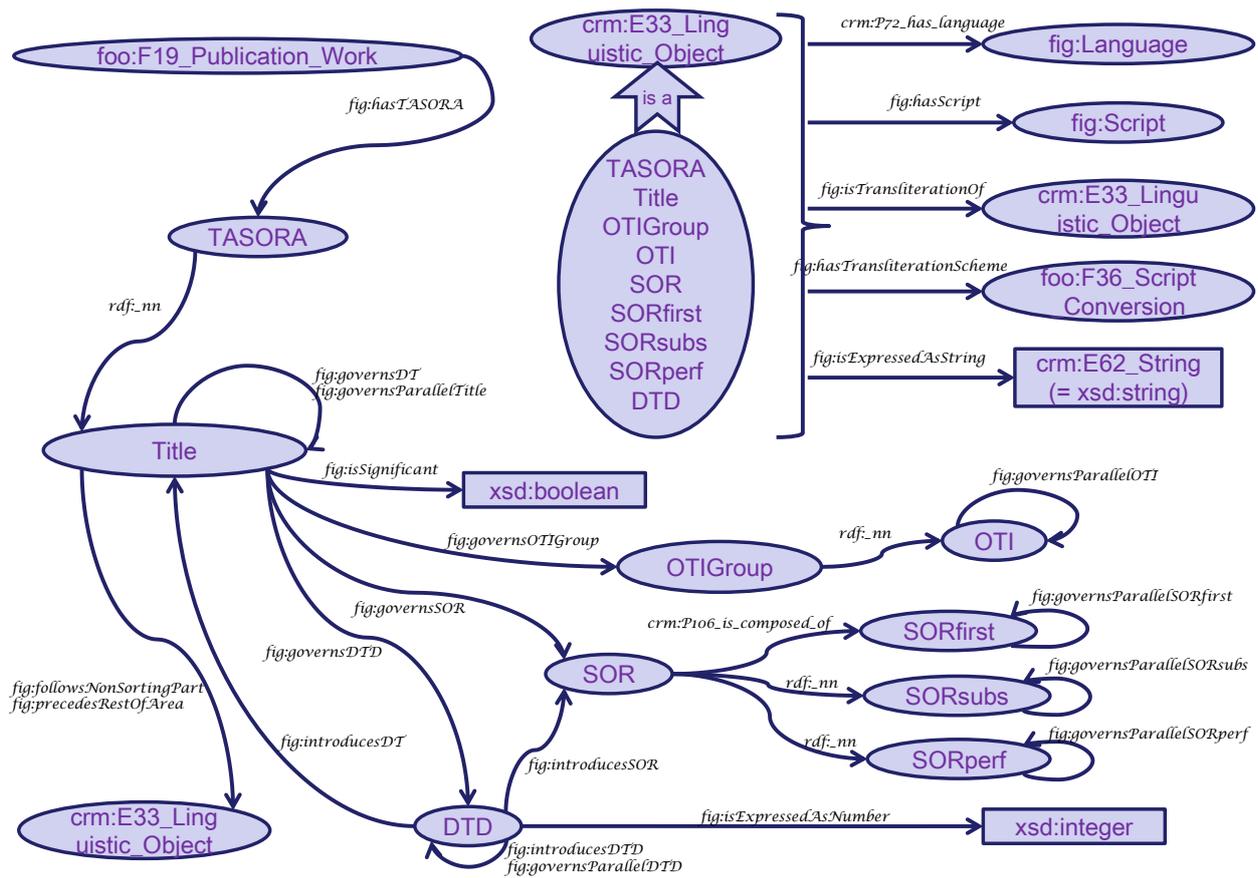
Label:	Resource
Name:	Resource
URI:	http://iflastandards.info/ns/isbd/elements/C2001 (RDF)
Description:	An entity, tangible or intangible, that comprises intellectual and/or artistic content and is conceived, produced and/or issued as a unit, forming the basis of a single bibliographic description.
Comment:	
Type:	class
Status:	Published
Language:	English
Note:	Includes text, music, still and moving images, graphics, maps, sound recordings and video recordings, electronic data or programs, including those issued serially.

Having "Resource" as the domain for all properties allows for a complete listing of Area 1 subelements, *but* it does not account for:

- The ordering of those subelements
- The interrelations among those subelements

Trying to solve the issue :

- ABES made a first proposal for an ontology of ISBD Area 1
- BnF elaborated on that proposal for its FiGraLiDa project (Fine-Grained Linked Data, an extension of FRBR₀₀ to publish bibliographic data as Linked Data)
- Principle: only one property, *hasTASORA*, has "Resource" as its domain (or, rather, a subclass of it: F19 Publication Work)



TASORA = TitleAndStatementOfResponsibilityArea DT = Dependent Title DTD = DependentTitleDesignation
 OTI = OtherTitleInformation SOR = StatementOfResponsibility SORsubs / SORperf = StatementOfResponsibility, subsequent / performers

The idea is that an instance of F19 Publication Work is identified by one (or, in the case of transliterations, more than one) title and statement of responsibility area (or, to put it shorter, TASORA). This TASORA can be analysed as an ordered list (rdf:Seq) of titles proper (of course, there can be only one title proper). In this modelling, only the indexed portion of the title proper is regarded as an instance of Title: the non-sorting part of the title is modelled as an instance of E33 Linguistic Object, related to the instance of Title through the fig:followsNonSortingPart property. Similarly, in the case of hand-press books, the rest of the area is regarded as an undifferentiated “linguistic object” related to Title through fig:precedesRestOfArea.

In the French cataloguing tradition and in the UNIMARC format, there is a notion that a title proper can be “significant” or not (when it is not significant, e.g. “Bulletin”, the statement of responsibility has to be indexed along with it, in order to differentiate that “Bulletin” from other “Bulletins”): in RDF, this can be dealt with through xsd:Boolean and a specific property: fig>Title fig:isSignificant “true” or “false”.

It is not sufficient to regard “other title information” (OTI) as attached simply to a resource: for that notion to make sense, it has to be attached to a title, and only indirectly to the resource through that title. Besides, there can be several succeeding pieces of “other title information”, and they must be recorded in the order in which they are found on the resource. Hence the need to declare an OTIGroup class, related to Title through the fig:governsOTIGroup property, and modelled as an ordered list (rdf:Seq) of individual instances of OTI.

Similarly, it makes no sense to relate a statement of responsibility (SOR) directly to a resource: statements of responsibility have to be related with those titles with which they have a semantic relationship. Hence the declaration of the `fig:governsSOR` property between `fig:Title` and `fig:SOR`.

An instance of SOR comprises a first statement of responsibility, and possibly one or more than one subsequent statement of responsibility, and possibly (in the French cataloguing tradition at least) one or more than one statement of performer. As there can be only one first statement of responsibility (which I call SORfirst as some kind of shorthand notation), we can use just the CIDOC CRM “P106 is composed of” property to relate SOR to SORfirst. But since there can be more than one subsequent statement (`fig:SORsubs`), and more than one performer statement (`fig:SORperf`), and since it is important to record the order in which these statements are made, the `fig:SOR` class is regarded as an ordered list as well, and the `rdf:_nn` property is used to relate `fig:SOR` to both `fig:SORsubs` and `fig:SORperf`.

Once again, a dependent title designation (DTD) only makes sense if it is modelled with regard to a title rather than directly linked to a resource. Hence the `fig:governsDTD` property, the domain of which is `fig:Title` and the range of which is `fig:DTD`. A dependent title designation can be expressed both as a literal (e.g., “III. Teil”), and as an integer (e.g., “3”) in order to sort the different parts of a multi-volume resource.

A DTD can be followed by either a dependent title, or directly a statement of responsibility, or yet another dependent title designation. I chose not to model the notion of dependent title through a distinct class, but to regard it as simply another use of `fig:Title`. The three possibilities are therefore covered by three properties: `fig:introducesDT` [for “dependent title”] from `fig:DTD` to `fig:Title`, `fig:introducesSOR` from `fig:DTD` to `fig:SOR`, and `fig:introducesDTD` from `fig:DTD` to `fig:DTD`.

In some rare cases, there can be a parallel dependent title designation, hence a fourth property: `fig:governsParallelDTD` from `fig:DTD` to `fig:DTD`.

A title, no matter whether it is a title proper or a dependent title, can always be directly followed by a dependent title: this is modelled through the `fig:governsDT` property from `fig:Title` to `fig:Title`. Similarly, any title (even a parallel title) can be followed by a parallel title: hence the `fig:governsParallelTitle` property.

Parallel statements are possible for any other component of a TASORA: hence the following properties: `fig:governsParallelOTI`, `fig:governsParallelSORfirst`, `fig:governsParallelSORsubs`, and `fig:governsParallelSORperf`.

All these classes are declared as subclasses of `crm:E33_Linguistic_Object`, and inherit from it the `crm:P72_has_language` property. The superclass also has some specific properties that are declared in `FiGraLiDa`: `fig:hasScript` in order to record the script in which a TASORA (or TASORA component) is expressed, `fig:isTransliterationOf` and `fig:hasTransliterationsScheme` for transliterations, and, most importantly, `fig:isExpressedAsString` in order to relate all these notions to the literals that are stored in our catalogues.

NB: there is no semantic distinction intended between property labels that begin with “governs...” and those that begin with “introduces...”. The reason for this difference was just to avoid to have identical labels for properties that do not have the same domain.

Example 1:

Pygmalion : a romance in five acts : definitive text / Bernard Shaw ; edited by L. W. Conolly

```
@prefix fig: <http://figalida.bnf.fr/ontology/> .
@prefix foo: <http://erlangen-crm.org/efrbroo/> .
@prefix crm: <http://erlangen-crm.org/120111/> .
@prefix rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#> .
@prefix xsd: <http://www.w3.org/2001/XMLSchema#> .
```

```
<http://catalogue.bnf.fr/ark:/12148/cb42044667g/> a foo:F24_Publication_Expression;
foo:R3i_realises [
  a foo:F19_Publication_Work;
  fig:hasTASORA [
    a fig:TASORA;
    rdf:_1 [
      a fig:Title;
      fig:isSignificant "true"^^xsd:boolean;
      crm:P72_has_language <http://figalida.bnf.fr/vocabulary/Language/eng>;
      fig:hasScript <http://figalida.bnf.fr/vocabulary/Script/b>;
      fig:isExpressedAsString "Pygmalion"^^xsd:string;
      fig:governsOTIGroup [
        a fig:OTIGroup;
        rdf:_1 [
          a fig:OTI;
          fig:isExpressedAsString "a romance in five acts"^^xsd:string
        ];
        rdf:_2 [
          a fig:OTI;
          fig:isExpressedAsString "definitive text"^^xsd:string
        ]
      ];
      fig:governsSOR [
        a fig:SOR;
        crm:P106_is_composed_of [
          a fig:SORfirst;
          fig:isExpressedAsString "Bernard Shaw"^^xsd:string
        ];
        rdf:_1 [
          a fig:SORsubs;
          fig:isExpressedAsString "edited by L. W. Conolly"^^xsd:string
        ]
      ]
    ]
  ]
].
```

Example 2:

The Linguistic atlas of Scotland. 3, Scots section. Phonology / ed. with an introd. by J.Y. Mather and H.H. Speitel ; cartography by G.W. Leslie ; foreword by David Abercrombie

```
@prefix fig: <http://figalida.bnf.fr/ontology/> . @prefix foo: <http://erlangen-crm.org/efrbroo/> .
```

```
@prefix crm: <http://erlangen-crm.org/120111/> .
```

```
@prefix rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#> .
```

```
@prefix xsd: <http://www.w3.org/2001/XMLSchema#> .
```

```
<http://catalogue.bnf.fr/ark:/12148/cb34928099q/> a foo:F24_Publication_Expression;
foo:R3i_realises [
  a foo:F19_Publication_Work;
  fig:hasTASORA [
    a fig:TASORA;
    rdf:_1 [
      a fig:Title;
      fig:isSignificant "true"^^xsd:boolean;
      crm:P72_has_language <http://figalida.bnf.fr/vocabulary/Language/eng>;
      fig:hasScript <http://figalida.bnf.fr/vocabulary/Script/b>;
      fig:followsNonSortingPart [
        a crm:E33_Linguistic_Object;
        fig:isExpressedAsString "The"^^xsd:string
      ];
      fig:isExpressedAsString "Linguistic atlas of Scotland"^^xsd:string;
      fig:governsDTD [
        a fig:DTD;
        fig:isExpressedAsString "3"^^xsd:string;
        fig:isExpressedAsNumber "3"^^xsd:integer;
        fig:introducesDT [
          a fig:Title;
          fig:isExpressedAsString "Scots section"^^xsd:string;
          fig:governsDT [
            a fig:Title;
            fig:isExpressedAsString "Phonology"^^xsd:string;
            fig:governsSOR [
              a fig:SOR;
              crm:P106_is_composed_of [
                a fig:SORfirst;
                fig:isExpressedAsString "ed. with an introd. by J.Y. Mather and H.H. Speitel"^^xsd:string
              ];
            ];
            rdf:_1 [
              a fig:SORsubs;
              fig:isExpressedAsString "cartography by G.W. Leslie"^^xsd:string
            ];
            rdf:_2 [
```

```
a fig:SORsubs;  
fig:isExpressedAsString "foreword by David Abercrombie"^^xsd:string ] ] ] ] ]  
] ].
```