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Information and documentation — Bibliographic reference model and serialization

THE CALENDARING AND SCHEDULING CONSORTIUM ${\sf TC\ VCARD}$

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WORKING DRAFT

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FOREWORD

The Calendaring and Scheduling Consortium ("CalConnect") is a global non-profit organization with the aim to facilitate interoperability of collaborative technologies and tools through open standards.

CalConnect works closely with international and regional partners, of which the full list is available on our website (https://www.calconnect.org/about/liaisons-and-relationships).

The procedures used to develop this document and those intended for its further maintenance are described in the CalConnect Directives.

In particular the different approval criteria needed for the different types of CalConnect documents should be noted. This document was drafted in accordance with the editorial rules of the CalConnect Directives.

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This document was prepared by Technical Committee VCARD.

INTRODUCTION

ISO 690 has been in place for over 30 years as of this writing, as the ISO model of bibliographical referencing and citation (being one of several such standards). Over that period, a multitude of electronic referencing tools and conventions has evolved, and any of them can be used to encode at least a subset of the bibliographic information captured in ISO 690. However, there is no authoritative reference model on how to represent the guidelines of ISO 690 electronically. As a result, existing electronic referencing tools cannot be surveyed rigorously, to determine the extent to which they comply with the requirements of ISO 690, either with regard to content coverage or with the base rendering requirements of the specification. Nor is there a fallback model of ISO 690 in place, to draw on where existing electronic referencing tools do not fully cover the requirements of the specification.

In addition, a rigorous logical model of ISO 690 would help identify any gaps, inconsistencies, or areas open for interpretation in the conceptual model proposed in the specification, and in the rendering model described there. (The latter is more liable to need ambiguities fixed than the former, since these will become apparent in any attempts to render references in a way compliant with ISO 690.)

This document proposes a reference model and serialisation for ISO 690. The serialisation can be used to represent references compliant to ISO 690; being formalised and complete, it can also be used to evaluate existing bibliographic tools for coverage of the standard, and to identify any issues they may have. The BibTeX tool [1] has been used as a representative bibliographic tool in Appendix C to illustrate comparison against a reference model, because of its popularity and relative completeness.

A separate document is inteded to propose an example rendering stylesheet for the serialisation of this model, which aligns with the examples used in ISO 690. ISO 690 prescribes some aspects of rendering (e.g. sequence, use of "in:" and "at:"), and leaves others to implementation (e.g. use of italics, use of punctuation). The stylesheet allows the container model and the rendering model of ISO 690 to be differentiated, and the rendering items prescribed by ISO 690 to be identified clearly.

1. SCOPE

This document provides a reference model and serialisation for ISO 690.

2. NORMATIVE REFERENCES

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

- ISO 639, Code for the representation of names of languages
- $\quad \mathsf{ISO} \ 690, Information \ and \ documentation \textit{Guidelines for bibliographic references and citations to information resources}$
- $\quad \mathsf{ISO}\ \mathsf{8601}, Data\ elements\ and\ interchange\ formats\ -\ Information\ interchange\ -\ Representation\ of\ dates\ and\ times$
- ISO 15924, Information and documentation Codes for the representation of names of scripts

3. TERMS AND DEFINITIONS

For the purposes of this document, the terms and definitions given in ISO 690 and the following apply.

3.1. bibliographer

entity responsible for creating a reference

4. REFERENCE MODEL

This document provides a number of data models that collectively provide the necessary data elements for the ISO 690 citation style.

In this document, the model is discussed with reference to ISO 690, with the rendered bibliographic references of each clause in ISO 690 serialised according to Appendix A.

Each aspect of the model is given with a cross-reference to ISO 690; a listing of the relevant model components; and a listing of the corresponding components of [1].

5. DATA TYPES

Common data types used within this document are provided below.

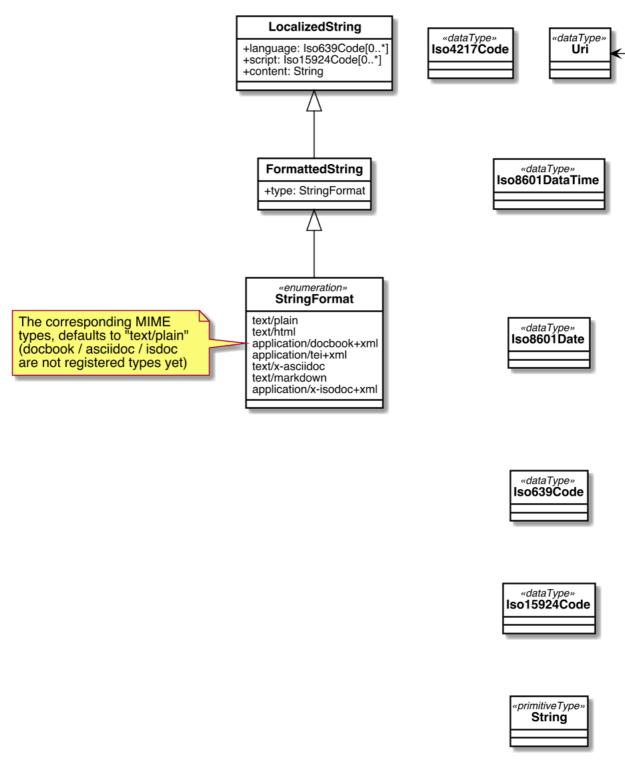


Figure 1

Uri Container for URIs, as defined by RFC 3986. Iso8601Date Gregorian date, as specified in ISO 8601. Iso8601DateTime Gregorian date and time, as specified in ISO 8601.

Iso639Code Code for language or language family, as specified in ISO 639. The specification is open as to whether the two-letter code

or the three-letter code for languages is used.

Iso15924Code Code for scripts (writing scripts), as specified in ISO 15924.

DateTime Type which allows date and time to be specified as either a Gregorian date and time, as specified in ISO 8601, as text, or

as both.

TypedUri URI associated with a type. The types of URI are open-ended, but include the IANA link relations specified in RFC 8288.

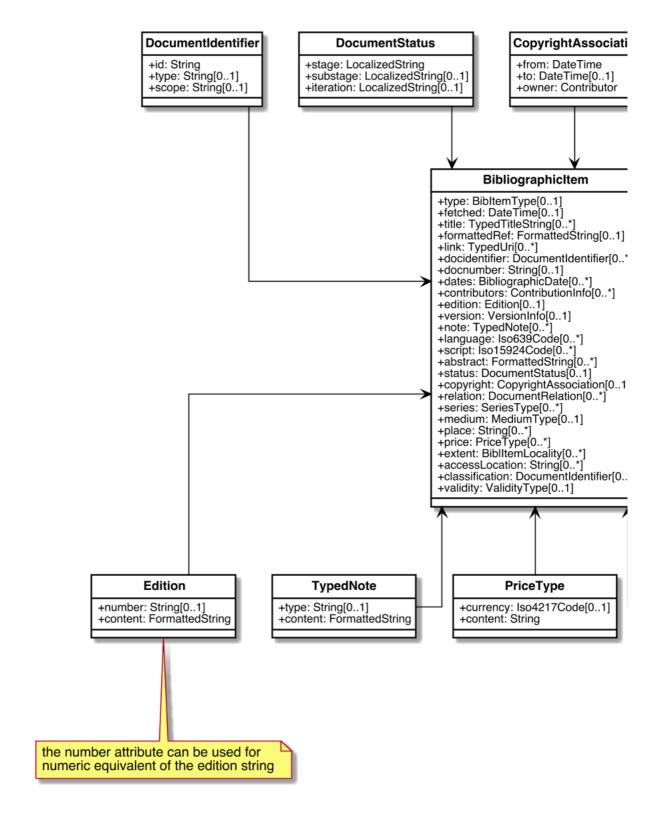
FormattedString String which is formatted according to conventions specified in a named MIME type (RFC 2046).

 $Localized String \ \ \, For matted String \ which optionally specifies its language and/or script.$

6. BIBLIOGRAPHIC ITEM MODEL

The following is a UML model intended to capture the structures represented in ISO 690, and is intended as a reference model for ISO 690. The various elements of the model are discussed below, with illustrations using the sample serialisation (Appendix A).

The reference model for citations is provided in Appendix B.



BibliographicItem/type The type of the bibliographic item.

BibliographicItem/fetched The date at which the bibliographic item was last updated.

BibliographicItem/title The title(s) of the bibliographic item.

BibliographicItem/title/type The type for the given title of the bibliographic item.

BibliographicItem/link The URI(s) associated with the bibliographic item.

BibliographicItem/docIdentifier The identifier(s) of the bibliographic item in an international standard scheme.

BibliographicItem/docIdentifier/type The scheme of the identifier

BibliographicItem/docIdentifier/scope The scope of the identifier (in case the identifier is not for the document but for a superset or

subset of entities; or in case the identifier is for a particular instance of the document, e.g. for a

particular format or edition of the document)

BibliographicItem/docIdentifier/id The identifier itself within the international standard scheme.

BibliographicItem/date One or more date-times associated with the production of or access to the bibliographic item.

BibliographicItem/contributor A contributor the production of the bibliographic item.

BibliographicItem/edition The edition of the bibliographic item.

BibliographicItem/edition/number A numeric equivalent to the edition, if the edition is given as discursive text.

BibliographicItem/version The version of the bibliographic item (within an edition).

BibliographicItem/version/revision-date The date at which the current version of the bibliographic item was produced.

BibliographicItem/version/draft The identifier for the current draft of the bibliographic item.

BibliographicItem/note Note(s) associated with the bibliographic item.

BibliographicItem/note/type The class of the note associated with the bibliographic item.

BibliographicItem/language The language(s) in which the bibliographic item is expressed.

BibliographicItem/script The script(s) in which the bibliographic item is written.

BibliographicItem/formattedRef A pre-formatted version of the bibliographic item reference, used to sidestep the rendering of

the reference out of its component parts.

BibliographicItem/abstract The abstract of the bibliographic item.

BibliographicItem/status The publication or preparation status of the bibliographic item.

BibliographicItem/status/stage The stage of the document status (mandatory component).

BibliographicItem/status/substage The substage of the document status (optional component).

BibliographicItem/status/iteration The iteration of the given status that the document is currently in (e.g. 3 for a third draft).

BibliographicItem/copyright The copyright status of the bibliographic item.

BibliographicItem/copyright/from The copyright date of the bibliographic item.

BibliographicItem/copyright/to The date when the copyright of the bibliographic item expires.

BibliographicItem/copyright/owner The copyright owner for the bibliographic item.

BibliographicItem/relation The relation of the bibliographic item to another bibliographic item.

 ${\bf Bibliographic Item/series} \qquad \qquad {\bf The \ series \ of \ the \ bibliographic item.}$

BibliographicItem/medium Information about the physical medium of the bibliographic item.

 ${\bf Bibliographic Item/medium/form} \\ {\bf The form of the physical medium of the bibliographic item.}$

BibliographicItem/medium/size The size of the physical medium of the bibliographic item.

BibliographicItem/medium/scale The scale of the cartographic material in the bibliographic item.

BibliographicItem/place The geographic location associated with the production of the bibliographic item.

BibliographicItem/extent The extent of the bibliographic item. Repeats for different levels of granularity (e.g. volume

number nade number) or for discontinuous ranges (e.g. multiple nade ranges)

maniper, page maniper j, or for alsoontinaous ranges (e.g. mattiple page ranges)

BibliographicItem/extent/type The type of extent (e.g. section, clause, page)

BibliographicItem/extent/referenceFrom The starting value of the extent

BibliographicItem/extent/referenceTo The end value of the extent as a range, if applicable

BibliographicItem/accessLocation The location where the bibliographic item may be accessed.

BibliographicItem/license A license under which the bibliographic item has been issued. Preferably a URI or short

identifier, rather than descriptive text.

BibliographicItem/classification The classification of the bibliographic item according to a standard classification scheme.

BibliographicItem/keyword A keyword for the bibliographic item.

BibliographicItem/keyword/vocabid An item in a controlled vocabulary corresponding to the keyword

BibliographicItem/keyword/vocabid/type A label for the controlled vocabulary.

BibliographicItem/keyword/vocabid/uri A URI for the controlled vocabulary item.

BibliographicItem/keyword/vocabid/code The code for the controlled vocabulary item.

BibliographicItem/keyword/vocabid/term The term itself for the controlled vocabulary item.

BibliographicItem/keyword/taxon A sequence of taxa presenting a keyword in a hierarchical context.

BibliographicItem/validity Information about how long the current description of the bibliographic item is valid for.

The foregoing elements map to the overall structure of ISO 690 as follows:

- BibliographicItem/contributor: 4.1 Creator

BibliographicItem/title: 4.2 Title

BibliographicItem/extent: 4.3 Component parts

- BibliographicItem/medium: 4.4 Medium designation

BibliographicItem/edition: 4.5 Edition and version

BibliographicItem/version: 4.5 Edition and version

- BibliographicItem/status: 4.5 Edition and version

- BibliographicItem/date: 4.6 Production

- BibliographicItem/place: 4.6 Production

- BibliographicItem/contributor: 4.6 Production

- BibliographicItem/extent: 4.7 Numeration and pagination

- BibliographicItem/series: 4.8 Series title and identifier

BibliographicItem/docIdentifier: 4.9 Identifier

- BibliographicItem/accessLocation: 4.10 Location

BibliographicItem/link: 4.10 Location

BibliographicItem/note: 4.11 Other elements

- BibliographicItem/language: 4.11 Other elements

BibliographicItem/script: 4.11 Other elements

- BibliographicItem/abstract: 4.11 Other elements

BibliographicItem/copyright: 4.11 Other elements

- BibliographicItem/license: 4.11 Other elements

- BibliographicItem/classification: 4.11 Other elements

- BibliographicItem/keyword: 4.11 Other elements
- BibliographicItem/type: 5. Resource Types
- BibliographicItem/relation: 5. Resource types
- BibliographicItem/formattedRef:(presentation)
- BibliographicItem/fetched:(record metadata)
- BibliographicItem/validity:(record metadata)

6.1. Validity

The representation of a bibliographic item can optionally include information on the time interval where this bibliographic item is determined valid, and the revision number (represented as a date). Each of such is represented as a Iso8601DateTime object.

ValidityInfo/validityBegins the date and time when this object becomes valid. The value type is Iso8601DateTime.

ValidityInfo/validityEnds the date and time when this object becomes invalid. The value type is Iso8601DateTime.

ValidityInfo/revision issuance date/time of this object. The value type is Iso8601DateTime.

 $Serialization \ of \ \textbf{ValidityInfo} \ is \ demonstrated \ below.$

EXAMPLE

```
<br/>
<bibitem>
<validity>
<validityBegins type="validityBegins">2018-01-01</validityBegins>
<validityEnds type="validityEnds">2118-01-01</validityEnds>
<revision type="revision">2017-01-01</revision>
</validity>
</bibitem>
```

6.2. Series

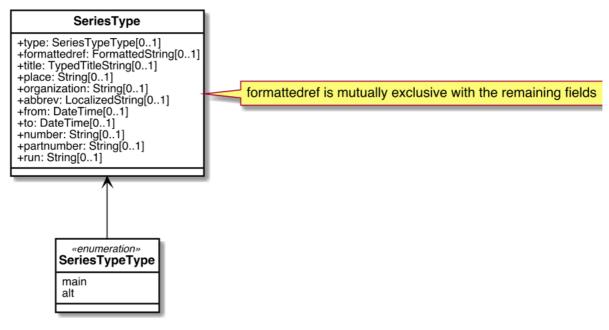


Figure 3-1

authoritative series description; "alt" includes alternative (historical) series descriptions.

SeriesType/title The title of the series.

SeriesType/place The place where the series is issued; used for disambiguation.

SeriesType/organization The organization issuing the series; used for disambiguation.

Series/formattedTitle A pre-formatted version of the series description, incorporating all needed disambiguating information in proper

format.

Series/abbrev The abbreviation under which the series is known.

Series/dateFrom The start of the date range when the series has been known under the given title.

Series/dateTo The end of the date range when the series has been known under the given title.

Series/number The number of the bibliographic item within the series.

Series/partnumber The part-number of the bibliographic item within the series.

6.3. Bibliographic Dates

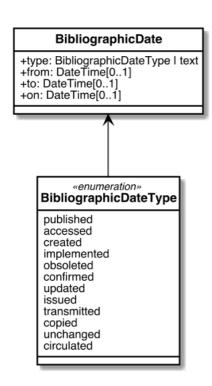


Figure 4-1

QUERY: I think our list is stable and fine, and that I should not add these; most and indeed likely all are covered by existing terms.

 ${\bf Bibliographic Date} \qquad \qquad {\bf Date \ associated \ with \ the \ production \ of \ or \ access \ to \ a \ bibliographic \ item.}$

BibliographicDate/type The phase of the production of or access to a bibliographic item.

BibliographicDate/from The start of the date range described.

BibliographicDate/to The end of the date range described.

BibliographicDate/on The point date described (mutually exclusive with date range).

6.4. Bibliographic Item Types

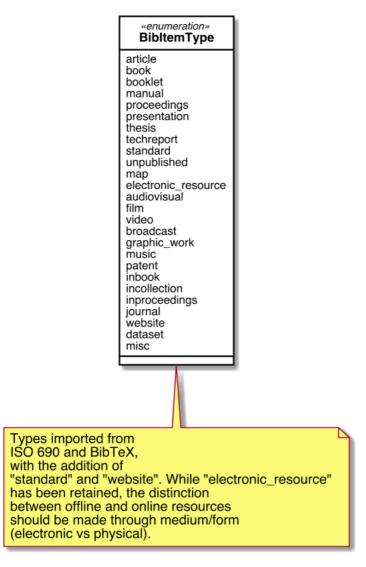


Figure 5-1

BibltemType

The range of possible bibliographic items covered by this model. Note that legal documents are expressly outside the scope of ISO 690.

6.5. Keywords

Keywords may optionally be aligned to one or more items in controlled vocabularies. That alignment involves an identifier for the controlled vocabulary item, and a label or namespace for the controlled vocabulary. The item identifier may be a keyword, a code for the keyword, or a URI for the keyword: the basic Relaton model does not differentiate between these. The controlled vocabulary item may be presented in isolation, or as a hierarchy of terms (taxons).

7. CONTRIBUTION AND CONTRIBUTOR MODELS

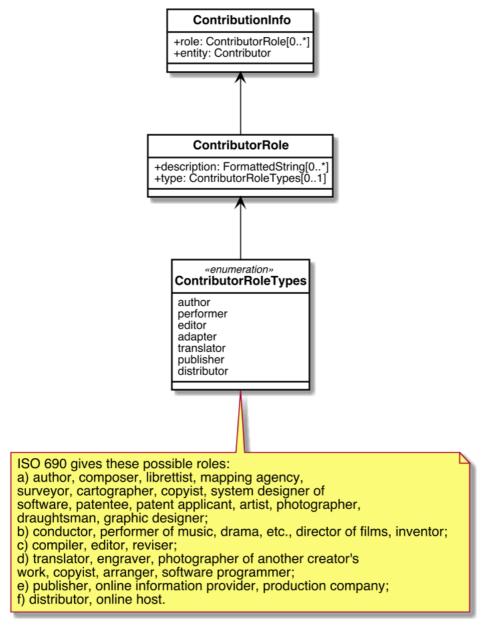
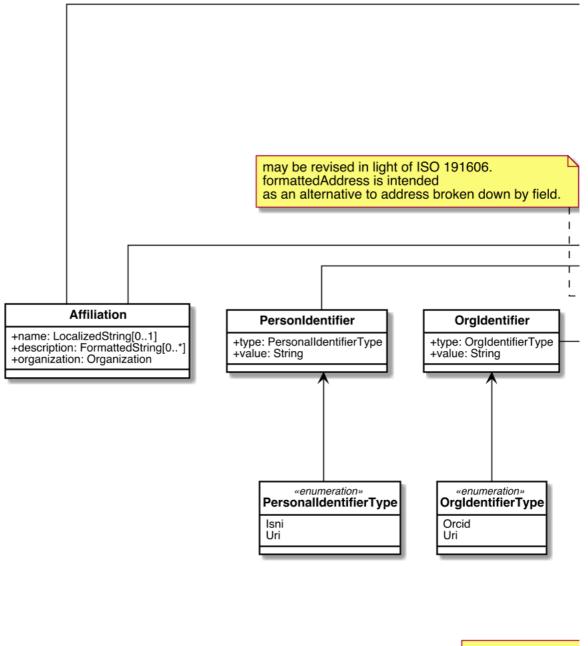


Figure 6-1

ContributionInfo/role	A description of the role of the contributor in the production of the bibliographic item.
ContributionInfo/role/type	The broad class of role of the contributor. The breakdown used in ISO 690 is recommended as such a classification: author, performer, editor, adapter, translator, publisher, distributor.
ContributionInfo/role/description	A more detailed description of the role of the contributor.
ContributionInfo/entity	The contributor involved in the production of the bibliographic item; may be either a person or an organization.



completeName is r

Figure 7-1

Person/name/initials The initials of the person (initials of forenames and middle names).

Person/name/surname A surname of the person.

Person/name/addition A suffixed addition to the name of the person.

Person/name/prefix A prefixed addition to the name of the person.

Person/name/completeName The preformatted version of the name of the person, not broken down into its component parts.

Person/name/note An additional note about the name of the person

Person/uri A URI with information about the person.

Person/affiliation The affiliation of the person within an organization.

Person/affiliation/name The name of the affiliation of the person.

Person/affiliation/description A more detailed description of the affiliation of the person.

Person/affiliation/organization The organization with which the person is affiliated.

Person/identifier/value An identifier of the person according to an international identifier scheme.

Person/identifier/type The international identifier scheme for the identifier of the person.

Person/contact Contact information for the person, including address, phone number, and email.

Organization/name The name of the organization.

Organization/subdivision The subdivision of the organization directly involved with the production of the bibliographic item.

Organization/uri A URI with information about the organization.

Organization/name/identifier/value An identifier of the organization according to an international identifier scheme.

Organization/name/identifier/type The international identifier scheme for the identifier of the organization.

Organization/name/contact Contact information for the organization, including address, phone number, and email.

 ${\it Organization/abbreviation} \qquad \qquad {\it Abbreviation under which the organization is known.}$

8. BIBLIOGRAPHIC DOCUMENT RELATIONS

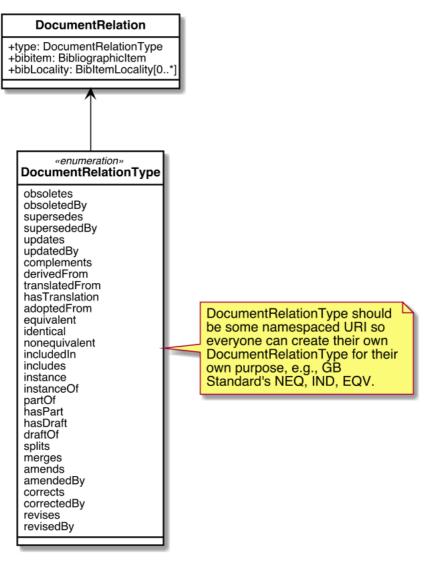


Figure 8-1

DocumentRelation/type The type of document relation described. Different resource types have different relations between

documents; but inclusion is applicable to most resource types (though there are constraints in which it is applicable to most resource types).

resource types can include which.)

 $Document Relation/bibltem \\ The \ bibliographic \ item\ to\ which\ this\ bibliographic\ item\ is\ described\ as\ related\ to.$

DocumentRelation/bibLocality The extent of the this bibliographic item which is related to the other bibliographic item as expressed in

this instance, provided that it is not the entire bibliographic item that is so related.

9. PROVENANCE

Information in a reference typically comes from the publisher of a resource, and is included in the resource itself, as described in ISO 690, Clause 4.1.2. ISO 690, Clause 4.1.2 permits information to be supplied by other parties, and differentiated by including it in brackets. This can include both missing information (e.g. "[Untitled]"), and corrections (e.g. "1959 [i.e. 1995]").

The party supplying emendations to reference information is identified in ISO 690, Clause 4.1.2 as the citer of the reference. However, the citer should be differentiated from the bibliographer, in the case of bibliographies as consumable resources (e.g. as bibliographic databases):

- The publisher provides the primary source information about the resource, typically in the resource itself, but also as a feed of information to a bibliographer.
- The bibliographer compiles a bibliography as a list of references, and uses their judgement to supply information and to impose uniform representation and rendering of the list.
- The citer uses a bibliography within a resource, to identify cited resources, and may further adjust the bibliography they provide within the resource (e.g. for disambiguation, or to disaggregate references included in other references.

The bibliographer and the publisher in the contemporary bibliography universe are more active parties than in the traditional model, which relies exclusively on citer discretion. Bibliographers and publishers are invested in asserting that they are sources of truth about bibliographic resources; and the bibliographies covered by any model of electronic exchange include references provided by bibliographers and publishers, in bibliographic databases—as well as the references consumed and adjusted by citers from bibliographic databases.

So the original reference as obtained from a bibliographic database may need to be differentiated from any adjustments made to the reference by a citer; and the citer adjustments in some contexts may need to be overridden.

If the serialisation of bibliographic items is to reflect such adjustments to content, it will need to indicate the provenance of bibliographic information, and allow multiple versions of the same information, with differing provenance. At the simplest level there will simply be two or more different versions of the reference serialisation, some representing the publisher or bibliographer's source of truth, and some representing the citer's adjustments (in brackets). Adjustments made by the bibliographer would also be represented in brackets; this is long-standing routine practice in library catalogues.

A more granular approach would be to permit multiple instances of any element in the reference model, differentiated by provenance: this could be done with a child element (e.g. an XML attribute), or with a nested container. If no provenance is indicated, the information is assumed to be unchanged from the source of truth. A renderer can then choose which alternative to render depending on local requirements:

EXAMPLE

NOTE Breaking out completions and emendations into separate elements in the model (e.g. <date><on><orig>1959</orig><corr>1995</corr></on></date>) is not desirable, given how open-ended emendations can be (e.g. appearing anywhere in a string): they would complicate any serialisation of the model, to little real benefit.

10. CATEGORIES OF INFORMATION RESOURCE

- Source: ISO 690, Clause 15
- Serialisation: bibitematype, BibItemType

While ISO 690 does not prescribe a list of possible bibliographic types, there are categories specific to particular information resource categories (ISO 690, Clause 15), as well as rendering rules specific to information resource categories (e.g. ISO 690, Clause 15.6.4: series title appears before item title for broadcasts). For that reason, bibliographic items should indicate what bibliographic type they belong to.

NOTE 1 The list of bibliographic types is a union of the types listed in ISO 690 and BibTeX. Master's Thesis and PhD Thesis from BibTeX are subsumed under "thesis".

The list maintains a distinction between the following resources, all of which are necessarily included in another resource:

"inbook" A typically untitled part of a book. May be a chapter (or section, etc.) and/or a range of pages.

"incollection" A part of a book having its own title."inproceedings" An article in a conference proceedings."article" An article from a journal or magazine.

NOTE 2 The above distinction aligns with BibTeX usage.

The following types have been added:

- dataset: an electronic dataset. Used to avoid the overloading of "electronic resource" as a type.
- website: a web site or web page. Used to avoid the overloading of "electronic resource" as a type.

11. CREATOR

11.1. General

- Source: ISO 690, Clause 5
- Serialisation: bibitem/contributor, Person, Organization, Affiliation

11.2. Selection

ISO 690, Clause 5.1 classifies the various possible roles a creator can have with regard to a resource into six broad categories in order of priority, with more refined classifications typically named for the creator. These classifications are retained in the model:

bibitem/contributor/roleatype provides the broad category of role (author, performer, compiler, adaptor, publisher, distributor, corresponding to ISO 690, Clause 5.1.a through ISO 690, Clause 5.1.f), while bibitem/contributor/role/description contains one or more specific descriptions of the role of the contributor.

Whether subsidiary creators should be included in a bibliographic item, and which creators should be included, is at the discretion of the bibliographer; see ISO 690, Clause 5.4.5; ISO 690, Clause 5.4.6.

Exceptionally, "translator" is differentiated from the other "adaptor" roles of ISO 690, Clause 5.1.d, because it is so different to other adaptor roles such as engraver or photographer.

NOTE 1 Although both composer and librettist are included as authors under ISO 690, Clause 5.1.a, but the two roles are clearly differentiated in ISO 690, Clause 15.8.1, with the composer given priority over the librettist.

NOTE 2 Inventor is atypical of the "performer" roles included in ISO 690, Clause 5.1.b, and could arguably be regarded as an author role instead, alongside patentee.

NOTE 3 Sponsoring organisations are conventionally included as distributors, following practice in ISO 690.

EXAMPLE 1

Ramsey, J. K., & McGrew, W. C. (2005). Object play in great apes: Studies in nature and captivity. In A. D. Pellegrini & P. K. Smith (Eds.), *The nature of play: Great apes and humans* (pp. 89-112). New York, NY: Guilford Press.

```
<bibitem tupe="incollection">
 <title>Object play in great apes: Studies in nature and captivity</title>
  <date type="published"><on>2005</on></date>
 <contributor>
   <role type="author"/>
   <person>
     <name>
       <surname>Ramsey
       <initials>J. K.</initials>
     </name>
   </person>
  </contributor>
 <contributor>
   <role type="author"/>
   <person>
     <name>
       <surname>McGrew</surname>
       <initials>W. C.</initials>
     </name>
   </person>
  </contributor>
 <relation type="includedIn">
   <hibitem>
     <title>The nature of play: Great apes and humans</title>
     <contributor>
       <role type="editor"/>
       <person>
           <surname>Pellegrini
           <initials>A. D.</initials>
         </name>
```

```
</person>
      </contributor>
      <contributor>
        <rol><!role type="editor"/>
       <person>
         <name>
           <surname>Smith
            <initials>P. K.</initials>
          </name>
        </person>
      </contributor>
      <contributor>
       <role type="publisher"/>
        <organization>
          <name>Guilford Press
        </organization>
     </contributor>
      <place>New York, NY</place>
    </bibitem>
  </relation>
 <extent type="page">
   <referenceFrom>89</referenceFrom>
    <referenceTo>112</referenceTo>
</bibitem>
```

EXAMPLE 2

Demosthenes. Speeches 50-59. Translated from the Greek by Victor BERS. Austin: University of Texas Press, 2003.

```
<br/>
<br/>
dibitem type="book">
  <title>Speeches 50-59</title>
 <date type="published"><on>2003</on></date>
 <contributor>
    <role type="author"/>
   <person>
      <name>
        <completeName>Demosthenes/completeName>
      </name>
    </person>
  </contributor>
  <contributor>
   <rol><!role type="translator"/>
    <person>
      <name>
        <surname>Bers
        <initials>Victor</initials>
      </name>
   </person>
  </contributor>
 <contributor>
   <rol><!role type="publisher"/>
    <organization>
      <name>University of Texas Press
    </organization>
  </contributor>
  <language>en</language>
 <relation type="translatedFrom">
   <bibitem>
      <title>Speeches 50-59</title>
      <language>grc</language>
    </bibitem>
  </relation>
  <place>Austin</place>
</bibitem>
```

EXAMPLE 3

ROGET, Peter Mark. Roget's Thesaurus. Revised by Susan M. LLOYD. Burnt Mill, Harlow, Essex: Longman Group Limited, 1982 [1852].

```
<br/>
<br/>
dibitem type="book">
 <title>Roget's Thesaurus</title>
  <date type="created"><on>1852</on></date>
 <date type="updated"><on>1982</on></date>
 <date type="published"><on>1982</on></date>
 <contributor>
   <role type="author"/>
   <person>
     <name>
       <surname>Roget
       <forename>Peter</forename>
       <forename>Mark</forename>
     </name>
   </person>
 </contributor>
 <contributor>
   <role type="editor">revised</role>
   <person>
     <name>
       <surname>Lloyd
       <forename>Susan</forename>
       <forename>M.</forename>
     </name>
   </person>
  </contributor>
  <contributor>
   <role type="publisher"/>
   <organization>
     <name>Longman Group Limited</name>
   </organization>
 </contributor>
 <place>Burnt Mill, Harlow, Essex</place>
</bibitem>
```

EXAMPLE 4

WINSBACHER KNABENCHOR. All' Lust und Freud'. Frankfurt: Bellaphon, 1983.

```
<bibitem type="audiovisual">
 <title>All' Lust und Freud'</title>
 <date type="published"><on>1983</on></date>
 <contributor>
   <role type="performer"/>
   <organization>
     <name>Winsbacher Knabenchor
   </organization>
 </contributor>
 <contributor>
   <role type="author">composer</role>
   <person><name><completeName><Gastoldi, Giovanni Giacomo</pre>/completeName></person>
 </contributor>
 <contributor>
   <role type="author">composer</role>
   <person><name><completeName>Isaak, Heinrich</completeName></person>
 </contributor>
 <contributor>
   <role type="author">composer
   <person><name><completeName>0thmayr, Caspar</completeName></person>
 </contributor>
 <contributor>
   <role type="author">composer
   <person><name><completeName>Demantius, Christoph</completeName></person>
 </contributor>
 <contributor>
   <role type="publisher"/>
   <organization>
     <name>Bellaphon</name>
   </person>
 </organization>
```

```
<place>Frankfurt</place>
</bibitem>
```

11.3. Personal names

Names may be modelled either broken up into their constituent components (prefix, forename, initials, surname, addition), or as a complete name string. The latter is useful if (unlike the recommendation of ISO 690, Clause 5.2.1) language-specific conventions for ordering of name components are to be observed; e.g. "James CLARK, John COWAN, MURATA Makoto".

The initials component is used if all forenames are replaced by initials. If only the middle name is replaced by an initial, it is still treated as a forename.

EXAMPLE 1

BACH, J.S.

```
<person>
  <name>
    <surname>Bach</surname>
    <initials>J. S.</initials>
    </name>
</person>
```

EXAMPLE 2

PICASSO, Pablo

```
<person>
  <name>
    <surname>Picasso</surname>
        <forename>Pablo</forename>
        </name>
        </person>
```

EXAMPLE 3

KING, Martin Luther, Jr., Rev.

EXAMPLE 4

KING, Martin Luther, Jr.

```
<person>
    <name>
        <completeName>KING, Martin Luther, Jr.</completeName>
        </name>
</person>
```

EXAMPLE 5

STEWART, John H.

```
<person>
  <name>
    <surname>Stewart</surname>
    <forename>John</forename>
    <forename>H.</forename>
    </name>
</person>
```

11.4. Organisations

The model caters for both full names and abbreviations of organisations (ISO 690, Clause 5.3.1). Subordinate body names are modelled separately from the parent body name; the choice of whether to model parent + subordinate or a single name depends on the degree of independence of the subordinate body, as outlined in ISO 690, Clause 5.3.3.

EXAMPLE 1

St. Thomas University [Florida].

```
<organization>
<name>St. Thomas University [Florida]</name>
</organization>
```

EXAMPLE 2

St. Thomas University [New Brunswick].

```
<organization>
<name>St. Thomas University [New Brunswick]</name>
</organization>
```

EXAMPLE 3

ACADEMY OF ATHENS. Research Centre for Modern Greek Dialects.

```
<organization>
  <name>Academy of Athens/organization>
<subdivision>Research Centre for Modern Greek Dialects</subdivision>
</organization>
```

11.5. Pseudonyms

If both the assumed and the real name of the creator are known, the supplementary real name (ISO 690, Clause 5.5) should be modelled as a note:

EXAMPLE

TWAIN, Mark [pseud. of Samuel Langhorne CLEMENS]

```
<person>
    <surname>Twain</surname>
    <forename>Mark</forename>
    <note>pseud. of Samuel Langhorne CLEMENS</note>
</person>
```

11.6. Anonymous and Varii

Descriptors of authors, such as "Anon" (ISO 690, Clause 5.6) or "Various Authors", should be given as completeName elements. As with pseudonyms, the real name of the creator if known can be modelled as a note.

EXAMPLE 1

Anon. Sir Gawain and the Green Knight. Edited by R. A. WALDRON. Evanston: Northwestern University Press, 1970.

```
<br/>
<br/>
tem type="book">
 <title>Sir Gawain and the Green Knight</title>
  <date type="published"><on>1970</on></date>
 <contributor>
   <role type="author"/>
   <person><name><completeName>Anon</completeName></name></person>
 </contributor>
 <contributor>
   <role type="editor"/>
   <person><name><completeName>R. A. WALDRON/completeName></person>
 </contributor>
  <contributor>
   <role type="publisher"/>
   <organization>
     <name>Northwestern University Press
   </person>
 </organization>
```

```
<place>Evanston</place>
</bibitem>
```

EXAMPLE 2

Anon [Thomas Robert MALTHUS]. An Essay on the Principle of Population. 1st edition. London: J. Johnson, 1798.

12. TITLE

12.1. General

- Source: clasue 6.2
- Serialisation: bibitem/title

12.2. Alternative titles

A resource can have multiple titles (ISO 690, Clause 6.1.2), including alternative titles (ISO 690, Clause 6.1.3) and subtitles (ISO 690, Clause 6.1.4). Titles are classified through titleatype; the model allows for "alternative", "subtitle", "unofficial" (i.e. a title that has become prevalent but has never been the official/intended title of the resource), "original" (including the source language title of a translated resource) (ISO 690, Clause 6.2), and "main" (for the proper title or titles of the resource). If a title type is not given, it is assumed to be a main title.

"Untitled" can be treated as a main title (ISO 690, Clause 6.1.7).

EXAMPLE 1

Lemuel Gulliver [pseud. of Jonathan Swift]. *Travels into Several Remote Nations of the World. In Four Parts* [Gulliver's Travels]. London: Ben. Motte, 1798.

EXAMPLE 2

Sun Tzu. The Art of War [[]]]. Translated by Samuel B. Griffith. Oxford: Oxford University Press, 1963.

```
<br/>
<br/>
dibitem type="book">
 <title type="original" lang="zh" script="Hant">[][][]</title>
  <title type="main">The Art of War</title>
  <date type="published"><on>1963</on></date>
 <contributor>
    <rol><!role type="author"/>
    <person><name><completeName>Sun Tzu</completeName></name></person>
  </contributor>
  <contributor>
    <role type="translator"/>
    <person><name><completeName>Samuel B. Griffith</completeName></person>
  </contributor>
 <contributor>
    <role type="publisher"/>
    <organization><name>0xford University Press/organization>
  </contributor>
  <place>0xford</place>
</bibitem>
```

EXAMPLE 3

Sigur Rós. Untitled [Vaka]. In: () [compact disc]. Track 1. Mosfellsbær: Sundlaugin, 2002.

```
<br/>
<bibitem type="audiovisual">
<title>Untitled</title>
<title type="unofficial">Vaka</title>
<date type="published"><on>2002</on></date>
<contributor>
```

```
<role type="author">composer
   <organization><name>Sigur Rós</name></organization>
 </contributor>
 <medium>
   <form>compact disc</form>
 </medium>
 <relation type="includedIn">
   <bibitem>
     <title>( )</title>
     <contributor>
       <role type="author">composer</role>
       <organization><name>Sigur Rós</name></organization>
     </contributor>
     <contributor>
       <rol><!-- style="publisher"/>
       <organization><name>Sundlaugin/organization>
     </contributor>
     <place>Mosfellsbær, Iceland</place>
   </bibitem>
   <locality type="track">
     <referenceFrom>1</referenceFrom>
   </locality>
 </relation>
</bibitem>
```

13. DOCUMENT RELATIONS

13.1. General

- Source: ISO 690, Clause 6.2, ISO 690, Clause 6.4
- Serialisation: bibitem/relation

The model allows for various relations between bibliographic items, with one related item embedded within the other.

13.2. Relation types

The base class of relation types is taken from ISO 690, and represents generic bibliographical requirements, particularly inclusion in a host item (Clause 13.3: includedln, includes) and translation (Clause 13.4: translatedFrom, hasTranslation). The class has been expanded substantially to deal with the requirements of standards documents:

Generic Relations:

translatedFrom document A is a translation of document B
hasTranslation document A has a translation as document B

includedIn document A is included in document B, through a well-defined relation outlined in Clause 13.3, and with distinct metadata

includes document A includes document B, through a well-defined relation outlined in Clause 13.3, and with distinct metadata

hasPart document A includes document B, with no distinct metadata

partOf document A is included in document B, with no distinct metadata

complements document A is a complement or supplement of document B

derivedFrom document A is derived from document B

instance document A is an instance of document B (e.g. an edition, a format, a single copy)

instanceOf document A has as an instance document B (e.g. an edition, a format, a single copy)

hasDraft document A has as a draft document B
draftOf document A is a draft of document B
updates document A updates document B

updatedBy document A is updated by document B

Standards Relations:

obsoletes document A supersedes document B, and renders it obsolete

obsoletedBy document A is superseded by document B, and is rendered obsolete supersedes document A supersedes document B, but is not rendered obsolete

supersededBy document A is superseded by document B, but is not rendered obsolete

adoptedFrom document A is adopted by a standards organisation from document B by a different organisation

identical document A is adopted from document B, without any change

equivalent document A is adopted from document B, without any significant textual change

nonequivalent document A is adopted from document B, and has been altered textually significantly

merges document A results from a merger of earlier documents B1, B2, B3...

splits document A is split off from earlier document B

corrects document A updates document B, and the change does not affect the intended meaning

correctedBy document A is updated by document B, and the change does not affect the intended meaning amends document A updates document B, and the change is a minor change to the intended meaning

amendedBy document A is updated by document B, and the change is a minor change to the intended meaning

revised document A updates document B, and the change is a major change to the intended meaning

13.3. Host Item

Of the bibliographic types identified in Clause 10, incollection, inproceedings, and inbook are all inherently related to a host item. Other types also potentially involve relations with host items; for example, the relation between a record track and a record, or a broadcast segment and a broadcast show. The relation between host item and contained item is modelled through "includedin".

The relation between any two items includes a locality element, which indicates which part of the first item is related to the second. (For example, which part of the first item is superseded by the second.) The locality in the relation element can be used with "includedIn" relations, to indicate the extent of the contained item within the host item; but for consistency, it is preferable to use the extent element in the contained item, which has the same meaning.

The expected relations between host and contained items are as follows:

Table 1

Host	Contained
book, booklet, manual, techreport	incollection (if has its own title—autonomous item), inbook (if it does not have its own title—e.g. numbered chapter, page span)
journal	article
proceedings, conference	inproceedings
thesis, standard, patent	inbook
map	map
electronic resource	electronic resource
broadcast	broadcast
music	music
graphic work	graphic work
film	film
video	video

In general: text-based resources have components that can be considered a different kind of resource; components of non-textual resources are considered to be of the same type as their host.

EXAMPLE 1

Ramsey, J. K., & McGrew, W. C. (2005). Object play in great apes: Studies in nature and captivity. In A. D. Pellegrini & P. K. Smith (Eds.), *The nature of play: Great apes and humans* (pp. 89-112). New York, NY: Guilford Press.

Dispreferred extent encoding:

```
<contributor>
    <rol><!role type="author"/>
    <person>
        <surname>McGrew</surname>
        <initials>W. C.</initials>
      </name>
    </person>
  </contributor>
  <relation type="includedIn">
    <bibitem>
     <title>The nature of play: Great apes and humans</title>
      <contributor>
       <role type="editor"/>
        <person>
           <surname>Pellegrini
           <initials>A. D.</initials>
         </name>
        </person>
      </contributor>
      <contributor>
        <role tupe="editor"/>
        <person>
          <name>
           <surname>Smith
           <initials>P. K.</initials>
          </name>
        </person>
      </contributor>
      <contributor>
        <role type="publisher"/>
        <organization>
         <name>Guilford Press
        </organization>
      </contributor>
      <place>New York, NY</place>
    </bibitem>
    <locality type="page">
      <referenceFrom>89</referenceFrom>
      <referenceTo>112</referenceTo>
   </locality>
  </relation>
</bibitem>
```

Preferred extent encoding:

```
<bibitem type="incollection">
  <title>Object play in great apes: Studies in nature and captivity</title>
  <date type="published"><on>2005</on></date>
  <contributor>
    <role type="author"/>
    <person>
      <name>
        <surname>Ramsey
        <initials>J. K.</initials>
     </name>
    </person>
  </contributor>
  <contributor>
    <role type="author"/>
    <person>
      <name>
        <surname>McGrew</surname>
        <initials>W. C.</initials>
      </name>
    </person>
  </contributor>
  <relation type="includedIn">
    <bibitem>
      <title>The nature of play: Great apes and humans</title>
```

```
<contributor>
       <role type="editor"/>
       <person>
           <surname>Pellegrini
           <initials>A. D.</initials>
         </name>
       </person>
     </contributor>
     <contributor>
       <role type="editor"/>
       <person>
         <name>
           <surname>Smith
           <initials>P. K.</initials>
       </person>
     </contributor>
     <contributor>
       <role type="publisher"/>
       <organization>
         <name>Guilford Press
       </organization>
     </contributor>
     <place>New York, NY</place>
   </bibitem>
 </relation>
 <extent type="page">
   <referenceFrom>89</referenceFrom>
   <referenceTo>112</referenceTo>
 </extent>
</bibitem>
```

EXAMPLE 2

Sigur Rós. Untitled [Vaka]. In: () [compact disc]. Track 1. Mosfellsbær: Sundlaugin, 2002.

```
<br/>
<br/>
dibitem type="audiovisual">
  <title>Untitled</title>
  <title type="unofficial">Vaka</title>
 <date type="published"><on>2002</on></date>
 <contributor>
    <role type="author">composer
    <organization><name>Sigur Rós</name></organization>
  </contributor>
  <medium>
    <form>compact disc</form>
  </medium>
  <relation type="includedIn">
    <bibitem>
     <title>( )</title>
      <contributor>
        <role type="author">composer
        <organization><name>Sigur Rós</name></organization>
      </contributor>
      <contributor>
        <role type="publisher"/>
        <organization><name>Sundlaugin</name></organization>
     </contributor>
      <place>Mosfellsbær, Iceland</place>
    </bibitem>
    <locality type="track">
      <referenceFrom>1</referenceFrom>
   </locality>
  </relation>
</bibitem>
```

Translations are items derived from an item in a different language. Typically in bibliographies, the details of the source item are not provided for a translation, outside of the original author, and possibly the date of publication and the source language title of the original title. If the information about the source item is limited to these, no relation need be invoked in the title: the source title can be modelled as an original title variant (Clause 12.2); the author differentiated from the translator as creators (Clause 11.2); and the date of authorshop differentiated from the date of translation (Clause 16.4: date[atype = "created"] vs date[atype = "published"]).

However, if any further details of the source item need to be provided (e.g. source language: ISO 690, Clause 14.5), they should be modelled through an overt relationship between the source item and the translation.

EXAMPLE 1

PRUS, Bolesław. 1912 [1895–1896]. *La Faraono* [Faraon]. Translated by Kabe (pseud. of Kazimierz BEIN). 2nd revised edition. Paris: Hachette.

```
<br/>
<br/>
dibitem type="book">
 <title lang="eo">La Faraono</title>
 <title type="original" lang="pl">Faraon</title>
 <date type="created"><from>1895</from><to>1896</to></date>
 <date type="published"><on>1912</on></date>
 <contributor>
    <role type="author"/>
    <person>
     <name>
        <surname>Prus
        <forename>Bolesław
     </name>
    </person>
  </contributor>
    <rol><!role type="translator"/>
    <person>
     <name>
        <completeName>Kabe</completeName>
        <note>pseud. of Kazimierz Bein</note>
     </name>
    </person>
  </contributor>
  <contributor>
    <role type="publisher"/>
    <organization>
      <name>Hachette</name>
    </organization>
  </contributor>
  <edition>2nd revised edition/edition>
  <language>eo</language>
 </relation>
  <place>Paris</place>
</bibitem>
```

EXAMPLE 2

Demosthenes. Speeches 50-59. Translated from the Greek by Victor BERS. Austin: University of Texas Press, 2003.

```
<br/><bibitem type="book">
  <title>Speeches 50-59</title>
  <date type="published"><on>2003</on></date>
 <contributor>
    <role type="author"/>
    <person>
      <name>
        <completeName>Demosthenes/completeName>
      </name>
    </person>
  </contributor>
  <contributor>
    <rol><role type="translator"/>
    <person>
      <name>
        <surname>Bers
        <initials>Victor</initials>
      </name>
```

```
</person>
  </contributor>
  <contributor>
   <role type="publisher"/>
   <organization>
     <name>University of Texas Press</name>
   </organization>
  </contributor>
  <larguage>en</larguage>
  <relation type="translatedFrom">
   <bibitem>
     <title>Speeches 50-59</title>
     <language>grc</language>
    </bibitem>
  </relation>
  <place>Austin</place>
</bibitem>
```

14. MEDIUM

- Source: ISO 690, Clause 7, ISO 690, Clause 14.3, ISO 690, Clause 15.2.2, ISO 690, Clause 15.5.5, ISO 690, Clause 15.5.6
- Serialisation: bibitem/medium

ISO 690 differentiates between the medium of the item (ISO 690, Clause 7, ISO 690, Clause 15.2.2), the size of the item (ISO 690, Clause 14.3, ISO 690, Clause 15.5.6), and for maps, the scale of the item (ISO 690, Clause 15.5.5). These are all modelled as elements of the item medium; the medium itself is modelled as medium/form.

There is no fixed vocabulary modelled for medium/form. The size and scale of the item usually contains numerical information, but is modelled as a string, given the complications of how size and scale can be described, particularly for cartographic material.

EXAMPLE 1

Sigur Rós. Untitled [Vaka]. In: () [compact disc]. Track 1. Mosfellsbær: Sundlaugin, 2002.

```
<bibitem type="audiovisual">
 <title>Untitled</title>
  <title type="unofficial">Vaka</title>
 <date type="published"><on>2002</on></date>
 <contributor>
   <role tupe="author">composer
   <organization><name>Sigur Rós</name></organization>
 </contributor>
 <medium>
   <form>compact disc</form>
 </medium>
 <relation type="includedIn">
   <bibitem>
     <title>( )</title>
     <contributor>
       <role type="author">composer
       <organization><name>Sigur Rós</name></organization>
     </contributor>
     <contributor>
       <role type="publisher"/>
       <organization><name>Sundlaugin/organization>
     </contributor>
     <place>Mosfellsbær, Iceland</place>
   </bibitem>
   <locality type="track">
     <referenceFrom>1</referenceFrom>
   </locality>
 </relation>
</bibitem>
```

EXAMPLE 2

Easterbrook, Don J. *Geologic Map of Western Whatcom County, Washington.* Map. 1:62,500. col. 68 x 69 cm. fold. in envelope 30 x 24 cm. Miscellaneous Investigations Series, map 1-854-B. Reston, VA: U.S. Geological Survey, 1976.

```
<br/>
<br/>
dibitem type="map">
 <title>Geologic Map of Western Whatcom County, Washington</title>
 <date type="published"><on>1976</on></date>
 <contributor>
    <rol>< role type="author">
    <person><name><completeName>Easterbrook, Don J./completeName></person>
 </contributor>
  <contributor>
    <role tupe="publisher"/>
    <organization><name>U.S. Geological Survey/organization>
 </contributor>
  <medium>
    <form>map</form>
    <size>col. 68 x 69 cm. fold. in envelope 30 x 24 cm.</size>
    <scale>1:62500</scale>
  </medium>
  <series>
    <title>Miscellaneous Investigations Series</title>
    <number>map 1-854-B
 </series>
```

15. EDITION

- Source: ISO 690, Clause 8
- Serialisation: bibitem/edition, bibitem/dαte

Editions are modelled as free text, given the variety of ways they can be represented (ISO 690, Clause 8.1). For that reason, the full word "edition" needs to appear after any ordinal. The optional number attribute can be used to provide a numeric equivalent.

Dates when a resource was last accessed are modelled as date [atype = "accessed"]; dates when a resource was last updated are modelled as date [atype = "updated"] (ISO 690, Clause 8.2).

EXAMPLE 1

Anon [Thomas Robert MALTHUS]. An Essay on the Principle of Population. 1st edition. London: J. Johnson, 1798.

EXAMPLE 2

SKOUSEN, Mark. The Structure of Production. New revised edition. New York: New York University Press, 2015.

```
<br/>
<br/>
dibitem type="book">
 <title>The Structure of Production</title>
 <date type="published"><on>2015</on></date>
 <contributor>
   <role type="author"/>
   <person>
      <name>
        <surname>Skousen
        <forename>Mark</forename>
     </name>
    </person>
  </contributor>
 <contributor>
   <rol><!role type="publisher"/>
    <organization><name>New York University Press/organization>
  <edition>New revised edition
  <place>New York</place>
</bibitem>
```

EXAMPLE 3

When did the sounds of 'w' and 'v' change in High German? $Stack\ Exchange:\ Linguistics\ Beta.\ Updated\ 10\ May\ 2017\ [viewed\ 8\ May\ 2018].$ Available from: https://linguistics.stackexchange.com/questions/22872/when-did-the-sounds-of-w-and-v-change-in-high-german

```
<bibitem type="electronic resource">
    <title>When did the sounds of 'w' and 'v' change in High German?</title>
    <link>https://linguistics.stackexchange.com/questions/22872/when-did-the-sounds-of-w-and-v-change-in-high
    <date type="updated"><on>2017-05-10</on></date>
    <date type="accessed"><on>2018-05-08</on></date>
    <relation type="includedIn">
          <bibitem>
          <title>Stack Exchange: Linguistics Beta</title>
          </bibitem>
          </relation>
</bibitem>
</bibitem>
</bibitem></bibitem></bibitem></bibitem></bibitem></bibitem></bibitem></bibitem></bibitem></bibitem></bibitem></bibitem></bibitem></bibitem></bibitem></bibitem></bibitem></bibitem></bibitem></br/>
</bibitem></bibitem></bibitem></bibitem></bibitem></bibitem></bibitem></bibitem></bibitem></bibitem></bibitem></bibitem></bibitem></bibitem></bibitem></bibitem></bibitem></bibitem></bibitem></bibitem></bibitem></bibitem></bibitem></bibitem></bibitem></bibitem></bibitem></bibitem></bibitem></bibitem></bibitem></bibitem></bibitem></bibitem></bibitem></bibitem></bibitem></bibitem></bibitem></bibitem></bibitem></bibitem></bibitem></bibitem></bibitem></bibitem></bibitem></bibitem></bibitem></bibitem></bibitem></bibitem></bibitem></bibitem></bibitem></bibitem></bibitem></bibitem></bibitem></bibitem></bibitem></bibitem></bibitem></bibitem></bibitem></bibitem></bibitem></bibitem></bibitem></bibitem></bibitem></bibitem></bibitem></bibitem></bibitem></bibitem></bibitem></bibitem></bibitem></bibitem></bibitem></bibitem></bibitem></bibitem></bibitem></bibitem></bibitem></bibitem></bibitem></bibitem></bibitem></bibitem></bibitem></bibitem></bibitem></bibitem></bibitem></bibitem></bibitem></bibitem></bibitem></bibitem></bibitem></bibitem></bibitem></bibitem></bibitem></bibitem></bibitem></bibitem></bibitem></bibitem></bibitem></bibitem></bibitem></bibitem></bibitem></bibitem></bibitem></bibitem></bibitem></bibitem></bibitem></bibitem></bibitem></bibitem></bibitem></bibitem></bibitem></bibitem></bibitem></bibitem></bibitem></bibitem
```

16. PRODUCTION

16.1. General

- Source: ISO 690, Clause 9
- Serialisation: bibitem/place, bibitem/contributor[roleatype = "publisher"], bibitem/date

16.2. Place

Strictly speaking the place of production (ISO 690, Clause 9.1) is an attribute of the publisher. It is modelled as a top-level attribute of the bibliographic item in case only one of the places of the publisher is associated with the production of the item, and to allow the place to be extracted by consumers of the serialisation more readily.

EXAMPLE

SANGSTER, R. B. Roman Jakobson and beyond. Berlin, New York & The Hague: Mouton, 1984.

```
<br/>
<br/>
dibitem type="book">
  <title>Roman Jakobson and beyond</title>
  <date type="published"><on>1984</on></date>
  <contributor>
    <role type="author"/>
    <person>
      <name>
        <surname>Sangster
        <initial>R. B.</initial>
      </name>
    </person>
  </contributor>
  <contributor>
    <role type="publisher"/>
    <organization>
      <name>Mouton</name>
    </organization>
  </contributor>
  <place>Berlin</place>
  <place>New York</place>
  <place>The Hague</place>
</bibitem>
```

16.3. Publisher

The publisher is a subclass of creator (Clause 11). 5.1 differentiates between "publisher, online information provider, production company" and "distributor, online host" (ISO 690, Clause 5.1.e, ISO 690, Clause 5.1.f). Of the classes of creator that can be used as the publisher (ISO 690, Clause 9.2.1), "publisher or production company" and "printer or manufacturer" have bibitem/contributor/roleatype = "publisher"; "distributor or issuing body" and "sponsoring body" have bibitem/contributor/roleatype = "distributor" (and ISO 690, Clause 9.2.3 allows that those creators can be named in addition to publishers.)

16.4. Date

Dates are associated with specific phases of the production of a bibliographic item, and those phases are named through dateatype (ISO 690, Clause 9.3.1). The default type used in bibliography is the date of publication (date [atype = "published"]), but the date of creation and updating are often given where they differ from the date of publication. The date of transmission is used instead for a broadcast. Dates of copying of a resource may be given separately to the date of creation. The date of reprinting is treated as the latest date of publication.

For a point date, only date/on is populated. For a date range, date/from and date/to are populated (ISO 690, Clause 9.3.6). If the range is ongoing, the date/to element is left out.

The date for date/on, date/from and date/to is by default given as a Gregorian date/time, following the conventions of ISO 8601; in an XML serialisation, they would be expected to follow the XML Schema xs:datetime representation ([4]). However bibliographic dates often contain information that cannot be restricted to an ISO 8601 date (ISO 690, Clause 9.3.2: dates in other calendars, date corrections; ISO 690, Clause 9.3.3: other subdivisions of the year; ISO 690, Clause 9.3.4: approximate date or no date.) For that reason, the model allows dates to be expressed in text instead of as an ISO 8601 date (date/onatext, date/fromatext, date/toatext), or as well as an ISO 8601 date if a Gregorian date is still applicable. Date corrections may also involve indications of provenance (Clause 9). If the textual value of a date is a date range, and ISO 8601 dates are still to be provided for the start and end of the date range, then the textual value is repeated for date/fromatext and date/toatext.

The date of copyright is associated expressly with the copyright holder, in bibitem/copyright/date/from. Unlike other bibliographic dates, the copyright date cannot be textual.

EXAMPLE 1

ROGET, Peter Mark. Roget's Thesaurus. Revised by Susan M. LLOYD. Burnt Mill, Harlow, Essex: Longman Group Limited, 1982 [1852].

```
<br/>
<br/>
dibitem type="book">
 <title>Roget's Thesaurus</title>
  <date type="created"><on>1852</on></date>
 <date type="updated"><on>1982</on></date>
 <date type="published"><on>1982</on></date>
 <contributor>
    <role type="author"/>
   <person>
     <name>
        <surname>Roget
        <forename>Peter</forename>
       <forename>Mark</forename>
     </name>
    </person>
  </contributor>
 <contributor>
   <role type="editor">revised</role>
    <person>
      <name>
       <surname>Lloyd
       <forename>Susan</forename>
       <forename>M.</forename>
     </name>
    </person>
  </contributor>
  <contributor>
    <rol>< role type="publisher"/></br>
    <organization>
     <name>Longman Group Limited
    </organization>
 </contributor>
  <place>Burnt Mill, Harlow, Essex</place>
</bibitem>
```

EXAMPLE 2

EXAMPLE 3

Islamic calendar 1439 [2017-2018]

<date type="created"> <from text="Islamic calendar 1439">2017</from> <to text="Islamic calendar 1439">2018</to> </date>

EXAMPLE 4

1959 [i.e. 1995]

 $< date\ type="created" > < on > 1959 < / on > < / date > < date\ type="created" source="supplied" > < on\ text="1959\ [i.e.\ 1995]" > 1995 < / on > < / date > < on\ text="1959\ [i.e.\ 1995]" > 1995 < on\ text="1$

EXAMPLE 5

Michaelmas term (Oxford), 2002

EXAMPLE 6

```
1650?
```

<date type="created" text="1650?"> <on>1650</on> </date>

EXAMPLE 7

\[no date]

<date type="created" text="[no date]"/>

EXAMPLE 8

1951 copied 1957

<date type="created"> <on>1951</on> </date> <date type="copied"> <on>1957</on> </date>

EXAMPLE 9

1951-

<date type="published"> <from>1951</from> </date>

EXAMPLE 10

© ISO, 2018

<copyright> <from>1951</from> <owner> <organization> <name>ISO </name> </organization> </date>

17. NUMERATION AND PAGINATION

- Source: ISO 690, Clause 10
- Serialisation: bibitem/extent

Components of an item are modelled under the bibitem/extent element as one or more "localities"; these consist of a locality type (bibitem/extent@referenceFrom), and optionally a locality range endpoint (bibitem/extent/referenceTo). The extent gives the part of the host item being cited, if this is a contained item (Clause 13.3), such as a journal article or book chapter (e.g. "pp. 25-45"). If the item is not a component of another item, then the extent gives the locality value for the entire work (e.g. page count: "[7 pp.]"), and a single value should be interpreted as a range ("[7 pp.]" = pp. 1-7).

If a locality is labelled conventionally with a range, but is in fact a single item (as often occurs with volumes and issues; e.g. issue 18–19 is in fact a single issue), the label should be associated with bibitem/extent/referenceFrom rather than being treated as a true range. However the rendering of the item is unlikely to be any different.

A part of a contained item may be cited, and this has posed difficulty for some citation schemes (e.g. citing a page within a journal article, which itself covers a page range: "Dedes, D. 1993. Ποίηματα του Μαυλανά Pouμή [Poems by Mevlana Rumi]. *Ta Istorika* 10.18-19: 3-22. pp. 7-19".) However, the model copes with this by separating the extent of a citation Appendix B from the extent of a bibliographic item, and the extent of a contained item from the extent of a host item. In this instance, "pp. 7-19" would be treated normally as part of the citation, not part of the bibliographic item.

Where localities are hierarchically related, they should be given in hierarchical order (ISO 690, Clause 10.1). However localities in an extent may be complimentary instead (e.g. "xiii+179 pp" for prefatory and main pagination; "114pp + 3 plates" for plates outside the main page numeration).

Extent includes the volume and issues of a journal (ISO 690, Clause 10.3).

EXAMPLE 1

Dedes, D. 1993. Ποίηματα του Μαυλανά Pouμή [Poems by Mevlana Rumi]. *Ta Istorika* 10.18-19: 3-22.

```
<br/>
<br/>
dibitem type="article">
  <title lang="en">Poems by Mevlana Rumi</title>
  <title type="original" lang="ell">Ποίηματα του Μαυλανά Ρουμή</title>
 <date type="published"><on>1993</on></date>
 <contributor>
   <role type="author"/>
   <person>
      <name>
        <surname>Dedes
        <forename>Dimitrios</forename>
     </name>
   </person>
  </contributor>
 <series>
   <title>Ta Istorika</title>
 </series>
  <extent type="volume">
   <referenceFrom>10</referenceFrom>
  </extent>
  <extent tupe="issue">
   <referenceFrom>18-19</referenceFrom>
 <extent type="page">
   <referenceFrom>3</referenceFrom>
    <referenceTo>22</referenceTo>
  </extent>
</bibitem>
```

EXAMPLE 2

Ramsey, J. K., & McGrew, W. C. (2005). Object play in great apes: Studies in nature and captivity. In A. D. Pellegrini & P. K. Smith (Eds.), *The nature of play: Great apes and humans* (pp. 89-112). [308pp]. New York, NY: Guilford Press.

```
<initials>J. K.</initials>
     </name>
    </person>
  </contributor>
 <contributor>
   <role type="author"/>
    <person>
      <name>
        <surname>McGrew</surname>
        <initials>W. C.</initials>
     </name>
    </person>
  </contributor>
  <relation type="includedIn">
    <bibitem>
      <title>The nature of play: Great apes and humans</title>
      <contributor>
        <role type="editor"/>
        <person>
          <name>
            <surname>Pellegrini</surname>
            <initials>A. D.</initials>
          </name>
        </person>
      </contributor>
      <contributor>
        <rol><!role type="editor"/>
        <person>
          <name>
            <surname>Smith
            <initials>P. K.</initials>
          </name>
        </person>
      </contributor>
      <contributor>
        <role type="publisher"/>
        <organization>
          <name>Guilford Press
        </organization>
      </contributor>
      <place>New York, NY</place>
      <extent tupe="page">
        <referenceFrom>308</referenceFrom>
      </extent>
    </bibitem>
  </relation>
  <extent type="page">
    <referenceFrom>89</referenceFrom>
    <referenceTo>112</referenceTo>
  </extent>
</bibitem>
```

EXAMPLE 3

Pluralism in the Soviet Union: Essays in Honour of H. Gordon Skilling. Edited by Susan Gross Solomon. New York: St. Martin's Press, 1983. xiii, 179 pp. \$27.50.

```
<contributor>
    <role type="publisher"/>
    <organization>
     <name>St Martin's Press
    </organization>
  </contributor>
  <note>$27.50</note>
  <place>New York</place>
   <title>Nevada Bureau of Mines and Geology Bulletin</title>
    <number>88</number>
  </series>
  <extent type="page">
    <referenceFrom>xiii</referenceFrom>
  </extent>
  <extent type="page">
    <referenceFrom>179</referenceFrom>
  </extent>
</bibitem>
```

EXAMPLE 4

John H. Stewart, Edwin H. McKee, and Harold K. Stager. *Geology and mineral deposits of Lander County, Nevada*. Nevada Bureau of Mines and Geology Bulletin 88. 1977. Reno: University of Nevada. [114 pp, 3 plates]

```
<br/>
<bittem type="book">
  <title>Geology and mineral deposits of Lander County, Nevada</title>
  <date type="published"><on>1977</on></date>
  <contributor>
    <role type="author"/>
    <person>
      <name>
        <surname>Stewart
        <forename>John</forename>
        <forename>H.</forename>
      </name>
    </person>
  </contributor>
  <contributor>
    <role type="author"/>
    <person>
      <name>
        <surname>McKee</surname>
        <forename>Edwin
        <forename>H.</forename>
      </name>
    </person>
  </contributor>
  <contributor>
    <role type="author"/>
    <person>
      <name>
        <surname>Stager
        <forename>Harold</forename>
        <forename>K.</forename>
     </name>
    </person>
  </contributor>
  <contributor>
    <rol><!role type="publisher"/>
    <organization>
      <name>University of Nevada</name>
    </organization>
  </contributor>
  <place>Reno</place>
    <title>Nevada Bureau of Mines and Geology Bulletin</title>
    <number>88</number>
  </series>
  <extent type="page">
```

```
<referenceFrom>114</referenceFrom>
</extent>
<extent type="plate">
    <referenceFrom>3</referenceFrom>
    </extent>
</bibitem>
```

18. SERIES TITLE AND NUMBER

18.1. General

- Source: ISO 690, Clause 6.3, ISO 690, Clause 11
- Serialisation: bibitem/series

18.2. Journals

Articles have their journal title modelled as the series title of the article item. However, the journal volume and issue should be modelled as part of the article item extent Clause 17, rather than as part of the series.

18.3. Standards

Standards body identifiers for standards (ISO 690, Clause 15.10) are modelled as series numbers.

EXAMPLE

ISO 690, Information and documentation – Guidelines for bibliographic references and citations to information resources.

18.4. Qualifiers

Organization and Place of Publication can be added to series titles for disambiguation (ISO 690, Clause 6.3.1). Organization in this instance is only modelled as a strings, rather than as a detailed object (cf. Clause 11.4). The formattedTitle element is used to enforce the formatting of the series title and its qualifiers.

EXAMPLE 1

Life. MDPI.

Life (Basel). (https://en.wikipedia.org/wiki/Life_(journal))

```
<series>
  <title>Life</title>
  <place>Basel</place>
  <organization>MDPI</organization>
  <formattedTitle>_Life_ (Basel)</formattedTitle>
</series>
```

EXAMPLE 2

Life. (New York). (https://en.wikipedia.org/wiki/Life_(magazine))

```
<series>
  <title>Life</title>
  <place>New York</place>
</series>
```

18.5. Earlier and later titles

The current title of a series is given with seriesatype as "main" (which is the default); alternate titles, including historical titles, are given with seriesatype as "alt". Different time spans for historical titles are given with series/dateFrom and series/dateTo (ISO 690, Clause 6.3.3).

EXAMPLE

New Scientist. 1956-1971.

New Scientist and Science Journal. Jan 21, 1971-Sept 30, 1971. + _New Scientist. 1971-.

```
<series type="alt">
    <title>New Scientist</title>
    <dateFrom>1956</dateFrom>
    <dateTo>1956</dateTo>

</series>
<series type="alt">
    <title>New Scientist and Science Journal</title>
    <dateFrom>1971-01-21</dateFrom>
    <dateTo>1971-09-30</dateTo>

</series>
<series type="main">
    <title>New Scientist</title>
    <dateFrom>1971-09-30</dateFrom>
    <dateFrom>1971-09-30</dateFrom>
</series>
</series type="main">
    <title>New Scientist</title>
    <dateFrom>1971-09-30</dateFrom>
</series></series></series>
```

18.6. Series runs

If a series restarts numbering its volumes, that is typically indicated in citations by giving an ordinal number for the series run, given after the series name: 1st series, 2nd series, 3rd series. More commonly, there are only two series runs for a series, and the second run is indicated as "new series", or the abbreviation "n.s.".

- Vizantiiskii Vremmenik (St Petersburg/Petrograd/Leningrad, 1894-1928) and Vizantiiskii Vremmenik (Moscow, 1947-) have the same name, and the first two volumes of the new series run were numbered 1/26 and 2/27, to continue the first series. While citations could differentiate the two by city, usual practice is to insert "n.s." after the journal title for the second series.
- The Journal of the Royal Anthropological Institute was originally published as Man, from 1901-1965. The journal restarted numbering at 1 from 1966-1996 without changing name, and explicitly designating itself as a "new series". Unlike Vizantiiskii Vremmenik, both series were published in London, so place of publication cannot differentiate between them. While the organization did change name (from Anthropological Institute of Great Britain and Ireland), the series run is preferred to differentiate the two runs.

EXAMPLE

\J. A. Barnes. 1966. Durkheim's Division of Labour in Society. Man (n.s.) 1(2): 158-175.

-

dibitem type="article"> <title lang="en">Durkheim's Division of Labour in Society</title> <date type="published"> <on>1966</on>
- </date> <contributor> <role type="author"/> <person> <name> <surname> Barnes</surname> <initials> J. A.</initials> </name>

19. IDENTIFIERS

- Source: ISO 690, Clause 12
- Serialisation: bibitem/docidentifier

ISO 690, Clause 12 argues that unique international standard identifiers must be included in the bibliography. In practice, identifiers are included at the discretion of the bibliographer: they are routinely included in bibliographic databases, but seldom in references within documents.

The scope of an identifier is introduced where an identifier identifies only a component of the item (e.g. a document included in the item), or a superset of the item (e.g. a series). It can also be used if the identifier identifies a specific instantiation of the document as an entity; in terms of the Functional Requirements for Bibliographic Records [2], for example, an identifier may identify a work, an expression of the work (e.g. an edition), a manifestation of the work (e.g. a format), or an item of the manifestation (e.g. a single physical copy).

Neither the type nor the scope of the identifier have an associated controlled vocabulary, and one is unlikely to be derived. Identifier type should follow established practice in the domain; most well-known identifiers have a widely used short name or abbreviation.

Standards body identifiers for standards (ISO 690, Clause 15.10) may be modelled as series numbers or as identifiers (Clause 18). We recommend that the canonical identifier issued for a standard by a standards body be encoded as an identifier; other identifiers assigned to the same document may be better identified with a series title, as a named and numbered grouping of documents.

EXAMPLE

International Journal of Islamic Thought. e-ISSN 2289-6023. ISSN 2232-1314.

<bibitem type="journal">
<title>International Journal of Islamic Thought</title>
<docidentifier type="e-ISSSN">2289-6023</docidentifier>
<docidentifier type="ISSSN">2232-1314</docidentifier>
</bibitem>

20. LOCATION

- Source: ISO 690, Clause 13, ISO 690, Clause 15.2.6, ISO 690, Clause 15.7.2
- Serialisation: bibitem/accessLocation

Unpublished items with a limited number of copies that are held at a repository should be referenced through bibitem/accessLocation, which gives the repository that the cited copy is held in, and the locator used by the repository (ISO 690, Clause 13, ISO 690, Clause 15.7.2). The repository and locator are not differentiated, and are treated as a single string. The bibitem/accessLocation element is also used for online locations of digital resources, where a single URL (bibitem/link) is not sufficient (ISO 690, Clause 15.2.6).

FXAMPIF1

p.vind.tand.25a = HGV P.Vindob. Tandem 25 a = Trismegistos 26540. At: P.Vindob.Gr. Inv. Nr. 12424 + 24718 + 28384. (Highly abbreviated format, using conventions familiar to papyrologists)

```
<bibitem type="booklet">
    <title>[Untitled]</title>
    title>[Untitled]</fink>
    link>http://papyri.info/hgv/26540/</link>
    link>http://aquila.zaw.uni-heidelberg.de/hgv/26540</link>
    link>https://www.trismegistos.org/text/26540</link>
    <docidentifier type="HGV">P.Vindob. Tandem 25 a</docidentifier>
    <docidentifier type="Trismegistos">26540</docidentifier>
    <accessLocation>P.Vindob.Gr. Inv. Nr. 12424 + 24718 + 28384.</accessLocation>
</biblitem>
```

(More elaborated form)

```
<bibitem type="booklet">
 <title>[Untitled]</title>
 k>http://papyri.info/hgv/26540/</link>
 k>http://aquila.zaw.uni-heidelberg.de/hgv/26540
 <docidentifier type="HGV">P.Vindob. Tandem 25 a/docidentifier>
 <docidentifier type="Trismegistos">26540</docidentifier>
 <relation type="includedIn">
   <bibItem>
       <title>Fünfunddreißig Wiener Papyri (P. Vindob. Tandem)</title>
       <date type="published">1976</date>
       <contributor>
        <role type="editor"/>
         <person><name><completeName>Pieter Johannes Sijpesteijn/completeName></person>
       </contributor>
       <contributor>
         <role type="editor"/>
         <person><name><completeName>Klaas Anthony Worp/completeName></person>
       <contributor>
         <role type="publisher"/>
         <organization><name>Terra</name></organization>
       <series>
         <title>Studia Amstelodamensia ad epigraphicam, ius antiquum et papyrologicam pertinentia</title>
         <number>6</number>
   </bibItem>
   <bibLocality type="part">
     <referenceFrom>25a</referenceFrom>
   </bibLocality>
 </relation>
 <accessLocation>National Library of Vienna. P.Vindob.Gr. Inv. Nr. 12424 + 24718 + 28384./accessLocation>
</bibitem>
```

EXAMPLE 2

Australian Government Bureau of Meteorology. Latest Weather Observations for Dumont D'Urville. http://www.bom.gov.au. Path: Antarctica: Antarctic Observations: Latest observations: Dumont D'Urville: JavaScript Object Notation format (JSON) in row-major order. Viewed 2018-03-10.

```
<bibitem type="electronic resource">
    <title>Latest Weather Observations for Dumont D'Urville</title>
    link>http://www.bom.gov.au/fwo/IDT60803/IDT60803.89642.json
    date type="accessed"><on>2018-03-10</on></date>
```

```
<contributor>
    <role type="publisher"/>
    <organization>
        <name>Australian Government</name>
              <subdivision>Bureau of Meteorology</subdivision>
              </organization>
              </organization>
              </contributor>
              <accessLocation>http://www.bom.gov.au. Path: Antarctica: Antarctic Observations: Latest observations: Dur
</biblitem>
```

21. ADDITIONAL GENERAL INFORMATION

21.1. Classification

- Source: ISO 690, Clause 14.2
- Serialisation: bibitem/classification

EXAMPLE

Giesler, Patricia. Canada Remembers the Korean War. Dewey 971.06 GIE 2003. ISBN 0662674979. Charlottetown, P.E.I.: Veterans Affairs Canada. 2003.

```
<bibitem type="book">
 <title>Canada Remembers the Korean War</title>
 <docidentifier type="ISBN">0662674979</docidentifier>
 <date type="published"><on>2003</on></date>
 <contributor>
   <role type="author"/>
   <person>
     <surname>Giesler
     <forename>Patricia</forename>
   </person>
 </contributor>
 <contributor>
   <role type="publisher"/>
   <organization>
     <name>Veterans Affairs Canada
   </organization>
 </contributor>
 <place>Charlottetown, P.E.I.</place>
 <classification type="Dewey">971.06 GIE 2003</classification>
</bibitem>
```

21.2. Keywords

- Source: N/A
- Serialisation: bibitem/keyword

EXAMPLE

- <keyword>Homo sapiens</keyword>
- <keyword> <vocab> Homo sapiens </vocab> <vocabid type="wikidata" uri="https://www.wikidata.org/wiki/Q15978631">
- <code>Q15978631</code> <term>Homo sapiens</term> </vocabid> <vocabid type="National Biodiversity Network">
- <code>NHMSYS0000376773</code> </vocabid> </keyword>
- $<\!taxon>\!Homo<\!/taxon><\!taxon>\!Homo\ sapiens<\!/taxon><\!vocabid\ type="wikispecies"><\!term>\!Homo_sapiens<\!/term><\!/vocabid>>$
- </keyword>

21.3. Price and availability

- Source: ISO 690, Clause 14.4
- Serialisation: bibitem/note

 $Price\ is\ marked\ up\ as\ a\ distinct\ element, which\ contains\ the\ currency\ code, represented\ in\ ISO\ 4217.$

Availability information for a bibliographic item is treated as a note.

EXAMPLE

Pluralism in the Soviet Union: Essays in Honour of H. Gordon Skilling. Edited by Susan Gross Solomon. New York: St. Martin's Press, 1983. xiii, 179 pp. \$27.50. Available on request to the author.

```
<person>
     <name>
       <surname>Solonom
       <forename>Susan</forename>
       <forename>Gross</forename>
     </name>
   </person>
 </contributor>
 <contributor>
   <rol><!role type="publisher"/>
   <organization>
     <name>St Martin's Press
   </organization>
 </contributor>
 <note>Available on request to the author
 <place>New York</place>
 <price currency="USD">27.50</price>
 <series>
   <title>Nevada Bureau of Mines and Geology Bulletin</title>
   <number>88</number>
 </series>
 <extent type="page">
   <referenceFrom>xiii</referenceFrom>
 <extent type="page">
   <referenceFrom>179</referenceFrom>
 </extent>
</bibitem>
```

21.4. License

- Source: N/A
- Serialisation: bibitem/license

EXAMPLE

license>BSD-2</license> license>https://creativecommons.org/licenses/by/2.0/;

22. SPECIFIC CATEGORIES OF INFORMATION RESOURCE

22.1. Electronic information resources

- Source: ISO 690, Clause 15.2, ISO 690, Clause 15.3
- Serialisation: bibitem/note

System requirements are modelled as a note, prefixed with "System requirements:" (ISO 690, Clause 15.2.3). URLs should not be broken at the end of a line: that is a rendering requirement, not an information modelling requirement (ISO 690, Clause 15.2.6).

EXAMPLE

Ubisoft. Far Cry 5 [computer game]. 2018. Viewed: 2018-05-10. System requirements: CPU: Intel Core i5-2400 | AMD FX-6300 @ 3.5 GHz or better (minimum); Intel Core i7-4770 @ 3.4 GHz | AMD Ryzen 5 1600 @ 3.2 GHz or equivalent (recommended). RAM: 8 GB. OS: Windows 7 SP1, Windows 8.1, Windows 10 (64-bit versions only). VIDEO CARD: NVIDIA GeForce GTX 670 | AMD R9 270 (2GB VRAM with Shader Model 5.0 or better) (minimum); NVIDIA GeForce GTX 970 or AMD R9 290X (4GB VRAM with Shader Model 5.0 or better) (recommended).

```
<bibitem type="electronic resource">
  <title>Far Cry 5</title>
  <date type="published"><on>2018</on></date>
 <date type="accessed"><on>2018-05-10</on></date>
 <contributor>
   <role type="author"/>
    <organization>
     <name>Ubisoft</name>
    </person>
 </organization>
  <contributor>
    <role type="publisher"/>
    <organization>
      <name>Ubisoft</name>
    </organization>
 </contributor>
  <medium>
    <form>computer game</form>
 <note>System requirements: CPU: Intel Core i5-2400 | AMD FX-6300 a 3.5 GHz or better
(minimum); Intel Core i7-4770 a 3.4 GHz \mid AMD Ryzen 5 1600 a 3.2 GHz or equivalent (recommended).
RAM: 8 GB. OS: Windows 7 SP1, Windows 8.1, Windows 10 (64-bit versions only).
VIDEO CARD: NVIDIA GeForce GTX 670 | AMD R9 270 (2GB VRAM with Shader Model 5.0 or better) (minimum); NVID:
</bibitem>
```

22.2. Cartographic material

- Source: ISO 690, Clause 15.5
- Serialisation: bibitem/note, bibitem/contributor/role

The projection, prime meridian, orientation, and reference systems (such as grids and navigational lattices) are given as notes (ISO 690, Clause 15.5.1). The spectral characteristics of the sensor, details of the satellite systems, and the amount of cloud cover are also given as notes (ISO 690, Clause 15.5.7). Details of the creator's role are given in bibitem/contributor/role (ISO 690, Clause 15.5.2).

EXAMPLE

Berner, L.T., P.S.A. Beck, M.M. Loranty, H.D. Alexander, M.C. Mack, and S.J. Goetz. Siberian Boreal Forest Aboveground Biomass and Fire Scar Maps, Russia, 1969-2007. ORNL DAAC, Oak Ridge, Tennessee, USA. 2016. http://dx.doi.org/10.3334/ORNLDAAC/1321

```
</contributor>
  <contributor>
    <role tupe="guthor">
    <person><name><completeName>Loranty, H.D.</completeName></person>
  <contributor>
    <role type="author">
    <person><name><completeName>Mack, M.C.</completeName></name></person>
  </contributor>
  <contributor>
    <rol><role tupe="author">
    <person><name><completeName>Goetz, S.J.</completeName></name></person>
  </contributor>
  <contributor>
    <role type="publisher"/>
    <organization>
      <name>Oak Ridge National Laboratory</name>
      <subdivision>Distributed Active Archive Center/subdivision>
      <abbrev>ORNL DAAC</abbrev>
    </organization>
  </contributor>
  <medium>
    <form>map</form>
    <size>col. 68 x 69 cm. fold. in envelope 30 x 24 cm.</size>
    <scale>1:62500</scale>
  </medium>
  <note>Type: Projected
Projection: Albers_Conic_Equal_Area
Geographic Coordinate Reference: WGS 1984
Prime Meridian: Greenwich
Extent: North: 69.8980555555556 South: 64.4575 West: 155.931944444444 East: 166.474444444444
<note>Satellites:
Biomass Mapping: WorldView-1 (WV-1), Landsat 5 TM
Fire Scar Mapping: Landsat 7 ETM+, Landsat 5 TM, Landsat 1-3 MSS</note>
  <place>Oak Ridge, Tennessee, USA</place>
</bibitem>
```

22.3. Films, videos and broadcasts

- Source: ISO 690, Clause 15.6
- Serialisation: bibitem/note, bibitem/contributor/role, bibitem/series, bibitem/title, bibitem/extent

If a single contributor is to be singled out as the creator of a resource, they are assigned the bibitem/contributor/roleatype of "author" (ISO 690, Clause 15.6.2). Otherwise, if the resource is treated as a collaborative effort, the various contributors should be listed with bibitem/contributor/roleatype of "performer", with their contributions differentiated in the bibitem/contributor/role (ISO 690, Clause 15.6.1).

Programmes within a series have the series modelled as a bibitem/series. The title of the series is modelled as bibitem/series/title, and the title of the episode as bibitem/title. The transmitting organisation and channel are modelled as a contributor of type distributor (ISO 690, Clause 15.6.4).

If an audiovisual resource is a contained item, the bibitem/extent gives its location within the host item; this is typically a timestamp for visual material, and a timestamp or a track for audio material (ISO 690, Clause 15.6.5).

EXAMPLE 1

The Death of Stalin. Directed by Armando lannucci. 2017.

```
<bibitem type="film">
  <title>The Death of Stalin</title>
  <date type="published"><on>2017</on></date>
  <contributor>
    <role type="performer">Directed by</role>
    <person>
        <name>
            <surname>Iannucci</surname>
            <forename>Armando</forename>
            </name>
            </person></person>
```

```
</contributor>
</bibitem>
```

EXAMPLE 2

Armando lannucci. The Death of Stalin. 2017.

EXAMPLE 3

Columbo, Season 7, Episode 5. The Conspirators. Teleplay by Howard Berk. NBC. 1978-05-13.

```
<br/>
<br/>
dibitem type="audiovisual">
 <title>The Conspirators</title>
 <date type="transmitted"><on>1978-05-13</on></date>
 <contributor>
    <role type="performer">Teleplay by</role>
    <person>
      <name>
        <surname>Berk
        <forename>Howard</forename>
     </name>
    </person>
  </contributor>
  <contributor>
    <rol><!role type="distributor"/></ri>
    <organization>
      <name>NBC</name>
    </organization>
 </contributor>
 <series>
    <title>Columbo</title>
    <number>Season 7/number>
    <partnumber>Episode 5</partnumber>
 </series>
</bibitem>
```

EXAMPLE 4

Sigur Rós. Untitled [Vaka]. In: () [compact disc]. Track 1. Mosfellsbær: Sundlaugin, 2002.

```
<bibitem type="audiovisual">
 <title>Untitled</title>
  <date type="published"><on>2002</on></date>
 <contributor>
    <role type="author">composer</role>
    <organization><name>Sigur Rós</name></organization>
  </contributor>
  <medium>
    <form>compact disc</form>
  </medium>
  <relation type="includedIn">
    <bibitem>
     <title>( )</title>
      <contributor>
        <role type="author">composer
        <organization><name>Sigur Rós</name></organization>
      </contributor>
```

22.4. Graphic Works

- Source: ISO 690, Clause 15.7
- Serialisation: bibitem/contributor/role

The fuller description of a contributors role under bibitem/contributor/role allows for Latin role descriptions such as pinxit and sculpsit (ISO 690, Clause 15.7.1)

FYAMPI F

[Tent of Darius] C. Le Brun pinxit. S. Gribelin sculpsit. [painting]. 1702. At: Musée du Louvre, Inv. 2896.

22.5. Music

- Source: ISO 690, Clause 15.8
- Serialisation: bibitem/contributor/role

Librettists and composers are both contributors of role type "author"; the role of composer and librettist needs to be differentiated in the contributor role for proper rendering.

EXAMPLE

ADAMS, John Coolidge. Nixon in China. Libretto by Alice GOODMAN. 1987.

- Source: ISO 690, Clause 15.9
- Serialisation: bibitem/contributor/role

Patents are encoded similarly to contributions within a serial (ISO 690, Clause 15.9), with the series designation for the patent preceded by the country name or code. The date of application is encoded as a date of type "issued".

EXAMPLE

 $Green, Martin Andrew. \ Artificial \ amorphous \ semiconductors \ and \ applications \ to \ solar \ cells. \ Australia, [Patent] \ application \ number \ 2005-238988. \ Appl: 2005-04-29.$

```
<br/>
<bibitem type="patent">
  <title>Artificial amorphous semiconductors and applications to solar cells</title>
  <date type="issued"><on>2005-04-29</on></date>
  <contributor>
    <role type="author"/>
    <person>
     <surname>Green
     <forename>Martin</forename>
     <forename>Andrew</forename>
   </person>
 </contributor>
  <series>
    <title>Australia, [Patent] application number</title>
    <number>2005238988
  </series>
</bibitem>
```

APPENDIX A (NORMATIVE) REFERENCE MODEL XML SERIALIZATION

The following is a sample serialisation of Clause 4 in XML. This is not intended to be the only possible serialisation of Clause 4, whether in XML or in another format. In fact, existing reference tools such as BibTeX [1] are expected to be used as serialisations. The sample serialisation is intended to provide illustrations of the model, and to discuss the model succinctly by referencing its elements. (Of course, the serialisation can be used in practice as a basis for data exchange of references.)

The serialisation is provided in [3]; refer to [4] for an introduction to the format.

```
grammar {
# https://www.myintervals.com/blog/2009/05/20/iso-8601-date-validation-that-doesnt-suck/ ,
# somewhat dumbed down for XSD regex:
 | ISO8601DateTime = xsd: string \{ pattern = "([++-]?\d{4})((-?)([0[1-9]|1[0-2])((-?)([12]\d|0[1-9]|3[01]))? | W([0[1-9]|1[0-2])((-?)([12])] | W([0[1-9]|1[0-2])((-?)([12])) | W([0[1-9]|1[0
ISO8601Date = xsd:string { pattern = "([\+\-]?\d{4})((-?)((0[1-9]|1[0-2])((-?)([12]\d|0[1-9]|3[01]))?|W([0-4]\
status =
    element status {
            ( stage, substage?, iteration? )
stage = element stage { text }
substage = element substage { text }
iteration = element iteration { text }
language = element language { text }
## ISO-639
script = element script { text }
## ISO-15924
edition = element edition {
      attribute number { text }?,
       text
LocalizedString =
     # multiple languages and scripts possible: comma delimit them if so
    attribute language { text }?,
    attribute script { text }?,
    text
FormattedString =
    attribute format { ( "text/plain" | "text/html" | "application/docbook+xml" |
          "application/tei+xml" | "text/x-asciidoc" | "text/markdown" | "application/x-isodoc+xml" | text ) }?
    LocalizedStringOrXsAny
LocalizedStringOrXsAny =
     # multiple languages and scripts possible: comma delimit them if so
    attribute language { text }?,
    attribute script { text }?,
    ( text | AnyElement )+
contributor =
    element contributor {
        role*.
         ContributorInfo
role =
    element role {
         attribute type { ( "author" | "performer" | "publisher" | "editor" | "adapter" | "translator" | "distribut
         roledescription*
ContributorInfo =
     ( person | organization )
```

```
roledescription =
  element description { FormattedString }
person =
  element person {
    fullname?, affiliation*, person-identifier*, contact*, uri*
fullname =
  element name {
    (( prefix*, forename*, initial*, surname, addition* ) | completeName ),
    biblionote*
prefix = element prefix { LocalizedString }
initial = element initial { LocalizedString }
addition = element addition { LocalizedString }
surname = element surname { LocalizedString }
forename = element forename { LocalizedString }
completeName = element completename { LocalizedString }
affiliation =
  element affiliation {
    affiliationname?, affiliationdescription*, organization
affiliationname = element name { LocalizedString }
affiliationdescription = element description { FormattedString }
organization =
  element organization {
    orgname, subdivision?, abbreviation?, uri*, org-identifier*, contact*
orgname = element name { LocalizedString }
subdivision = element subdivision { LocalizedString }
abbreviation =
  element abbreviation { LocalizedString }
uri =
 element uri {
    attribute type { text }?,
    xsd:anyURI
contact =
 ( address | phone | email | uri )
phone = element phone { text }
email = element email { text }
address =
  element address {
    (street+, city, state?, country, postcode?) | formattedAddress
street = element street { text }
city = element city { text }
state = element state { text }
country = element country { text }
postcode = element postcode { text }
formattedAddress = element formattedAddress { text }
person-identifier =
  element identifier {
   attribute type { ("isni" | "uri") },
    text
```

```
}
org-identifier =
  element identifier {
    attribute type { ("orcid" | "uri") },
  }
citation =
  element citation { CitationType }
CitationType =
    attribute bibitemid { xsd:IDREF },
    locality*, date?
date = element date { ISO8601Date }
locality =
  element locality { BibItemLocality }
BibItemLocality =
   attribute type { LocalityType },
    referenceFrom, referenceTo?
LocalityType = xsd:string { pattern = "section|clause|part|paragraph|chapter|page|whole|table|annex|figure|not
referenceFrom = element referenceFrom { text }
referenceTo = element referenceTo { text }
# id attribute results from including bibitem in a docmodel, as an entity that needs to be crossreferenced
  element bibitem {
     attribute id { xsd:ID },
     BibliographicItem
bibitem_no_id =
  element bibitem {
    BibliographicItem
relaton collection =
  element relaton-collection {
    attribute type { text }?,
    btitle, contributor*,
    docrelation*
BibItemTupe |=
    ( "article" | "book" | "booklet" | "manual" |
       "proceedings" | "presentation" | "thesis" | "techreport" |
       "standard" | "unpublished" | "map" | "electronic resource" |
       "audiovisual" | "film" | "video" | "broadcast" |
       "graphic_work" | "music" | "patent" | "inbook" | "incollection" |
        "inproceedings" | "journal" | "website" | "dataset" | "misc" )
BibliographicItem =
    attribute type { BibItemType }?,
    (btitle+ | formattedref), bsource*, docidentifier*, docnumber?, bdate*, contributor*,
    edition?, version?, biblionote*, language*, script*,
    abstract*, status?, copyright?, docrelation*, series*, medium?, bplace*, bprice*,
    extent*, accesslocation*, license,* bclassification?, bkeyword*, validity?
btitle = element title { TypedTitleString }
bsource = element uri { TypedUri }
formattedref = element formattedref { FormattedString }
license = element license { text }
```

```
fetched = element fetched { ISO8601DateTime }
validity = element validity {
  validityBegins?, validityEnds?, validityRevision?
validityBegins = element validityBegins { ISO8601DateTime }
validityEnds = element validityEnds { ISO8601DateTime }
validityRevision = element revision { ISO8601DateTime }
TypedTitleString =
 attribute type { TitleType }?,
  FormattedString
TitleType = ( "alternative" | "original" | "unofficial" | "subtitle" | "main" )
TypedUri =
 attribute type { text }?,
 xsd:anyURI
DateType =
 attribute text { text }?,
  ( ISO8601Date )?
BibliographicDateType =
"published" | "accessed" | "created" | "implemented" | "obsoleted" | "confirmed" | "updated" | "issued"
                                                                                                           "tro
bdate = element date {
  attribute type { ( BibliographicDateType | text ) },
  (
element from { ISO8601Date },
element to { ISO8601Date }?
) [
element on { ISO8601Date }
docidentifier = element docidentifier {
 attribute type { text }?,
 attribute scope { text }?,
 text
docnumber = element docnumber { text }
bclassification = element classification {
  attribute type { text }?,
  text
bplace = element place { text }
bprice = element price {
  attribute currency { text },
   text
medium = element medium {
 form?, size?, scale?
form = element form { text }
size = element size { text }
scale = element scale { text }
accesslocation = element accesslocation { text }
extent = element extent { BibItemLocality }
series = element series {
```

```
attribute type { SeriesType }?,
  (formattedref |
  (btitle, bplace?, seriesorganization?,
  abbreviation?,
  seriesfrom?, seriesto?,
  seriesnumber?, seriespartnumber?, seriesrun?))
SeriesType = ( "main" | "alt" )
seriesorganization = element organization { text }
seriesfrom = element from { ISO8601Date }
seriesto = element to { ISO8601Date }
seriesnumber = element number { text }
seriespartnumber = element partnumber { text }
seriesrun = element run { text }
biblionote = element note {
 attribute type { text }?,
  FormattedString
abstract = element abstract { FormattedString }
copyright =
 element copyright {
   from, to?, owner
from = element from { xsd:gYear }
to = element to { xsd:gYear }
owner =
  element owner { ContributorInfo }
DocRelationType =
    "obsoletes"
    "obsoletedBy" |
    "supersedes"
    "supersededBy"
    "updates"
    "updatedBy" |
    "complements" |
    "derivedFrom"
    "translatedFrom" |
    "hasTranslation"
    "adoptedFrom"
    "equivalent" |
    "identical" |
    "nonequivalent"
    "includedIn" | " |
    "includes" |
    "instance" |
    "instanceOf" |
    "partOf" |
    "hasPart" |
    "hasDraft" |
    "draftOf" |
    "merges" |
    "splits" |
    "amends" |
    "amendedBy" |
    "corrects"
    "correctedBy" |
    "revises" |
    "revisedBy"
docrelation =
  element relation {
   attribute type { DocRelationType },
```

```
element bibitem { BibliographicItem },
    locality*
version =
 element version {
   revision-date?, draft*
vedition = element edition { xsd:int }
revision-date = element revision-date { ISO8601Date }
draft = element draft { text }
bkeyword = element keyword {
    LocalizedString |
       element vocab { LocalizedString },
       vocabid+
    ) |
       element taxon { LocalizedString }+,
       vocabid+
    )
vocabid = element vocabid {
   attribute type { text },
    attribute uri { xsd:anyURI }?,
    element code { text }?
    element term { text }?
AnyElement = element * { ( text | AnyElement)+ }
}
                         RELAXNG Compact Serialisation, Reference Model, ISO 690
```

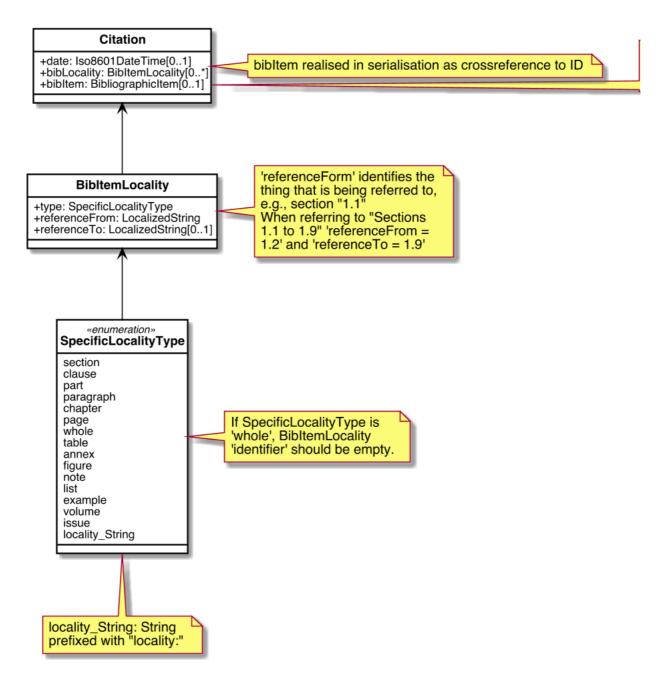


Figure B.1 – Reference Model, ISO 690 Citations

APPENDIX C (NORMATIVE) MAPPING TO BIBTEX

C.1. Categories of information resource

From Clause 10.

Table C.1

ISO 690	BibTeX
bibitematype	

C.2. Creator

From Clause 11.

Table C.2

ISO 690	BibTeX
bibitem/contributor	
bibitem/contributor@role	
bibitem/contributor/description	
bibitem/contributor/person	
bibitem/contributor/person/name	
bibitem/contributor/person/name/completeName	
bibitem/contributor/person/name/forename	
bibitem/contributor/person/name/initials	
bibitem/contributor/person/name/surname	
bibitem/contributor/person/name/addition	
bibitem/contributor/person/name/prefix	
bibitem/contributor/person/name/note	
bibitem/contributor/person/uri	
bibitem/contributor/person/affiliation	
bibitem/contributor/person/affiliation/name	
bibitem/contributor/person/affiliation/description	
bibitem/contributor/person/affiliation/organization	
bibitem/contributor/person/identifier	

ISO 690	BibTeX
bibitem/contributor/person/identifieratype	
bibitem/contributor/person/contact	
bibitem/contributor/organization	
bibitem/contributor/organization/name	
bibitem/contributor/organization/subdivision	
bibitem/contributor/organization/uri	
bibitem/contributor/organization/identifier	
bibitem/contributor/organization/identifier@type	
bibitem/contributor/organization/contact	
bibitem/contributor/organization/abbreviation	

C.3. Title

From Clause 12.

Table C.3

ISO 690	BibTeX
bibitem/title	
bibitem/titleatype	
bibitem/titleaformat	
bibitem/title@language	
bibitem/title@script	

C.4. Document relations

From Clause 13.

Table C.4

ISO 690	BibTeX
bibitem/relation	
bibitem/relationatype	
bibitem/relation/bibitem	
bibitem/relation/bibLocality	

ISO 690	BibTeX
bibitem/extent	

C.5. Medium

From Clause 14.

Table C.5

ISO 690	BibTeX
bibitem/medium/form	
bibitem/medium/size	
bibitem/medium/scale	

C.6. Edition

From Clause 15.

Table C.6

ISO 690	BibTeX
bibitem/edition	
bibitem/date	
bibitem/dateatype	

C.7. Production

From Clause 16.

C.7.1. General

Table C.7

ISO 690	BibTeX
bibitem/place	
bibitem/contributor[roleatype = "publisher"]	
bibitem/date	
bibitem/date	
bibitem/date/from	
bibitem/date/fromatext	
bibitem/date/to	

ISO 690	BibTeX
bibitem/date/toatext	
bibitem/date/on	
bibitem/date/onatext	
bibitem/copyright/date	

C.8. Numeration and pagination

From Clause 17.

Table C.8

ISO 690	BibTeX
bibitem/extent	
bibitem/extentatype	
bibitem/extent/referenceFrom	
bibitem/extent/referenceTo	

C.9. Series title and number

From Clause 18.

Table C.9

ISO 690	BibTeX
bibitem/series	
bibitem/seriesatype	
bibitem/series/title	
bibitem/series/place	
bibitem/series/organization	
bibitem/series/formattedTitle	
bibitem/series/abbrev	
bibitem/series/dateFrom	
bibitem/series/dateTo	
bibitem/series/number	
bibitem/series/partnumber	

C.10. Identifiers

From Clause 19.

Table C.10

ISO 690	BibTeX
bibitem/docidentifier	
bibitem/seriesatype	

C.11. Location

From Clause 20.

Table C.11

ISO 690	BibTeX
bibitem/accessLocation	

C.12. Additional general information

From Clause 21.

C.12.1. Classification

Table C.12

ISO 690		BibTeX
bibitem/classific	ation	

C.12.2. Price and availability

Table C.13

ISO 690	BibTeX
bibitem/note	

C.13. Specific categories of information resource

From Clause 22.

C.13.1. Electronic information resources

Table C.14

ISO 690	BibTeX
bibitem/note	

Table C.15

ISO 690	BibTeX
bibitem/note	
bibitem/contributor/role	

C.13.3. Films, videos and broadcasts

bibitem/title,bibitem/extent

Table C.16

ISO 690	BibTeX
bibitem/note	
bibitem/contributor/role	
bibitem/series	
bibitem/title	
bibitem/extent	

C.13.4. Graphic Works

Table C.17

ISO 690	BibTeX
bibitem/contributor/role	

C.13.5. Music

Table C.18

ISO 690	BibTeX
bibitem/contributor/role	

C.13.6. Patents

Table C.19

ISO 690	BibTeX
bibitem/contributor/role	

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- [3] OASIS. RELAX NG Compact Syntax. Edited by James Clark. 2002-11-21. http://relaxng.org/compact.html
- [4] OASIS. RELAX NG Compact Syntax Tutorial. Edited by James Clark, John Cowan, MURATA Makoto. 2003-03-26. http://www.relaxng.org/compact-tutorial-20030326.html
- [5] IETF RFC 2046, Multipurpose Internet Mail Extensions (MIME) Part Two: Media Types
- [6] IETF RFC 3986, Uniform Resource Identifier (URI): Generic Syntax
- [7] IETF RFC 8288, Web Linking
- [4] W3C. XML Schema Part 2: Datatypes Second Edition. W3C Recommendation. 2004-10-28. https://www.w3.org/TR/xmlschema-2/