

Interaction between IFLA standards and other library standards: ISBD, RDA, UNIMARC and ISSN: a long-lasting relationship

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Abstract:

Since the inception of ISSN in the 1970s, there have been numerous interactions between the ISSN network and IFLA standards communities. Bibliographic debates are still vibrant today with the further dimension of electronic publications and the expanding interactions between libraries, bibliographic databases, union catalogues and publishers.

The ISSN network is celebrating its 40th anniversary in 2015 and it seems timely to delineate its achievements in serial cataloguing standardization. This paper traces the history and ongoing cooperation between ISSN, ISBD, UNIMARC, and AACR/RDA cataloguing rules. The future of this cooperation is also explored in the context of the future reviews of ISO 3297 standard and the endorsement of PRESSoo by IFLA.

This article builds upon milestone contributions by the ISSN community and its members such as Marie Rosenbaum, Albert A. Mullis, Suzanne Santiago, Françoise Pellé, Regina Romano Reynolds, and many more who have written extensively about serial identification and cataloguing. It also relies on the impressive work done by the ISSN Review Group which convenes on a regular basis and involves representatives from national libraries and scientific institutions around the globe. It shows the essential relationship that exists between the communities involved in bibliographic description that has culminated recently with the work done on PRESSoo.

Keywords: standardization, bibliographic description, international cooperation, cataloguing.

Introduction

The establishment of the ISSN International Centre in 1975 by UNESCO and the French government was an important initiative to encourage the bibliographic control of serials at the international level with a view to set up a large database of periodical titles published worldwide. The ISSN network has pioneered the standardization and automation of serial metadata and in doing so has engaged in a fruitful dialogue with fellow community members working on the same issue under the aegis of IFLA: the people active in the ISSN community have frequently been engaged in IFLA committees.

The harmonization between the ISSN network's guidelines and IFLA standards has thus gone through a process of professional exchanges aiming at aligning bibliographic practices at the local and the global levels. The first stage of cooperation focused on the definition of the respective remits of identification and description. The emergence of electronic journals later enticed bibliographic communities to update their rules and regulations. On the model of IFLA, the ISSN network set up its ISSN Review Group whose members have contributed in reaching out for new collaborations.

The birth of the International Serials Data System (ISDS)

In 1947, UNESCO signed an agreement with the International Federation of Library Associations and Institutions (IFLA), thus demonstrating its interest in library issues. UNESCO then tackled the issues of the development of national bibliographies and their automation by organizing the Conference on the improvement of bibliographical services (7-10 November 1950, Paris). In the 1970s, two programs related to libraries and information policies were launched by UNESCO. On one hand, the NATIS program supported the implementation of national information systems to which IFLA contributed by setting up the Universal Bibliographic Controlⁱ. On the other hand, UNISIST was meant to foster the development of a world scientific information system. The International Serials Data System (ISDS) was initiated under the latter's aegis.

A milestone study on the feasibility of a world science information system (United Nations International Scientific Information System known as UNISIST) was conducted between 1967 and 1971. It included a very specific recommendation on the creation of a global register of scientific journals and standardized references for scientific and technical periodical literature. It further advocated a "universally accepted code applicable to scientific journal titles"ⁱⁱⁱ that would subsequently allow the identification of other library items such as journal articles, monographs and technical reports. The Sixteenth session of the General Conference of UNESCO took a resolution authorizing the Director General of UNESCO "to foster international cooperation in scientific and technical information by improving scientific periodicals, journals abstracts and scientific cooperation."ⁱⁱⁱ At that time, the emphasis was clearly put on scientific serial production.

In 1971 Marie Rosenbaum drafted a seminal report as a result of an agreement between UNESCO and the Bibliothèque nationale in France. The French librarian conducted interviews and made professional visits to identify the future users of the ISDS, i.e. bibliographical information centres, libraries, publishers and subscription agencies. Her final report pinpointed the discrepancies between the needs of these different constituencies which ISDS would need to reconcile.

Bibliographical institutions were keen on having an instrument for identifying serials, including all current scientific and technical ones, in order to exchange standardized data at the international level. They wanted identification and basic description of serials. Libraries were more interested in creating exhaustive national catalogues of serials whatever their type. They needed serial identification through a number and a few data elements ready to use for copy cataloguing. Publishers insisted upon the rapid numbering of current serials and would have liked the ISSN to adopt a structure similar as ISBN so that it would have been easy to identify the country of origin of a serial. They also wanted ISDS to deal with all kinds of serials. It is noteworthy that divergent views were expressed about the initial file (scientific serials only versus exhaustive list of serials), the structure of the system (centralization versus decentralization), the number and nature of the descriptive data elements and the mode of ISSN assignment.

Marie Rosenbaum's study finally promoted the constitution of an initial database that would include serials irrespective of their subject fields. The two-tiered ISDS system based on an international centre linked to national centres was also introduced for the first time: The international centre would compile the source file whereas national centres' would contribute national serials records and maintain more complete records in their national catalogues. The central database would store data elements for identification and for transmission of information and include identification numbers already in use such as CODEN^{iv}. The identification of the country in the numbering scheme was eventually dismissed.

In 1972 Marie Rosenbaum gave a presentation of ISDS at the 38th session of IFLA General Council. In her presentation, the aims of the future International Centre for the International Serials Data System were "to develop and maintain an international register of serials from all countries and of all disciplines, containing all the necessary information for the unambiguous identification of serials, to make this information currently available to all countries, organizations or individual users, to establish a network of communications between libraries, secondary information services, publishers of serial literature and international organizations."^v

The infancy of serial identification and description: the delicate harmonization between ISDS and ISBD(S)

The main contribution of the ISDS to bibliographic description was the use of the newly-created International Standard Serial Number and the key title that did not exist in MARC format. The ISDS record was elaborated as a minimum set of data elements which was a subset of MARC Serials Format (1971). This core set of metadata was deemed sufficient for the cross identification of serial titles and related expressions (editions, translations, subseries, supplements) but was not meant for the description of a publication. Thus the ISSN record was independent of physical format whereas library records were based on a specific physical issue. ISSN was defined by ISO 3297 which was first drafted in 1972 and adopted in 1975. The key title was derived from the title information appearing on the serial (preferably on the title page) which was entered in the original language and transliterated if necessary in accordance with ISO standards. This key title had to be significant and unique and hence could be coined out of different information such as the place or date of publication. Both ISSN and key title^{vi} were and still are intrinsically related.

The Guidelines for ISDS^{vii} were first published by UNESCO in 1973. Meanwhile the International Standard Bibliographic Description for Serials ISBD(S) was being prepared by the Joint Working Group on the International Standard Bibliographic Description for Serials and was eventually published in 1974. Under the influence of ISDS, ISBD(S) included the concept of distinctive title which was “a reflection of the key title concept of ISDS rather than the title proper of ISBD(M). The distinctive title was the key title without qualifiers [...] on the basis that information which otherwise would be qualifying data in a key title could clearly be found in the descriptive ISBD(S) entry.”^{viii} The distinctive title was later abandoned when ISBD(S) was reviewed according to the ISBD(G) rules published in 1977.

In 1981, the director of the Helsinki University Library wrote to ISDS International Centre to complain about the fact that the ISDS format did not include the title proper that was mentioned in ISBD(S). A solution to this problem was to restructure ISDS field 246 to enable national bibliographies to generate added entries mandatory in ISBD(S). At their seventh meeting in 1981, the directors of ISDS national centres thus adopted a resolution to foster compatibility between ISDS and ISBD(S) bibliographic prescriptions. “The ISDS directors wish to propose to the ISBD(S) Review Group that this compatibility could be achieved by providing where appropriate: 1) identical punctuation, terminology and definition, 2) identical formulations for the same rule, 3) elimination of needless differences between the ISDS Guidelines and the ISBD (S).”^{ix} During the same meeting it was also decided to structure ISDS field 222 in such a way as to allow for the extraction of the title proper in order to facilitate compatibility between ISDS and ISBD(S) while field 246 was used for variant title such as cover title or forms of titles established according to national cataloguing practices. In 1983, Albert Mullis, director of UK National Serials Data Centre, edited the ISDS Manual – which replaced Guidelines for ISDS – to render it more in line with ISBD(S). “Within the ISDS network there has been the increasing need to review and amend ISDS procedures to reflect current and proposed international practices, in particular to ensure compatibility with the mandatory data elements developed by the UNESCO Common Communication Format and in bibliographic matters, compatibility between the ISDS records and those created by national bibliographic agencies in accordance with ISBD(S).”^x

A few years later, some issues were still encountered by the ISDS network because of the adoption of the title proper in ISDS as a mandatory field to be established in accordance with ISBD(S) rules. ISDS national centres did not register the title proper systematically in the ISDS record either because it was identical to the key title or because the centre had adopted the policy of not indicating it. The ISDS International Centre maintained the view that the title proper could not be inferred from the key title and that it should be recorded. The importance of the title proper did not appear too great at that time because it was not an access point of the ISDS record. Thus the ISDS national centres used a variety of ways to record it in the ISDS Register leading to a heterogeneous set of data.

In 1983, a request from the chair of IFLA Section on Serial Publications was expressed relating to the extension of the assignment of ISSN and the establishment of key titles to retrospective materials in order to foster universal bibliographic control and automation of older serial publications. Users such as union catalogues were also advocating this type of assignment. The ISDS network then stated that retrospective assignment had low priority since it was more important to identify current serials. A slight change of attitude occurred in 1983 when the French union catalogue CCN launched its automation program based on ISDS

records. Today large-scale retrospective assignment has gained a new impetus with the digitization of legacy serials for which ISSN assignment can be automated.

The expanding number of non-print materials and its impact on ISDS

As long as the printed serial was reproduced identically on carriers such as microforms for example while keeping its original features such as content and language, the assignment of the same ISSN to a title available in different physical manifestations had been an unquestioned practice in the ISDS network. The advent of multimedia and electronic publications questioned this position in the 1990's^{xi}.

Contrary to ISDS, ISBD(S) included a physical description of the item. In the early 1990s, national libraries members of the ISDS network started requiring that the information about the physical medium be included in ISDS record and that different ISSN be assigned to each medium. A survey conducted in 1991 showed that the majority of national centres and users of ISSN preferred to see separate ISSN for each format. By 1998, the main decisions regarding the processing of e-serials by the ISSN (ex-ISDS) network had been taken: ISSN were assigned to serials whatever the medium, different ISSN were assigned to different media serials, a new ISSN was assigned when a medium change occurred, media codes were registered in ISSN records, bibliographic links between different media were registered as well as the electronic address.

At the same period, ISBD(S) was under revision and one of the main issues was the broadening of publications being treated like serials and especially electronic publications. The ISSN International Centre was represented in the ISBD(S) Revision Group that was chaired by Ingrid Parent. The growth of digital online publications and resources made it necessary to expand the scope of both ISSN Manual and ISBD(S) which needed to include "continuing and integrating resources" such as databases, web sites and new forms of digital media. ISBD(S) was renamed ISBD(CR) – continuing resources, and a solution was found to avoid creating new records when an online resource was updated and even when its title was modified. In the framework of the latest entry principle, "the title of the existing catalogue record would be amended to reflect the change in title and the previous title would be reflected in another data field of the same cataloguing record."^{xii} The impetus given by the emergence of new types of serials publications compelled the two standards to start harmonizing their practices. Françoise Pellé, who managed the ISSN International Centre between 1998 and 2014, stressed the growing importance of standard alignment when she took office. In 1998 she participated in a special meeting of IFLA Section on Serials Publications that took place in Berlin (Germany). The ISSN standard was about to come under systematic review and Pellé's concern was to harmonize it with ISBD(S) and AACR which were undergoing the same process. The main issue was to find a common way to identify databases and electronic serials with which ISSN national centres had to deal with on a daily basis.

The continuation of harmonization between ISSN and ISBD(S) with AACR/RDA and UNIMARC

A dialogue was thus initiated in November 2000 at the Library of Congress where the AACR/ISBD(S)/ISSN Meeting of Experts took place. Ingrid Parent, in stating the purpose of the meeting, set up the programme that is still in motion today: "Since each of the three groups is in the process of revising its standards, this might be the time at which we can do

something about harmonizing the three standards. While the ideal would be to have unanimity in the three, we probably never can reach that point. However, the time is right to do the best we can for everyone. In addition to specific agreements, it is hoped that out of this meeting can come an agreement on a long-term strategy on how to move forward”.

Areas for harmonization that were discussed were the following: Scope, specifically the issue of continuing resources, finite and not finite resources, and the question of keeping integrating resources and serials together; Definitions for bibliographic resource, continuing and integrating resource, serial, updating loose-leaf and numbering were agreed, while it was also noted that ISBD(S) would need to change its definition for “multipart item” and “monograph”; Successive/Latest entry showed that the difference in the functional requirements of the standards – identification and description, is not only a practical but also a theoretical problem, while the suggestion was adopted that “further study be deferred until we have gained experience with latest entry cataloguing for integrating resources”; Major/minor title changes; Edition/Physical format changes; basis of description; Title transcription issues; The International Standard Serial Title (ISST); and Other areas for harmonization such as Romanization and Edition statement/Dependent title questions. The “harmonization agreement” was reached to coordinate revisions to ISBD and revisions to national cataloguing codes, specifically AACR, and to ISSN. John Byrum, Chair of the ISBD Review Group, noted that he was asked by the ISBD Review Group to develop a mechanism to ensure the coordination of rule revision, with the objective to keep informed of decisions made in AACR, evaluate impact for the ISBDs and provide feedback to JSC. Timetable for revision of each standard was agreed: Joint Steering Committee for AACR would draft the revision to chapter 12, ISBD Review Group was preparing a new ISBD standard – ISBD(CR) with the name and scope changed to be voted in August 2001 by IFLA Sections on Cataloguing and Serial Publications, while ISSN Community would wait to see the results of the others’ reviews before they publish their document^{xiii}.

The ISBD(CR)^{xiv} was published in 2002, and it references back to the Washington meeting, while specifically dealing with the issue of the compatibility of ISBD(CR) and ISSN. That can be seen in the clarification of the functions of ISSN and ISBD(CR) records (0.1.3.1 Relationship between ISBD(CR) and ISSN), and in the chapter devoted to the Comparative outline of the ISBD(G) and of the ISBD(CR) and ISSN (0.3). The sub-section 0.3.3.1 thus states that the outline matching ISBD(CR) and ISSN elements “results from a major effort to reduce differences between the two. It should be noted in this connection that the ISBD(CR) treatment of common/section titles, of main series/sub-series titles, and of main continuing resource/supplement or inset titles adheres closely to the current ISSN treatment, including the details of terminology and, moreover, the concepts behind the terms that can be seen in the ISSN Manual. The complex nature of common/section title situations and main series/sub-series title situations, particularly as these have been carried over into the ISBD(CR) from ISSN, requires some further elucidation.”^{xv}

In October 2002, the Meeting of Directors of ISSN Centres and the Working Group on the Revision of ISSN Format took place in Zagreb. The meeting was joined by Sally McCallum, Director of Network development and MARC standards Office at the Library of Congress and Mirna Willer, Chair of the Permanent UNIMARC Committee (PUC), with the purpose to reach the agreement on the requirements for additions to UNIMARC and MARC21 which needed to be made. The PUC carried on the motion, and four proposals by the ISSN International Centre, ISSN Centre Croatia and the National and University Library, Croatia were prepared for its February meeting in 2003^{xvi}. The proposals were accepted, and

the fifth update (2005) of UNIMARC format incorporated them. Here we will mention two of them. The proposal related to the field 448 Changed back to, was accepted with the decision: “When a title reverts to an earlier title, the practice recommended by the ISSN Centre is to use field 440 “Continued by” and field 430 “Continues.” Add Related Fields 430 “Continues” and 440 “Continued by” [to the 448 field].” Another proposal that was accepted was to add two indicator values to distinguish a “Continuing resource of international or national interest” and a “Continuing resource of local interest” to the field 011 ISSN in order to make the distinction that would allow to register different types of ISSN record: “full record” for CR of international or national interest and “short record” for CR of local interest. The third edition of UNIMARC Manual: Bibliographic Format published in 2008^{xvii} (and subsequently updated in 2012^{xviii}) continued with harmonizing to ISSN, specifically with change of name and subfields added to reflect new ISSN standard (011, \$f ISSN-L or linking ISSN, and \$g Cancelled ISSN-L), and the same with 530 Key Title (Serials) and 531 Abbreviated Title (Serials) with the explanation “revision to take into account ISSN practices” among others.

While PUC was updating the UNIMARC bibliographic format, the ISBD Review Group was preparing the new consolidated edition – the preliminary one was published in 2007, and the standard one in 2011^{xix}, while ALA, CLA and CILIP publishers issued in 2010 RDA: Resource Description and Access^{xx}.

The creation of the ISSN Review Group and further steps to harmonization

Prior to 2012 a number of ad hoc working groups had been created within the ISSN Network to deal with a range of bibliographic issues as they arose, for instance the establishment of criteria for ISSN assignment to ongoing integrating resources, RDA testing, the relationship between the FRBR entity relationship (FRBR-er) model, serials and ISSN, as well as the revision of the ISSN Manual. This latter group was born out of earlier predecessors that had been in place since the late 1990’s. Prior to this the International Standard Serials Data System (ISDS) manual as it was then had undergone several revisions.

In response to the swiftly changing and in many respects challenging environment being experienced within both the bibliographic and the publishing communities -for example implementation of RDA, the transition from MARC, harmonization, interoperability and mapping between standards, the FRBRization of catalogues, linked data- these disparate but related working groups were merged in 2012 into a single permanent ISSN Review Group. At its inception the members of the group were representatives from the ISSN International Centre and five other national centres (Finland, France, Germany, the UK and the USA).

Recently the review group has expanded to include representatives from Bosnia and Herzegovina, Canada, Poland and Sudan. The ISSN Review Groups role is to prepare the proposals for modification of the ISSN rules and to liaise with the other bibliographic groups or communities (ISBD, RDA, FRBR...) on behalf of the ISSN Network. The work of this group is reported, for preliminary discussions or validation, through the ISSN mailing list when necessary and once a year during the annual ISSN Directors meeting.

Although the permanent ISSN Review Group has only recently been established, as alluded to earlier in this paper, work on harmonisation between standards is not new for the ISSN network. The first major piece of harmonisation work took place in the 1970’s and was aimed at harmonising the ISDS manual or guidelines as it was then described, with the final

draft of ISBD(S) which was first published in 1977. Albert Mullis^{xxi} commented that by 1981 “although perfect and absolute compatibility has not been achieved there is now a workable harmonisation”^{xxii}. This “workable harmonisation” continued with further substantive work in the early part of the 2000’s.

The publication in 2010 of the new cataloguing standard, Resource, Description and Access (RDA) was one of the principle drivers for the ISSN review group to re-examine the ISSN manual. There was also the conviction that with the introduction of a major new cataloguing standard, the harmonization achieved previously, could be at risk without renewed and active engagement between ISSN, JSC RDA and the ISBD RG. Also that ISSN needed to be far more active generally in discussions with other standards groups for instance the FRBR Review group as well as coding schemas like MARC.

In order to begin to renew the harmonization process as an ongoing effort the representatives of the ISBD Review Group and the ISSN Network met with the Joint Steering Committee for Development of RDA in Glasgow, November 2011. All parties of this Harmonization Meeting agreed that “the purpose of harmonization is to make RDA, ISSN and ISBD records functionally interoperable. That is, records valid under one of the standards should be capable of being mapped to either of the other standards. It is recognized that some issues will take longer to resolve than others and a few issues may prove to be irreconcilable, but steps can be taken to limit the impact of such differences.”^{xxiii} The issues recognized as needing discussion and further revision in any of the three standards were: preferred sources of information for electronic resources, unnumbered monographic series, supplied other title information, new description, change of title (CJK), new description, change of media type, mode of issuance and frequency (issue to be reported to the FRBR Review Group), cumulations (need to address FRBR RG to discuss “boundaries” of works, expressions, and manifestations in general, including boundaries between cumulated and non-cumulated resources), rebasing integrating resources, changes of title on an integrating resource, series designations (chronological designations) and generic titles qualified with issuing bodies. The JSC and ISBD RG agreed to discuss the creation of synchronization protocols to deal with changes in either standard, which was adopted early in 2014, while the protocol between JSC and ISSN International Centre is still under discussion.

The ISSN Manual^{xxiv} published in January 2015, states that the additions to the 2012 release result from:

- The need for more precise ISSN cataloguing instructions, in particular for identifying and describing online resources which often take various and complex forms;
- The need for clear instructions about the update of ISSN metadata elements (which elements to revise, how, and when);
- The harmonization discussions held with the RDA JSC and the ISBD Review Group.

Further on, it follows that “these additional instructions and examples complement the incorporation of new metadata elements into the ISSN profile (i.e., the list of metadata elements, mandatory or optional, supplied in ISSN records) in MARC 21 and UNIMARC.”^{xxv}

FRBR-er and Serials: the road to PRESSoo and beyond

The FRBR-er model was another area where serials were not felt to be well represented in the original IFLA report published in 1998 which stated that “in particular, the notion of “seriality” and the dynamic nature of entities recorded in digital formats merit further analysis.”^{xxvi} The situation by the time RDA was published was unchanged, there seemed to have been little substantive work done on serials and seriality, as far as the original FRBR-er model was concerned. Yet the FRBR-er model underpinned RDA.

One of the working groups which were subsequently absorbed into the permanent ISSN review group, namely, ISSN Review Group on FRBRer and ISSN, was set up in 2011 to analyse the FRBR-er model. The Review Group’s objectives were:

- To improve the understanding of the FRBR-er model from an ISSN point of view and thus its applicability to continuing resources;
- To contact FRBR specialists in order to present concerns and issues identified;
- To establish internal ISSN “guidelines” for application of FRBR to continuing resources (that could be used, for example, in the framework of the FRBRization of catalogues).

The outcome of the Review Group’s initial analysis was presented in October 2011 at the ISSN Directors meeting in Sarajevo and it reaffirmed that the FRBRer model did not work as well for continuing resources as it does for monographs. This presented a real problem given that FRBR concepts have become increasingly embedded within the bibliographic community and that some national libraries or bibliographic networks plan to “FRBRize” their catalogue. How can we “FRBRize” catalogues or have discussions based on FRBR concepts if this model does not fit serials and other continuing resources well?

The Review Group’s preliminary analysis was discussed with several FRBR specialists (Françoise Leresche and Patrick LeBoeuf from the Bibliothèque nationale de France (BnF), Philippe Le Pape from ABES, Gordon Dunsire IFLA consultant) during a technical meeting in Paris, April 2012 held in conjunction with the General Assembly of the ISSN Network. The meeting provided some interesting and promising new avenues to explore. In particular, Patrick LeBoeuf’s presentation of FRBRoo^{xxvii} (FRBR model based on the Object Oriented modelling) as the extension of FRBRer showed that FRBRoo may accommodate more effectively the features of continuing resources.

The work of the ISSN Review Group on FRBRer and ISSN was subsequently presented during the FRBR Review Group meetings held during the 2012 IFLA Conference (Helsinki, August 2012). The meetings confirmed once again that issues related to the applicability of FRBRer to continuing resources, especially the issues of seriality, were not yet adequately dealt with by the FRBR Review Group. Although the report of the FRBR Working Group on Aggregates released in September 2011^{xxviii} considered serials as common aggregates, it did not address most of the topics of concern to the ISSN Network.

As the FRBR Review Group had no work scheduled regarding continuing resources, the ISSN RG accepted the proposal of the Bibliothèque nationale de France to establish a working group between the ISSN International Centre and the BnF that would work on the application of FRBRoo to continuing resources.

A quote from version 0.1 of the PRESSoo model which resulted from the working group's efforts sums up the nature of the problem they aimed to resolve:

“continuing resources pose a particular modelling issue, in that their descriptions do not only reflect characteristics of existing products, but also, as long as the described resource still is being published, the expected characteristics of future behaviour. The main difference between cataloguing a monograph and cataloguing a serial could be expressed as follows: when you catalogue a monograph, you make statements about the past; when you catalogue a serial, you both make statements about the past and assumptions about the future.”^{xxix}

The ISSN/BnF Working Group convened between January and March 2013 during which time it examined the semantics of each element in the ISSN manual. Wherever classes and properties were not available in FRBRoo or in CIDOC CRM^{xxx} new ones were declared thus forming the core of Press(oo). A mapping from the ISSN data elements to Press(oo) was carried out in parallel. The final section of this paper discusses the model in more detail.

The permanent ISSN Review Group has only been in existence for three years but it has already proved its worth to the ISSN network and has made good progress in building contacts with other standards groups. Its role is especially important in this rapidly changing environment since no single standard can provide a solution to every bibliographic issue and that working in isolation is not sustainable in the long term.

PRESSoo and its impact on future development of ISSN and ISBD, and their harmonization

PRESSoo: Extension of CIDOC CRM and FRBRoo for the modelling of bibliographic information pertaining to continuing resources as Version 0.5, April 2014 and edited by Patrick Le Boeuf was endorsed by the FRBR Review Group in August 2014 as a valid extension of the FRBRoo model, and was circulated for world-wide review in March 2015 by FRBR RG and Working Group on FRBR/CRM Dialogue. The comments were due by April 2015^{xxxi}, so it is expected that the final version will be adopted by August 2015.

As already mentioned, continuing resources should be viewed in time: the description should make a statement about the past and “expected characteristics of future behaviour”. The expression of this aspect was found in the CIDOC CRM model that declares a class that “accounts for planned behaviours (no matter whether they were planned in the past or are still currently planned), E29 Design or Procedure”. This class “proved extremely useful, and even central, when developing the PRESSOO model, as it was used as a superclass for Z12 Issuing Rule, which refers to elements of the policy established by the editor and/or publisher of a continuing resource.”^{xxxii}

PRESSoo declares classes and properties hierarchies which are aligned with those from the FRBRoo and the CIDOC CRM. For example, class Z2^{xxxiii} Absorption is declared as a subclass of E7 Activity, Z6 Starting of Publication and Z7 Ending of Publication are subclasses of F30 Publication Event, and Z1 Serial Transformation and Z3 Separation are subclasses of F27 Work Conception which in turn is a subclass to E65 Creation. In designing properties it was needed to define also their particular domain and range, that is, the value of the direction from which class (domain) to which class (range) the property is pointing. For example, the property Y9 absorbed has declared domain (class) Z2 Absorption and range (class) F18 Serial Work, with the reverse direction of its value (was absorbed through). The definition (scope note) of this property is: “This property associates an instance of Z2

Absorption with an instance of F18 Serial Work that was absorbed in another instance of F18 Serial Work.” The illustration of the relations or associations is given in the provided example:

Absorbing the periodical entitled ‘Recueil des travaux chimiques des Pays-Bas’ (ISSN ‘0165-0513’) in the periodicals entitled ‘Liebigs Annalen’ (ISSN ‘0947-3440’) and ‘Chemische Berichte’ (ISSN ‘0009-2940’) (Z2) Y9 absorbed the periodical entitled ‘Recueil des travaux chimiques des Pays-Bas’ (ISSN ‘0165-0513’) (F18)

The document includes the chapter on Mapping from the data elements listed in the ISSN Manual to PRESSoo. Thus, the ISSN Manual data element Start date is mapped to PRESoo as:

F18 Serial Work R23i was realised through (created a realisation of) F30 Publication Event P116i is started by (starts) Z6 Beginning of Publication P82 at some time within E61 Time Primitive, while the ISSN End date element is mapped to: F18 Serial Work R23i was realised through (created a realisation of) F30 Publication Event P115i is finished by (finishes) Z7 Ending of Publication P82 at some time within E61 Time Primitive.

Or, if we put it into a narrative, we can say that a particular serial (considered a FR work) is realized through a certain publication event which started the beginning of publication of that serial at a particular time, or which finished at a particular time expressed by date or date range (13 May 1768 or 2000/01/01 00:0059.7).

Here is still another example of the mapping. The view of dealing with title changes is taken from the aspect of a process through time, and not, as in the case of ISSN Manual and ISBD(CR), as to that, on the fact found on the resource which has to be recognized as such and dealt with. PRESSoo deals with, for example, Former title and Successor title by defining 6 possibilities: continuation, replacement, split, merger, separation, and temporary substitution. It could be noted that these possibilities or categories of title changes resemble more 43- and 44- UNIMARC bibliographic format fields than the categorization of the two standards. For example, Separation which is not a recognized category as such in ISSN nor in ISBD(CR) but is in the 437 Separated from UNIMARC field, is expressed in PRESSoo:

F18 Serial Work1 Y12i was diminished through (separated from) Z3 Separation Y11 separated (was separated through) F18 Serial Work2 (shortcut: F18 Serial Work1 Y30 was partially continued by (was separated from) F18 Serial Work2)

Namely, a particular serial (its content) was “diminished” by the event of separation from another serial, or, the first serial was partly continued by another serial (e.g., UNIMARC field 431 Continues in Part).

This brief description of PRESSoo shows that ISSN International Centre as well as the ISBD Review Group should consider possible impact of this changed view of treating continuing resources in the standards they maintain, especially so the ISBD Review Group which plans the revision of the ISBD based on the FR model and linked data.

Conclusion

Spanning nearly forty years of bibliographic cooperation, this paper brings to light the importance of the work done by different library constituencies under the auspices of ISSN and IFLA to find common ways to handle the diversity of documents in general and the challenges of seriality in particular.

Since the 1970's, the adoption of ISSN has played a key role among the library and the publishing communities to identify serials across the globe. The ISSN standard has also proved its flexibility over the past years and has always benefitted from the dialogue with related standardization groups.

Today, the ISSN Review Group plays a key role in the ISSN network as a "think tank" for the evolution of the standard and the relevance of ISSN-related metadata. The recent publication of the ISSN Manual (<http://www.issn.org/understanding-the-issn/assignment-rules/issn-manual/>) in January 2015 is the outcome of the discussions held within the network and the collaborative work with fellow standardization groups which has proved essential for the development of PRESSoo. The latter model has been implemented in ROAD (<http://road.issn.org>), the Directory of open access scholarly resources managed by the ISSN International Centre. Let us hope that further implementations will follow.

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^{xxxiii} Naming conventions are as follows: 'Z' and 'Y' refer to classes and properties respectively declared in PRESSoo, 'E' and 'P' are classes and properties respectively borrowed from CIDOC CRM, while 'F' and 'R' are borrowed from FRBRoo.