Library, University of Jaffna
Srikanthaluxmy Arulanantham Memorial Lecture

Online Cooperative Cataloguing
An opportunity for Public Libraries

By

Mr S. Ketheeswaren
Senior Assistant Librarian
University of Jaffna

On
Thursday, December 30, 2021

At
Library Auditorium
University of Jaffna

Online Cooperative Cataloguing

An opportunity for Public Libraries

By

Mr S. Ketheeswaren

Senior Assistant Librarian

University of Jaffna

On

Thursday, December 30, 2021

At

Library Auditorium

University of Jaffna

Contents

List of Figures and Tables

Message from the Vice-Chancellor

The memorial lecture for the former Librarian, University of Jaffna, late Srikanthaluxmy Arulanandam, is being held for the second time at the Library, University of Jaffna. The Library organises the lecture in memory of the late Librarian Srikanthaluxmy Arulanantham and her services.

The late Librarian, Srikanthaluxmy Arulanantham, had been a good friend of mine since the early days of the University. I had been observing her personality skills in amazement ever since. She was a fit and steadfast Librarian who had the attitude of exploring and advising on academic collections and publications. As the Vice-Chancellor of the University, on this occasion, I recall her dedicated service rendered to the library services of the University.

At this juncture, the Senior Assistant Librarian, Mr S. Ketheeswaran, narrates this memoir on the second anniversary of our beloved Librarian, late Srikanthaluxmy Arulanantham. The oration is made on the title of "Online Cooperative Cataloguing: An opportunity for Public Libraries". This text proposes a Cooperative Cataloguing procedure for the books in Tamil Language, by which the public libraries would benefit.

This procedure introduces a new approach to discovering the books that may not be visible in manual book cataloguing. The speech manuscript does not fail to touch on how such a practice has already been undertaken in other countries and can be initiated in Sri Lanka. Further, the proposed method would effectively reduce the amount of work in the libraries that coordinate cataloguing as of group.

The action expressed by this speech text may be of great impetus to the authors who publish books in Tamil. The speaker, Mr S. Ketheeswaren, promises that his speech and the content would cherish the contribution of late Srikanthaluxmy Arulanantham, the former Librarian who wrote various books in the field of Librarianship is meaningful.

I congratulate Mr S. Ketheeswaran for delivering this memoir. At the same time, I kindly request the delegates in the LIS field to submit many innovative manuscripts in the future.

Prof. S. Srisatkunarajah,
Vice-Chancellor
University of Jaffna

Significance

It is a great privilege to honour the foreseen time and the participation of the Vice-Chancellor, deans, professors, lecturers, librarians and all staff, students, well-wishers, and all who join as dignitaries to the memorial session of former librarian late Srikanthaluxmy Arulanantham. I consider the opportunity to perform this speech is a blessing bestowed upon me.

Knowledge about information is essential to excel in the Information Society. The late former Librarian Srikanthaluxmy Arulanantham, who was found well aware of this statement, stepped towards the library early. She began her quest for library knowledge when pursuing her bachelor degree at the University. As a move, she started her service as an Assistant Librarian in this library. Subsequently served as a Librarian with a competent personality in Librarianship.

Respectful former librarian Srikanthaluxmy Arulanantham had a vast knowledge in library science beyond her solid personality. The knowledge vacuum of this scholar is something that no one can fill out. Other university librarians are utterly confident of this opinion.

Srikanthaluxmy Arulanantham, who is commemorated by this lecture, published several books, journal articles, and essays related to Librarianship in Tamil. However, due to the lapses in cataloguing, these valuable works have not been identified from search sites. Cooperative Cataloguing is a key to solve this problem, which ultimately builds a system that enables the book records to be found precisely and faultlessly, resulting in an exact discovery of information. In that sense, her memoir on this topic becomes relevant and appropriate. It is a delightful opportunity to submit this memoir to the late Srikanthaluxmy Arulanantham, a former librarian of the University of Jaffna.

Ketheeswaran,
Senior Assistant Librarian,
University of Jaffna.

Introduction

The lecture discusses the opportunities of Cooperative Cataloguing for Public Libraries in Sri Lanka. In the management and operation of the Cooperative Cataloguing programme, libraries and related agencies have played a significant role in the United States for many years. However, libraries in Sri Lanka do not participate in such programmes due to a lack of awareness and technical information.

Thereby, the libraries in Sri Lanka do not enjoy the benefits of collaborative cataloguing. Moreover, due to the lack of participation of public libraries in Cooperative Cataloguing, there are not adequate high-quality bibliographic records in the bibliographic database that public libraries can copy. Hence, it is inevitable for public libraries to perform unnecessary repetitive cataloguing work in isolation from the outside world. The bibliographic records established are of varying quality, and most of them are only used in local libraries and cannot be accessed by other libraries. This self-sufficient model is no longer suitable for today's global digital environment.

As far as cataloguing is concerned, in the general environment of information services, the focus of the classic collection of paper books in libraries have gradually shifted

to electronic or internet resources. In recent years, with the development of the internet and the advancement of information technology, the ways for readers to inquire about information and use the library have significantly changed. Accordingly, the services provided by the library are also adjusted. In response to these changes and expectations, libraries should also actively think about how to deal with different types of readers' aspirations and make timely and appropriate transformations according to their different types of special needs. Further, traditional cataloguing concepts and practices should also be modified with Online Cooperative Cataloguing to cater to the new mode of e-services, accordingly.

The main job of cataloguing staff is to record bibliographic data (or metadata) for book resources. These bibliographic materials are the backbone of searching library collections or electronic resources. Further, the information resources cannot be identified without metadata. The cataloguers are the source of identifying bibliographic information. Additionally, it is undeniable that cataloguers in today's digital age play a vital role in the world of metadata due to their professional knowledge and technology. The amount and quality of bibliographic information directly affect readers' retrieval of required resources. From this, collaborative cataloguing is promising in the world of metadata.

As libraries will always continue to collect paper book resources in the foreseeable future, cataloguing for printed books will not disappear. Cooperative Cataloguing will continue to play the function of reducing duplication and cataloguing costs. However, in the long run, Cooperative Cataloguing should use its advancing cataloguing skills and pay close attention to readers' behaviour and needs in using the library. Two standards known as MARC and MODS play a vital role in metadata management and communication these days. Metadata Standards Directory in Research Data Alliance defines MARC (Machine-Readable Cataloguing) as "a standard and serialisation format for representing bibliographic metadata, originally designed as a way of exchanging bibliographic records between library catalogues." and MODS (Metadata Object Description Schema) as "a bibliographic metadata standard implemented in XML. It reimplements a subset of the elements of MARC (Machine Readable Cataloging) using language-based tags instead of numeric ones, and groups them somewhat differently. It is intended both as a simplified version of MARC 21 and as a richer alternative to Dublin Core for applications such as metadata syndication/harvesting and the documentation of digital information packages".

The advancement of cataloguing technology should enable metadata transmissions and platform conversions. Further, it should also support to smoothly exchanging the

traditional bibliographic data (library catalogue data) and the new bibliographic data (internet metadata). The exchange needs to be made even if the data is in different platforms (library catalogue vs digital materials catalogue) or different data standards (MARC vs MODS). Both can be easily converted in both directions so that readers do not need to experience factors when querying data.

Online Cooperative Cataloguing

The traditional Cooperative Cataloguing methods were employed before the intervention of bibliographic communication in a network environment. The system of Cooperative Cataloguing started playing on after the possibility of uploading and downloading the bibliography. With the advancement of internet technology, the current Cooperative Cataloguing is known as online Cooperative Cataloguing. It refers to sharing cataloguing metadata from a centralised database adopted by a library community to avoid duplicating work. The centralised system will serve as the data repository. To achieve the goal of improving cataloguing quality and reducing costs, multiple numbers of Programs for Cooperative Cataloguing (PCC) have been conducted worldwide. As a result, numerous libraries can maintain high-quality bibliographic records because of the "mutual use and reciprocity" of bibliographic information

spreading over data networks. Further, rich bibliographic details can also help libraries to enrich the cataloguing.

In addition to the advantages of sharing, online Cooperative Cataloguing also includes the quality of high-level cataloguers in practice. Ultimately, the system supports high-quality library catalogues. With the convenience of online Cooperative Cataloguing, the library shortens the processing of existing library resources and the new resources purchased by the library. As a result, the resources can be put on shelves quickly for readers to use.

The significance of Cooperative Cataloguing can also be extended further, from improving the quality of cataloguers to the standardisation of cataloguing. Specifically, online Cooperative Cataloguing refers to participating member libraries, jointly formulated according to cataloguing norms, standards, and networking protocols. The standards and techniques are needed to establish bibliographic and authority records to control and maintain a mutually accepted high-quality bibliographic database. The updates of the cataloguing guidelines should immediately impact the applications. Hence, the cataloguers are expected to participate in the formulation and the compilation of cataloguing training courses and teaching materials.

The programme for Cooperative Cataloguing

In need of maintaining uniformity among different library catalogues, the Programme for Cooperative Cataloguing (PCC) was undertaken to develop standardised bibliographic communication among libraries and support the libraries for copying catalogue records (Andreadis & Patel, 1997).

International Cooperative Cataloguing Programmes

The Cooperative Cataloguing project that originated in the United States has now expanded to the rest of the world. Its expectation and contribution are far-reaching and influence the international cataloguing community to work together. Reading the history of such programmes below would find the knowledge needed in the regional or national contexts to launch a similar programme and curve the mistakes before experiencing.

The earliest Cooperative Cataloguing in the United States began with shared cataloguing, which the U.S. Congress charted. Each library subscribed to membership in the Library of Congress and had the bibliographic record for the local

library, eliminating the need for repeated cataloguing for each library. According to a model shared by other libraries across the United States, the Library of Congress provided catalogues in the initial implementation of sharing. Later the practice was realised that the method was not sustainable. Firstly, the Library of Congress collections may not be the same as other libraries. A volume of cataloguing still needed to be done by each library itself. Secondly, libraries gradually relied too much on the Cataloguing of the Library of Congress for many books. In order to avoid Original Cataloguing, the library would rather wait for the bibliographic records of the Library of Congress to appear, resulting in a large pile of books to be processed. Hence, the concept of Cooperative Cataloguing in the United States started to evolve. With the advances in science and technology, the uploading and downloading of bibliographic records were simplified for collaborative cataloguing. Having this facility, member libraries united to compile high-quality catalogue records. Other libraries also used authority records, giving full play to the original purpose of sharing cataloguing records.

National Coordinated Cataloguing Programme (NCCP) was later identified as the first experimental Cooperative Cataloguing project. NCCA was established in 1988; it was a joint project between eight sizeable academic research libraries in the United States and the Library of Congress. The scope

of NCCP was to compile high-quality bibliographic records through the cooperation of participating libraries. As a result, the libraries across the United States reduced cataloguing costs, shortened cataloguing time, and made books available for readers to use as soon as possible. In order to establish high-quality bibliographic records, cataloguers participating in the project must go to the Library of Congress in Washington to attend five weeks of rigorous training.

This well-intensified plan and handing a complex bibliography failed to achieve the goal satisfactorily. Further, the bibliographic records created must also go through a lengthy review period and must meet the requirements of the standards proposed by the Library of Congress. However, this four-year experimental project provided valuable experience for the PCCs today, which founded new programmes a few years later.

By analysing the problems faced in the NCCP, the essential consideration to implement successful PCCs was identified. The feasible cataloguing training and systematic review of catalogue records with careful and detailed planning were identified as the critical pillars of a successful PCC. PCC was born out of the needs agreed by all parties. The full-fledged PCCs have been in operation since 1995. They are now expanded with multiple wings of programmes such as Monographic Bibliographic Record

Programme (BIBCO), Cooperative Online Serials Programme (CONSER), Name Authority Cooperative Programme (NACO) and Subject Authority Cooperative Programme (SACO). Further, the previously criticised training model in NCCP is no longer adopted.

After identifying a suitable and effective system for the programme for Cooperative cataloguing, the requirement of quality enhancement to cataloguing data was realised. At this juncture, it was learned that the production of high-quality bibliographic records depends on qualified cataloguers. Therefore, cataloguing training and rigorous follow-up on catalogue review procedures would be essential for retaining qualified cataloguers. Since its establishment, PCCs in the United States have gradually developed a complete set of training materials, from the compilation of course handouts, teacher training for the training courses. Further, the PCC teacher training programme (Train the Trainers) was worthwhile. The PCCs invite cataloguing experts with rich knowledge and experience. The experts will be expected to compile training materials, recruit competent and qualified training teachers, plan training seminars, and monitor training follow-ups until cataloguers independently catalogue the benchmarks.

The PCC teachers (also PCC members) must Participate in teacher training seminars first; the purpose is to familiarise

themselves with the course materials and learn teaching skills. Cataloguing training textbooks are updated with the changes in cataloguing specifications. Separate training programmes are usually organised for new PCC cataloguers. The PCCs supported by the Library of Congress have become an international organisation with members from all world regions. Many member libraries are national libraries that represent regions, such as the British Library, the National Library of Canada, and the Australian National Library etc. In addition, large academic libraries in European and American countries have successively joined NACO, Such as Cambridge University Library, Oxford University Library, etc. In Asia, the first to join the PCC was the Hong Kong Branch University of Technology, joining NACO and CONSER in 1999. In 2011, Singapore's Nanyang Technology University had completed NACO training and formally joined the establishment team of name authority records. However, there is no evidence that any library agency from Sri Lanka joined a PCC currently functioning.

According to the reference made about the PCC conducted worldwide, conducting and maintaining such a programme in Sri Lanka requires the following.

- Consideration of the programme set within drawn planning tallied with national or regional scopes

- High-quality training courses and teaching materials to be developed
- Experts should be identified as PCC trainers and reviewers
- An economically feasible training programme
- Effective review systems
- A detailed guideline for reviews
- Members should be professional, loyal and mission-oriented to compile bibliographic records and maintain the quality of the PCC bibliography

The advantages of a Programme for Cooperative Cataloguing.

The participating libraries or organisations in Cooperative cataloguing may get the following advantages.
- The right to be a PCC member library
- Can participate in the decision-making process of future cataloguing.
- Participate in the review and development of national or regional cataloguing and bibliographic communication standards
- Participate in the design and development of cataloguing training courses
- Participate in the formulation and extension of principles, goals and standards of Cooperative Cataloguing plans

- Can reduce the cost of preparing bibliographic and authority data
- Can enjoy most suitable and the standard cataloguing norms
- The quality of cataloguing in mutual contexts (almost no need to modify the bibliographic records downloaded for transcription)
- The establishment of authority records will be constantly increased for the library use
- Trained by experienced PCC teachers
- Free training materials and cataloguing handouts can be obtained at any time
- Cataloguers can expand their careers through PCCs

The need for Cooperative Cataloguing for Public Libraries

Public libraries serve residents, and the public library collections focus on residents' daily needs, whether spiritual or entertainment. The general residents are interested in children's collections, youth books, popular fiction, non-fiction, travel guides, popular audio-video materials, local history, etc., which are the goals of its collection. Thus, a public library has diverse types of collections. Hence, cataloguing material by a public library is challenging. To which, the centralised cataloguing would be a suitable approach. Authority control of bibliography in public libraries is also significant. The process of finding, selecting and assigning subject headings are other indispensable items in the cataloguing and beneficial to the readers. In the cataloguing process, the description of subject headings is professional work that requires well-trained professional cataloguers. They should be prepared according to cataloguing rules and using recognised vocabulary. For this part of the cataloguing process, the approach taken by general public libraries may be challenging with the requirements of time, or professional skill, or attitude. A few public libraries in Jaffna recognise the actual needs and implement this part of the cataloguing work. In isolation, each library repeats this kind of time-consuming cataloguing work on its own and catalogues

the same items being catalogued in other libraries. Despite not having correct knowledge and training, vocabulary control for names and recognised scheme for selecting and coining subject heading, the authority headings are not considered in transcriptions by many public libraries.

The evidence for the availability of regional/state level systems for distributing cataloguing datasets (metadata service system) in the Sinhala or Tamil language has not been identified in the literature and interviews conducted with the library professionals. The original cataloguing method is employed for publications in Sinhala/Tamil language. The process of original cataloguing may result in error factors, including missing and incorrect information. The error factors would lead to poor quality in the retrieval of information. Figure 3
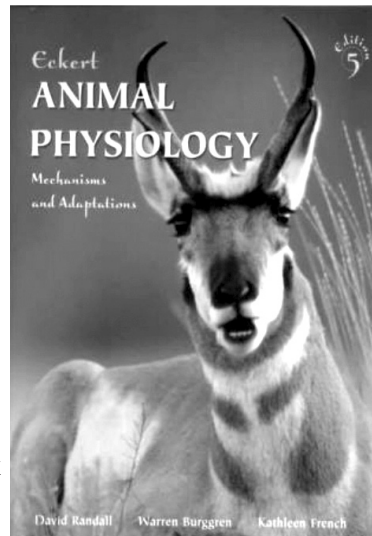

Figure 1:Coverpage of the book titled "Animal physiology"

shows the identified error factor that denies discovering an information resource titled "Animal Physiology", see Figure 1 for its cover page. Figure 2 shows the attempt of searching from an OPAC with Title "Animal physiology" and Author "ECKERT" where the year of publication was limited to "1987". Figure 3 represents the MARC sheet cataloguing data with error factors, while Figure 4 is without error. The book's title was wrongly transcribed from the source and entered into the library system (see Figure 3).

Figure 2: Attempt of searching from an OPAC

```
020  _a071671423X
082  _a571.1
     _bECK
100  _aECKERT, Roger
245  _aPhysiology: mechanisms and adaptations
250  _a2nd ed.
260  _aDelhi
     _bCBS pub.
     _c1987
300  _axv, 830 p.
650  _aAnimal physiology
```

Figure 3: An MARC sheet consisting of cataloguing data with error factors

```
020  _a071671423x
082  _a591.5
     _bECK
100  _aEckert, Roger
     _97035
245  _a Animal physiology : mechanisms and adaptations
260  _c1987
     _aNew Delhi
     _bCBS Publishers and Distributors
     _g1987
300  _bill.
     _c23 cm.
     _axii, 830 p.
650  _aANIMALS
     _9166
650  _aZOOLOGY
     _91382
```

Figure 4: An MARC sheet consisting of cataloguing data without error factors

---

Many error factors have been identified in the description of Tamil records compared to English. For an example, error factors identified as a source of problem against the discovery of a book titled "Aṟivālayam : Tiṟappuviḻāc Ciṟappumalar" authored by Srikanthaluxmy Arulanantham is brought into the discussion. Figure 5 and Figure 6 respectively represent the cover page and the book's publication details.
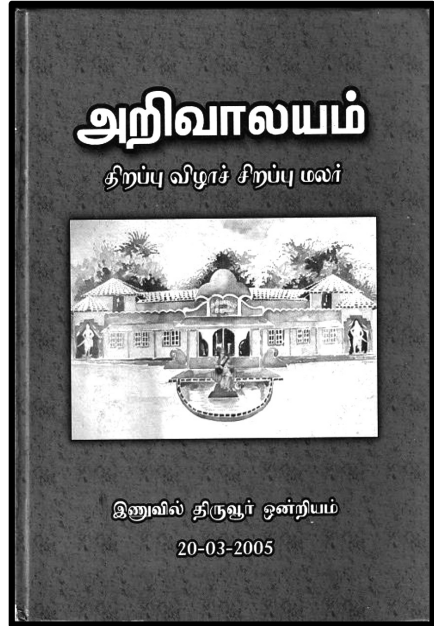

Figure 5: Cover page of the book titled "Aṟivālayam : Tiṟappuviḻāc Ciṟappumalar"

மலரின் பெயர்	:– இனுவில் அறிவாலயம் திறப்புவிழாச் சிறப்புமலர்.
மலராசிரியர்	:– அருளானந்தம் ஸ்ரீகாந்தலட்சுமி, (கல்வீசார் நூலகர், யாழ். பல்கலைக்கழகம்)
வெளியீடு	:– இனுவில் திருவூர் ஒன்றியம், இனுவில்.
ஆண்டு	:– 2005.
பதிப்புரிமை	:– இனுவில் திருவூர் ஒன்றியம்.
முன் அட்டைப்படம்	:– திரு. ஜெ. மயூரன், பீ.ஏ
கனினி வடிவமைப்பு	:– லலிதா கிராபிக்ஸ், இனுவில் கிழக்கு.
அச்சுப்பதிப்பு	:– ஷாம்பவி பதிபகம், இல-276, கஸ்தூரியார் வீதி, யாழ்ப்பாணம்.
பக்கங்கள்	:– xxxiii , 175பக்

Figure 6: Publication details of the book titled "A̱rivālayam :
Ti̱rappuvi̱lāc Ci̱rappumalar"

அறிவாலயம் : திறப்பு விழாச் சிறப்பு மலர் / அருளானந்தம் ஸ்ரீகாந்தலட்சுமி.

By: ஸ்ரீகாந்தலட்சுமி, அருளானந்தம்

Material type: Text

Publisher: இணுவில் : திருவூர் ஒன்றியம், 2005

Edition: 1ம் பதி

Description: xxxi, 175 பி. 27 x 20 செ.மீ

Subject(s): நூலகங்கள்

DDC classification: 027

Figure 7: The correct display of the book titled "A̱rivālayam :
Ti̱rappuvi̱lāc Ci̱rappumalar"

Figure 7 displays the book records titled "A̱rivālayam
: Ti̱rappuvi̱lāc Ci̱rappumalar".The book should be correctly

catalogued without any error factors, as seen in Figure 7. However, in reality, OPAC hosted by public libraries does not support the exact discovery of that book. Figure 8 (five images) highlights the error factors identified in such OPACs. Images of Figure 8 are the catalogue displays with quality issues for the book titled "Aṟivālayam : Tiṟappuviḻāc Ciṟappumalar", identified from five different public libraries. The error factors can be identified by determining the deviations of description displayed in the OPAC images of Figure 8 by comparing each with the correct details shown in Figure 7.

Figure 8: The catalogue displays with quality issues for the book titled "Aṟivālayam : Tiṟappuviḻāc Ciṟappumalar"

The solution for rectifying such search issues that react against the discovery of manuscripts from the online public access catalogue of the public libraries is to participate with coordinated cataloguing. Hence, there is an urgent need for the public libraries in Sri Lanka to set up and join online Cooperative Cataloguing.

The public libraries can enjoy the benefits from the most significant areas of Cooperative Cataloguing enriched with authority data and provide library service for the exact discovery of the books maintained by them.

At the same time, it is expected that public libraries need active participation in Cooperative Cataloguing so that establishing a significant number of quality records for the libraries will be a possible endeavour.

Establishment of Cooperative Cataloguing

Before establishing a system for Cooperative Cataloguing, the basic understanding of the cataloguing is far most important. Therefore, the essential facts about the cataloguing and the system are discussed below.

Similar cataloguing methods and standards should be adopted to maintain the quality and uniformity of the catalogues in the libraries of a particular region. The uniformity of the catalogue records would virtually bring all libraries together as integrated into one platform where a reader would feel comfortable in searching and retrieving required information resources when accessing multiple library catalogues. "Search operations, in particular, rely on the quality of these metadata as an essential precondition for finding results adequate to users requirements and needs" (p.1) (Cechinel, Sánchez-Alonso, & Sicilia, 2009). The PCC requires standardisation or modification techniques or strategies to continue the programme successfully and archive quality cataloguing datasets. After that, the archival system would act as a common

repository for distributing the necessary bibliographic details of information resources for the libraries. Distributing the bibliographic information is possible only when they are described in MARC. Hence, the originally prepared catalogue records should also be correctly transcribed in MARC. These transcriptions are also undertaken in the PCCs. Accordingly, the knowledge on how a set of originally prepared catalogue records can be transcribed into MARC format should also be available to continue the programme successfully. The tag 040 in MARC21 is allocated for describing the cataloguing source (the name of PCC) and related information. The following details are described in the subfields a, b, c, d, and e of the field 040.

a - name of the agency which originally prepared the cataloguing records

b - the language (code) of the regulations (e.g. sin for Sinhala or tam for Tamil)

c - the organisation which transcribed the record into MARC form

d – the organisation modified any correction to a record, including cataloguing, content designation, or keying changes.

e – the source of description convention (code) used in creating the record (e.g. aacr for AACR2 or ccr for Chinese cataloguing rules)

Steps involved with the Online Cooperative Cataloguing

The implementation and the maintenance of Cooperative online cataloguing require systematic methods and techniques incorporated step by step. The details of the establishment and management of Cooperative Cataloguing are described in the following order.

1. Draw regional level protocols

According to regional or island-wise cataloguing norms and practices, the necessary amendments and improvements of international standard schemes should be materialised. The schemes to which those amendments may be made are a few below.

Descriptions: AACR2/RDA, DDC, LCSH
Framework (MARC): LKMARC
Cooperative metadata service: LK

2. Identify an original cataloguing agency

Libraries with huge national or regional collections comprising cataloguing experts should be identified and selected as a source of original cataloguing. The name of the source should be mentioned in 040a. The authority practice applied by a selected library needs to be analysed to find techniques to qualify the data to be captured from original cataloguing.

Figure 9 schematically represents the methodology applied to analyse the data. According to this figure, the data prepared in original cataloguing should be compared with standard metadata to identify the required knowledge for correctly modifying and transcribing the original records. The standard metadata will consist of correct punctuations and content designations in MARC21 format.
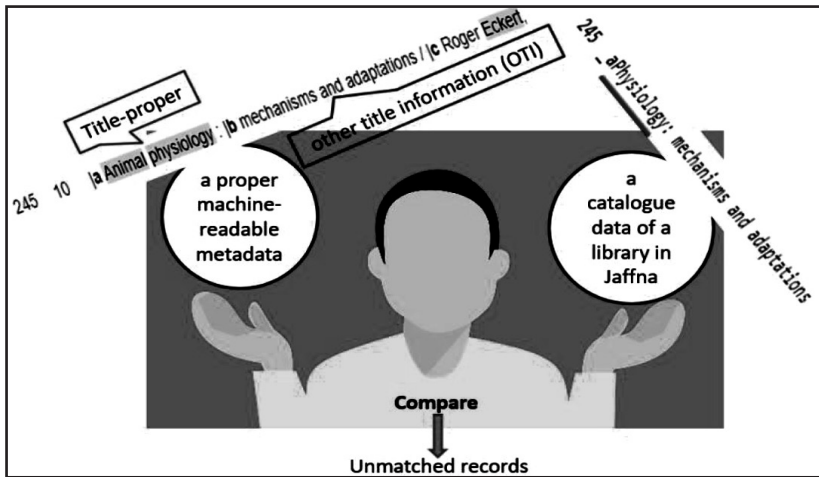

Figure 9: A representation of methodology for analysing the cataloguing data

3. Identify the strategies to overcome the issue

The method and the techniques to qualify the original cataloguing data to make them available from the metadata service platform should be identified. Further, the methods and techniques are identified by pursuing the required studies. The methodology described in step 2 needs to be employed in such studies.

4. Check the applicability to the records of regional or national publications

The identification of methods and techniques is made out of the results from comparing English records for the publications available from the international metadata service platform. Hence, the possibility of applying identified methods and techniques to the regional or national publications records should be verified before taking them as the key of the qualifier.

5. Modify and transcribe the data

With the knowledge of the method and techniques for modifying and transcribing the data, the records should ensure their quality and mutual acceptance. Further, the relevant details of which agencies modified and transcribed the data and according to which language convention the data was described should be notified in the relevant subfields of the 040 tag. The subtitles 040b, d, & e will consist of information regarding modified data, and 040b, c, & e transcribed data. Further, the following issues and the relevant modifications may be required to improve the quality of cataloguing data.

Issue: The punctuations were missing in the source records.

Modification: Source records should be modified for the correct punctuations for a machine-readable system, based on the finding of error analysis.

Issue: The abbreviation was not uniquely and correctly

described in the source records.

Modification: The most used abbreviation should be identified and described uniquely and correctly.

Issue: The source records were identified as prepared without any authority control.

Modification: A collection of authority data with correct punctuations need to be prepared and indexed in the model for the authority control practice by the public libraries.

Issue: The types of contributions were only abbreviated and used within the same data field of the source records.

Modification: A separate data field (for example, 100e and 700e) has to be employed, and a list of descriptions in place of those abbreviations, as seen in Table 1 below, should be prepared and indexed for searching and importing into the new field.

Authorised value for contributors		Description
MARC21	LKMARC	
	Edt-t/ ப.ஆ.	பதிப்பாசிரியர்
	trl-t/ மொ.பெ.	மொழிபெயர்ப்பாளர்
	com-t/ தொ.ஆ.	தொகுப்பாசிரியர்
	cmm-t/ உ.ஆ.	உரையாசிரியர்
ed.		Editor

tr.		Translator
comp.		Compiler
cmm.		Commentator
ill.		Illustrator

Table 1: The authorised values and respective descriptions in Tamil for the contributors.

Issue: Diverse types of editing were identified to modify the source records to build a collection of qualified data sets to be archived and indexed in the database for Cooperative Cataloguing.

Modification: The source records should be modified based on error analysis.

Issue: The source records were not available with the MARC designations.

Modification: The source records should be transcribed to the correct MARC tags and relevant subfields. Later, the transcribed records need to be migrated into the metadata repository.

6. Ensure full level Cataloguing

The MARC framework should be designed to ensure the availability of index elements in the full-level cataloguing for discovering manuscripts housed in a library. In addition, the full-level cataloguing will further support precisely recognising the information resources. Accordingly, the subfields and tags should be selected from the MARC21 format for the necessary bibliographic communication in support of public libraries' full-level cataloguing. The images of Figure 10 elaborate the MARC framework, an example consisting of twenty-eight subfields, under twenty different tags selected from the MARC21 format as required fields for full-level cataloguing by the public libraries in the Jaffna district.

000 ? - LEADER ⇨
≡ 00   fixed length control field

001 ? - CONTROL NUMBER (கட்டுப்பாட்டு எண்) ⇨
≡ 00   நிரல்

003 ? - CONTROL NUMBER ISSUING AGENCY IN SRI LANKA (கட்டுப்பாட்டு எண்ணை வழங்கும் நிறுவனம்)) ⇨
≡ 00   நிரல்

008 ? - FIXED-LENGTH DATA ELEMENTS--GENERAL INFORMATION ⇨
≡ 00   fixed length control field

020 ? ☐ ☐ - ISBN 🖥 🖎

☰ a   சர்வதேச நியம நூல் எண் (ISBN) ☐

040 ? ☐ ☐ - CATALOGING SOURCE (பட்டியலாக்க மூலம்) 🖎

☰ a   Original cataloging agency (மூலப் பட்டியலை த் தயாரித்த நிறுவனம்) ☐

☰ b   Language of cataloging (பட்டியலின் மொழி மூலம்) ☐

☰ c   Agency Transcribed to machine-readable form (கணினி வழிப் பட்டியலாக்கம்) ☐

☰ d   Agency made correction to the records (பதிவில் திருத்தை மேற்கொண்ட நிறுவனம்) ☐

☰ e   Description conventions (விவரண விதிகள்) ☐

082 ? ☐ ☐ - DDC பகுப்பாக்கம் 🖥 🖎

☰ 2   DDC பதிப்பு எண்   22

☰ a   பகுப்பெண் ☐

☰ b   கூறு எண் - ஆசிரியர் அடையாளம் ☐

100 ? ☐ ☐ - பிரதம பதிவு–ஆசிரியர் பெயர் (PERSONAL NAME) ✆ ✍

≡ **a**   ஆசிரியர் பெயர்   [＿＿＿＿＿＿＿＿]

≡ **e**   ஆக்கத்தின் உருவாக்கத்திற்கான ஏனைய வகிபங்கு   [＿＿＿＿＿＿＿＿]

---

110 ? ☐ ☐ - பிரதம பதிவு–கூட்டு நிறுவனத்தின் பெயர் (CORPORATE NAME) ✍

≡ **a**   கூட்டு நிறுவனத்தின் பெயர்   [＿＿＿＿＿＿＿＿]

---

111 ? ☐ ☐ - பிரதம பதிவு–மாநாடுப்பெயர் (MEETING NAME) ✍

≡ **a**   மாநாடுப்பெயர்   [＿＿＿＿＿＿＿＿]

---

130 ? ☐ ☐ - பிரதம பதிவு–சீரமைவுத்தலைப்ப (UNIFORM TITLE) ✍

≡ **a**   சீரமைவுத்தலைப்பு   [＿＿＿＿＿＿＿＿]

---

245 ? ☐ ☐ - தலைப்பு விபரம் ✍

≡ **a**   பிரதான தலைப்பு   [＿＿＿]

≡ **b**   தலைப்பின் எனைய விபரங்கள்   [＿＿＿]

≡ **c**   ஆக்கத்திற்கு பொறுப்பானவர் கூற்று   [＿＿＿]

---

250 ? ☐ ☐ - ~~தொடர்விபரம்~~ ✍

≡ **a**   பதிப்பு   [＿＿＿]

---

260 ? ☐ ☐ - வெளியீட்டு விபரம் ✆ ✍

≡ **a**   வெளியீட்டிடம்   [＿＿＿]

≡ **b**   வெளியீட்டாளர்   [＿＿＿]

≡ **c**   வெளியீட்டாண்டு   [＿＿＿]

440 ? ☐ ☐ - தொடர் தலைப்பு விபரம்- SERIES STATEMENT/ADDED ENTRY–
TITLE 🖻 🖎

≡ a   தலைப்பு

☐ 🖉

500 ? ☐ ☐ - பொது விபரங்கள் 🖻 🖎

≡ a   General note (பொது விபரம்) ☐

600 ? ☐ ☐ - விடய மேலதிக பதிவு–தனிநபர் பெயர் (PERSONAL NAME) 🖻 🖎
≡ a   தனிநபர் பெயர் ☐

610 ? ☐ ☐ - விடய மேலதிக பதிவு – கூட்டு நிறுவனத்தின் பெயர் (CORPORATE NAME) 🖻 🖎
≡ a   கூட்டு நிறுவனத்தின் பெயர் ☐

630 ? ☐ ☐ - விடய மேலதிக பதிவு–சீரமைவுத்தலைப்பு (UNIFORM TITLE) 🖻 🖎
≡ a   சீரமைவுத்தலைப்பு ☐

650 ? ☐ ☐ - விடய மேலதிக பதிவு – திறவுச் சொற்கள் (TOPICAL TERM) 🖻 🖎
≡ a   விடயத் தலையங்கம் ☐

Figure 10: The required MARC framework to support the Cooperative Cataloguing.

7. Assign an identity for the record in the Cooperative Cataloguing system

The transcribed data should be assigned an identity to precisely find it from the data storage. The respective data will be imported to the concerned library system employed by a library using the same identity. The identity is usually known as the control number. Figure 11 shows the availability of a control number supplied by the library of Congress for publication. It is an example that a similar control number is

usually provided by the library of Congress for the publications for which it gives the qualified data for Cooperative cataloguing.
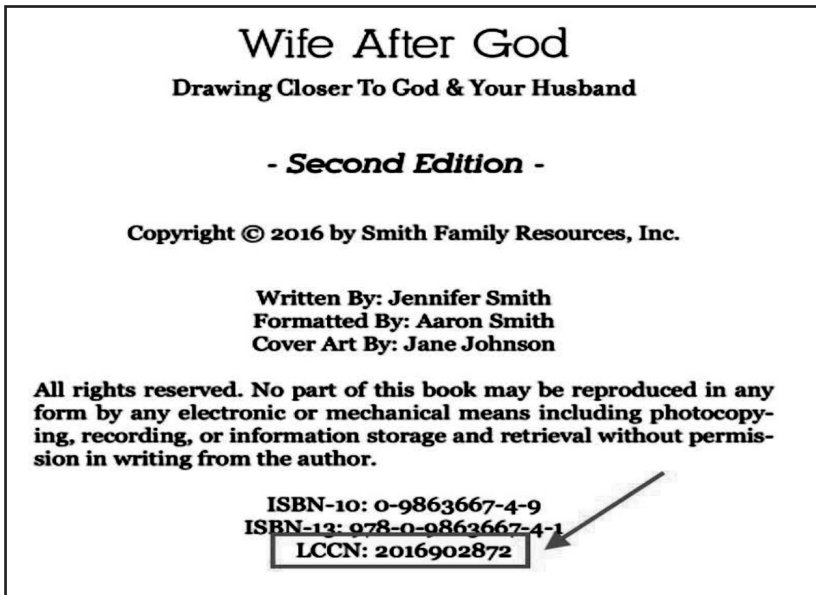
Figure 11: The supplement of control number by the library of Congress.

8. Keep the records in a system enabled with bibliographic communication

The metadata that is standardised and transcribed in MARC format according to the error analysis of the original records should be archived in a metadata service platform. Further, the system should support the bibliography communication standards like SRU- Search/Retrieve via URL or SRW - Search/Retrieve via Web service.

9. Restrict the library system under authority control

In order to enjoy the method and techniques of Cooperative Cataloguing, the library system should be enabled with a mandatory coded value system to avoid free text being entered into the system. Therefore, the only viable method will be to search and import the cataloguing metadata from the archives of a qualified data supply system for Cooperative Cataloguing.

10. Inculcating required skills in users

Well-organised training programs for the metadata service stakeholders should be conducted to facilitate them with the skills required to understand and enjoy the new service of Cooperative Cataloguing. Working with a Cooperative Cataloguing system involves the application of computers. Hence, the computer literacy programmes will enable the users to become competent.

11. Copy the data into the library system

The libraries will be importing the metadata into the library system (Copy-cataloguing), using the control number available with CIP data. Images of Figure 12 structure the steps undertaken in importing cataloguing data into a library system.

Figure 12: Copying metadata from a repository of cataloguing data.

Conclusion

The Cooperative Cataloguing system ensures the supply of quality metadata to discover information resources. The system consisting of qualified records will serve as the data repository. The data in the storage will be qualified based on a group of libraries in a region or state that can fall in cooperation. Later, the participating libraries will capture the data without extra modifications.

Several programs for Cooperative Cataloguing have been undertaken at international levels. However, there is no evidence to have such a programme at the national level to support the practice of Cooperative Cataloguing. Diverse activities should be initiated and established to facilitate such programmes

For the practice of Cooperative Cataloguing, a metadata service system should be created consisting of the bibliographic data contributed by the sources participating in Cooperative Cataloguing. First, the bibliographic data should be transcribed into a MARC format by referring to the findings of error analysis on selected source data. Later, the transcribed metadata in MARC format should be archived and indexed in the system for the service. Finally, the cataloguing expert should review the metadata data and the service.

The records need to be successfully modified for correct punctuations suitable for a MARC system based on error analysis. A collection of authority data with proper punctuations should be prepared and indexed in the same system for the authority control practice by the public libraries. The correct abbreviations for contributors should be defined in a regional context and used with the proper MARC designation.

Further, diverse types of editing should be completed to modify the source records to build a collection of qualified data sets to be archived and indexed in the system.

The abbreviations accommodate the changes needed for regional or national publication without violating the rules specified in the standard cataloguing scheme should be used for the order of edition, edition, pages, and volumes. The collection of MARC tags and respective subfields should be selected from the MARC21 format for the necessary bibliographic communication in support of full level Cooperative Cataloguing by the public libraries.

Finally, the modified records should be transcribed into correct MARC designations (tags and subfield) before migrating into the repository. Before introducing the service, essential computer literacy and training programmes should

be conducted for the service stakeholders. The plan of establishing Cooperative Cataloguing requires the collective efforts of the cataloguing community and the authorities to move forward. The public library must not be absent at this critical moment of generational transition.

Incorporating the cooperative cataloguing by the libraries will have multi-dimensional benefits. The burden on repetition of data entry will be relaxed. Expertise in preparing metadata will not be required at an institutional level. The full level catalogue will be available in all libraries regardless of their size and collections. Hence, the information resources will be found with exact discovery (search, find, recognise and select) from the library indexed database. In addition to the facilities, lesser time will be required to shelve the resource for browsing in the library. Ultimately, successful bibliographic communication will facilitate the Cooperative and Union gateways for knowledge discovery.

Bibliography

Anderson, G. (1994). Symmetry and Extrapolation: Passion and Precision: Cooperative Cataloging at the Beginning of the 21 st Century. Cataloging & Classification Quarterly, 17(3-4), 39-73. doi: 10.1300/J104v17n03_03

Banush, D. (2010). Cooperative Cataloging at the Intersection of Tradition and Transformation: Possible Futures for the Program for Cooperative Cataloging. Cataloging & Classification Quarterly, 48(2-3), 247-257. doi: 10.1080/01639370903535742

Cechinel, C., Sánchez-Alonso, S., & Sicilia, M. Á. (2009). Empirical Analysis of Errors on Human-Generated Learning Objects Metadata, Berlin, Heidelberg.

Charbonneau, M. D. (2010). Program for Cooperative Cataloging: The Indiana Experience. Cataloging & Classification Quarterly, 48(2-3), 113-125. doi: 10.1080/01639370903535593

El-Sherbini, M. (2010). Program for Cooperative Cataloging: BIBCO Records: Analysis of Quality. Cataloging & Classification Quarterly, 48(2-3), 221-236. doi: 10.1080/01639370903535726

Franks, A. R. D., & Cristán, A. (2000). International Cooperation in the Program for Cooperative Cataloging: Present and Prospects. Cataloging & Classification Quarterly, 30(4), 37-51. doi: 10.1300/J104v30n04_06

Hixson, C., & Garrison, W. (2002). The Program for Cooperative Cataloging and Training for Catalogers. Cataloging & Classification Quarterly, 34, 355-365. doi: 10.1300/J104v34n03_07

Khurshid, Z. (1992). Cooperative Cataloging: Prospects and Problems for Libraries in Saudi Arabia. Library resources & technical services, 41, 267-272. doi: 10.5860/lrts.41n3.264

Mandel Carol, A. (1992). Cooperative Cataloging: Models, Issues, Prospects. In P. G. Irene (Ed.), Advances in Librarianship (Vol. 16, pp. 33-82): Emerald Group Publishing Limited.

Maurer, M. B. (2000). Why the Program For Cooperative Cataloging (PCC) Core Records Change Copy Cataloging. Serials Review, 26(2), 94-97. doi: 10.1080/00987913.2000.10764590

Panchyshyn, R. S., & Park, A. L. (2014). Resource Description and Access(RDA) Database Enrichment: The Path to a Hybridized Catalog. Cataloging & Classification Quarterly, 53(2), 214-233. doi: 10.1080/01639374.2014.946574

Riemer, J. J., & Morgenroth, K. (1994). Hang Together or Hang Separately. Cataloging & Classification Quarterly, 17(3-4), 127-161. doi: 10.1300/J104v17n03_07

Rosenblatt, S. (1994). The National Coordinated Cataloging Program from the Participant's Perspective. Cataloging & Classification Quarterly, 17(3-4), 189-199. doi: 10.1300/J104v17n03_09

Schuitema, J. E. (2010). The Future of Cooperative Cataloging: Curve, Fork, or Impasse? Cataloging & Classification Quarterly, 48(2-3), 258-270. doi: 10.1080/01639370903536088

Sellberg, R. (2010). Cooperative Cataloging in a Post-OPAC World. Cataloging & Classification Quarterly, 48(2-3), 237-246. doi: 10.1080/01639370903535734

Shieh, J., Summers, E., & Day, E. (2002). A Consortial Approach to Cooperative Cataloging and Authority Control. Resource Sharing & Information Networks, 16(1), 33-52. doi: 10.1300/J121v16n01_04

Stegaeva, M. V. (2016). Cooperative cataloging: History and the current state. Scientific and Technical Information Processing, 43(1), 28-35. doi: 10.3103/S0147688216010056

Thomas, S. E. (1996). The Core Bibliographic Record and the Program for Cooperative Cataloging. Cataloging & Classification Quarterly, 21(3-4), 91-108. doi: 10.1300/J104v21n03_07

Thomas, S. E., & Younger, J. A. (1994). Cooperative Cataloging. Cataloging & Classification Quarterly, 17(3-4), 237-257. doi: 10.1300/J104v17n03_11

Tillett, B. B. (1994). Catalog It Once for All. Cataloging & Classification Quarterly, 17(3-4), 3-38. doi: 10.1300/J104v17n03_02

Turner, A. H. (2010). OCLC WorldCat as a Cooperative Catalog. Cataloging & Classification Quarterly, 48(2-3), 271-278. doi: 10.1080/01639370903536237

Watson, M. (2006). Top Five Reasons Why Library Administrators Should Support Participation in the Program for Cooperative Cataloging1. University of Oregon, 5(3).

Wiggins, B. (1998). The program for cooperative cataloging,. Proc. of the Taxonomic Authority Files Workshop.

Wooden, R. (2006). The future of public libraries in an internet age. National Civic Review, 95, 3-7.

(2005) Spatial Data Infrastructures and related concepts. In: Geographic Information Metadata for Spatial Data Infrastructures. Springer, Berlin, Heidelberg. https://doi.org/10.1007/3-540-27508-8_1

Accessed from internet on December 9, 2021

Association for Library Resources and Technical Services, "Public Librarians in Technical Services e-Forum, February 23-24, 2010, "http://www.ala.org/alcts/confevents/upcoming/e-forum/022310public

Bibliographic Records, "Functional Requirements for Bibliographic Records" https://www.ifla.org/wp-content/uploads/2019/05/assets/cataloguing/frbr-lrm/frbr-lrm_20160225.pdf

IFLA Study Group on the Functional Requirements for

Program for Cooperative Cataloguing, https://www.loc.gov/aba/pcc/

Program for Cooperative Cataloguing, Cataloguers Learning Workshop (CLW), http://www.loc.gov/catworkshop/

Metadata Standards Directory in Research Data Alliance, generated by GitHub Pages and maintained by Sean Chen, Kate Anne Alderete, and Alex Ball., http://rd-alliance.github.io/metadata-directory/standards/

About the Author:

The author, Mr. S. Ketheeswaren, has been serving as a Senior Assistant Librarian at the University of Jaffna since 2006. The author has recently completed his PhD in Library and Information Sciences. Earlier, he got a master's degree in the same field. Mr. Ketheeswaren is a holder of BSc honours in Physics and a Master's degree in Physics of Materials. He authored four books and published many number of research articles in the field of Library and Information Sciences. Further, he served in capacity of consultant to many projects in Library Automation and Digital Libraries at the regional and national-levels. He has been instrumental in automating more than 25 academic and public libraries.