Bibliographic Transition in France: work in progress

Francija v bibliografski tranziciji: potek in razvojni vidiki

Christelle Gianolio[1], Emmanuel Jaslier[2], Annick Le Follic[3], Françoise Leresche[4], François Pichenot[5], Florence Tfibel[6], Claire Toussaint[7]

ABSTRACT: This article presents the current state of bibliographic transition in France, the approach and the organization that were applied to make library catalogues compatible with semantic web technologies and bibliographic data on the web. In order to achieve this goal, it is necessary to move to entity-based cataloguing built on the IFLA LRM model. After a thorough study of the RDA standard, which was the first step to take, France has chosen to keep some autonomy and create a national cataloguing standard, RDA-FR, which is an Anglo-American standard adapted to the French context. In order to implement this change, the Bibliographic Transition programme has been assigned to two national bibliographic agencies with three operational pillars representing the three facets of the program: standardisation, training and support for the evolution of systems and data. The choices and the issues are given in details, as well as the missions and achievements of the groups. This organisation has been established to ensure a regular flow of information between the operational and strategic levels on one side and between different groups on the other side. Overall consistency is one of the key features of the programme whose role is to bring together and represent all French libraries and French cultural institutions while taking into account their needs and the needs of their users.

KEYWORDS**:** cataloguing training, library management systems, IFLA Library Reference Model (IFLA LRM), cataloguing rules, Resource Description and Access (RDA)

IZVLEČEK: Članek obravnava trenutno stanje bibliografske tranzicije v Franciji ter pristop in organizacijo, ki sta bila uporabljena za uskladitev knjižničnih katalogov s tehnologijami semantičnega spleta in bibliografskimi podatki na spletu. Zastavljeni cilji se lahko dosežejo z uporabo katalogizacije z entitetami, ki temelji na modelu IFLA LRM. Po temeljitem preučevanju standarda RDA, kar je bil prvi korak, ki ga je bilo treba narediti, se je Francija odločila, da bo ohranila nekaj avtonomije in oblikovala nacionalni katalogizacijski standard RDA-FR, ki je anglo-ameriški standard, prilagojen francoskim razmeram. Za izvedbo te spremembe je bil ustanovljen program Bibliografska tranzicija (fr. Transition bibliographique), dodeljen dvema nacionalnima bibliografskima agencijama, ki sloni na treh stebrih, ki predstavljajo tri vidike programa: standardizacijo, usposabljanje ter podporo razvoju sistemov in podatkov. Podrobno so predstavljene odločitve in vprašanja ter naloge in dosežki skupin. Tovrstna organizacija je bila vzpostavljena za zagotavljanje rednega pretoka informacij med operativno in strateško ravnjo na eni strani ter med različnimi skupinami na drugi strani. Splošna usklajenost je ena

---

[1] Christelle Gianolio, Systems and Cataloguing Assistant (Library), Cour internationale de Justice, France, christelle.gianolio@laposte.net.

[2] Emmanuel Jaslier, Head of the Metadata Department, National Library of France, France, emmanuel.jaslier@bnf.fr.

[3] Annick Le Follic, Editor-in-Chief of the Bibliographic Transition Programme, National Library of France, France, annick.lefollic@bnf.fr.

[4] Françoise Leresche, Documentary Standardisation Officer, National Library of France, France, francoise.leresche@bnf.fr.

[5] François Pichenot, Digital Manager, Roubaix Public Library and Municipal Archives, France, fpichenot@ville-roubaix.fr.

[6] Florence Tfibel, Deputy Head of the Metadata Dissemination Service, National Library of France, France florence.tfibel@bnf.fr.

[7] Corresponding author: Claire Toussaint, educational engineer at Médiat Rhône-Alpes, Université Grenoble Alpes, France, claire.toussaint@univ-grenoble-alpes.fr.

ključnih značilnosti programa z nalogo združevanja in zastopanja vseh francoskih knjižnic in francoskih kulturnih ustanov ter upoštevanja njihovih potreb in potreb njihovih uporabnikov.

KLJUČNE BESEDE: katalogizacijska pravila, usposabljanje za katalogizacijo, IFLA Library Reference Model (IFLA LRM), integrirani knjižnični sistemi, Resource Description and Access (RDA)

1 Introduction

Like many European countries, Slovenia has been engaged in the international movement of bibliographic transition. France has been in this process for about ten years with a global approach on the national level. It is an original approach compared to the projects used in other countries as it incorporates a vision that is not limited to the adoption of RDA, which is considered a tool and not a goal in order to achieve the objectives defined in the new *Statement of International Cataloguing Principles* (ICP) (IFLA, 2016) and fully respond to user tasks in the context of the web. To achieve these objectives, the thorough revision of the cataloguing rules is upgraded by professional training on the national level on the underlying data models and these new rules; this additional support also covers the technical prerequisites for a complete and effective fulfilment of the potential of the *IFLA Library Reference Model: a Conceptual Model for Bibliographic Information* (IFLA LRM) (Riva, Le Bœuf and Žumer, 2017) in library management systems and data recovery.

Figure 1: Logo of the Bibliographic Transition programme (source: Transition bibliographique, 2022)

After a historical overview of French works and questions that arose from the very beginning, this article presents the Bibliographic Transition programme (fr. Transition bibliographique) and its detailed organisation including the implemented work groups, management and ongoing considerations.

2 A very particular institutional environment

2.1 A rich, but divided landscape of associations

The organisation and management of the Bibliographic Transition programme can be understood only if we consider the specific situation of libraries in France and the institutional and associative environment in which they engage. Unlike other countries, France is distinguished by the richness and diversity of its professional library and documentation associations, often organised to suit the logical typology of their members: associations of institutions (whose members are representatives of legal persons, i.e. establishments,) such

as AIBM-France[8] or Fulbi[9], or associations of professionals (whose members are professionals joined as individuals), such as ABF[10] or ADBS[11], or even associations involving only management personnel, such as the ADBGV[12] or the ADBU[13]. Finally, while some of these associations are interested in all subjects of their scope of work, others focus only on a restricted perimeter (for instance, Fulbi on integrated systems for library management or lADDNB[14] on digital documents). A very divided landscape, despite the existence of the IABD[15], which brings together sixteen associations, but which does not fulfil the unifying role that ALA[16] plays in the United States.

2.2 Public libraries under different supervision

At the same time, the world of French public libraries has not been made in a monolithic way, even though it can be divided schematically into four main categories:

- educational and research libraries which depend on the Ministry of Higher Education and Research, with the network of university libraries and higher education and research establishments;
- public libraries (city, intercommunal or departmental) under the supervision of the Ministry of Culture, often organised in a local or departmental network and for which the National Library of France constitutes the »network head« at the national level;
- the libraries of primary and secondary schools and libraries of elementary and nursery schools (generally not having permanent staff), under the supervision of the Ministry of National Education;
- finally, the so-called third network libraries, established by the community, companies, hospitals or even prisons.

2.3 Two national bibliographic agencies

This specific institutional environment explains the dualism of bibliographic policy management at the national level, an interministerial competence embodied by the creation of two bibliographic agencies in 1994: the Bibliographic Agency for Higher Education (Abes) for the network of libraries in higher education, and the National Bibliographic Agency, a department of the National Library, for the public reading network.

Since its creation, the main role of Abes has been to promote the pooling of metadata production tools through Système universitaire de documentation (Sudoc) (university documentation system), a shared bibliographic database for higher education libraries, and

---

[8] Association internationale des bibliothèques, archives et centres de documentation musicaux (International Association of Music Libraries, Archives and Documentation Centres).

[9] Fédération des utilisateurs de logiciels pour bibliothèques, documentation et information (Federation of Library, Documentation and Information Software Users).

[10] Association des bibliothécaires de France (Association of Librarians of France).

[11] Association des professionnels de l'information et de la documentation (Association of Information and Documentation Professionals).

[12] Association des directeurs des bibliothèques municipales et intercommunales des grandes villes de France (Association of Directors of Public and Intercommunal Libraries of Major Cities in France).

[13] Association des directeurs des bibliothèques universitaires et de la documentation (Association of Directors of University and Documentation Libraries).

[14] Association pour le développement des documents numériques en bibliothèque (Association for the development of digital documents in libraries).

[15] Interassociation archives, bibliothèques et documentation (Interassociation of Archives, Libraries and Documentation)

[16] American Library Association.

services related to this data: reporting, archiving and validation of theses in digital form through the STAR system[17], shared catalogue of archives and manuscripts Calames[18], platform for the production and reuse of authority data IdRef, etc.

The National Bibliographic Agency, which became the Metadata Department of the National Library of France (BnF) in 2016, coordinates legal deposits, manages its reporting in the National Bibliography and, more globally, the BnF's data production and distribution policy. Since it is an intermediary between Abes and public libraries in terms of bibliographic information and documentary standardisation, it manages services with national competences: ISSN centre[19], Rameau centre, Disability Inclusion centre (Fr.: *Exception Handicap Centre*, which runs the Platon system for adapted editions).

2.4 A body to link these institutions: the Bibliographic Strategic Committee (BSC)

The action of these two agencies has been coordinated since 2012 by an interministerial body, the Bibliographic Strategic Committee (BSC), which brings together the directions of these two agencies and of representatives of their supervisory ministries, the Ministry of Higher Education and Research (MHER) and the Ministry of Culture (MC). The BSC's role is to set the national policy regarding the reporting and dissemination of data produced by French libraries, the development of shared catalogues and even the approaching of cataloguing tools and practices, in particular for the processing of archives and manuscripts in libraries. Hence, the BSC entrusted the task of setting up and managing the Bibliographic Transition programme which should lead to the implementation of the IFLA LRM model in France to the two national bibliographic agencies. In order to achieve this goal, there are three major challenges: designing the cataloguing standard RDA-FR, a version of RDA, preparing an awareness-raising and training programme for all library staff on the national territory and finally implementing information and support strategy for normative and technical developments of BMS publishers.

2.5 A structured and inclusive organisation

These imperatives are reflected in the organisation of the Bibliographic Transition into three groups, where the leaders of these groups constitute the governing body of the programme under the responsibility of the directors of the two agencies. The originality of this organisation lies particularly in the adopted operating methods: the managements of the two agencies direct, arbitrate, set priorities and validate the major strategic choices, though the groups bring up the need for arbitration and guidance. The composition of these instruction groups, made up not only of professionals from the two agencies, but also of library representatives from all over the country regardless of their institutional affiliation, as well as of archivists or members of the book trade, guarantees a very high degree of representativeness, a transversality of points of view and assurance that each individual can contribute his or her skills and bring his or her needs to the national level. This encourages the flow of information in all directions and the first level of convergence of bibliographic practices which should eventually be materialised by the implementation of the standard.

---

[17] Signalement des thèses et archivage (Thesis reporting and archiving).
[18] Catalogue en ligne des archives et manuscrits des établissements de l'ESR (Online catalogue of archives and manuscripts of higher education and research institutions).
[19] International Standard Serial Number.

2.6 Fulfilment of the Bibliographic Transition: the FNE project

Precisely in this context the BCS launched in 2017, upon the proposal of the two national bibliographic agencies, the project for creating the National Register of Entities (Fichier national d'entités (FNE)), which aims to provide to the Abes and BnF network a shared tool for the co-production of metadata, based on the application of the RDA-FR cataloguing standard, for IFLA LRM entities previously belonging to the scope of authority records: agents, concepts, places, time-span, works ... The purpose is to eventually extend co-production beyond this first circle of contributors to other stakeholders: public libraries, archive networks, museum and heritage documentation centres etc. The stakes are multiple for the FNE:

- to enable the real implementation of the IFLA LRM and cataloguing model according to the RDA-FR standard by providing a common production tool for the major stakeholders in the field of bibliographic reporting in France. In this respect, the FNE shall be the first tool based on the RDA-FR ontology which has been developed in 2022;
- to guarantee pooling of production between data production services that describe the same entities in a large part of their catalogues in order to avoid redundant processing and data entry and on the other hand to benefit from the expertise, enrichments and all actions related to data treatment carried out on the territory by sharing them as much as possible;
- to offer to the national community a common tool for managing entities with high added value in terms of bibliography and discoverability (»the authorities are the black gold of libraries«, as we say in France).

3 The origin of the Bibliographic Transition programme in France

3.1 The development of the French cataloguing rules

Officially launched in 2015, the Bibliographic Transition programme is a continuation of the cataloguing standardisation work that has been carried out in France since the 1960s within the framework of the French Standardisation Association (Association française de normalisation (Afnor)). Unlike many countries where professional associations develop and maintain cataloguing rules, France has chosen to carry out this work within the framework of the national standardisation body, more particularly the standardisation committee CN46-9 Information and Documentation – Identification and Description, which mirrors the technical committee TC46/SC9 within the International Standardisation Organisation (ISO).
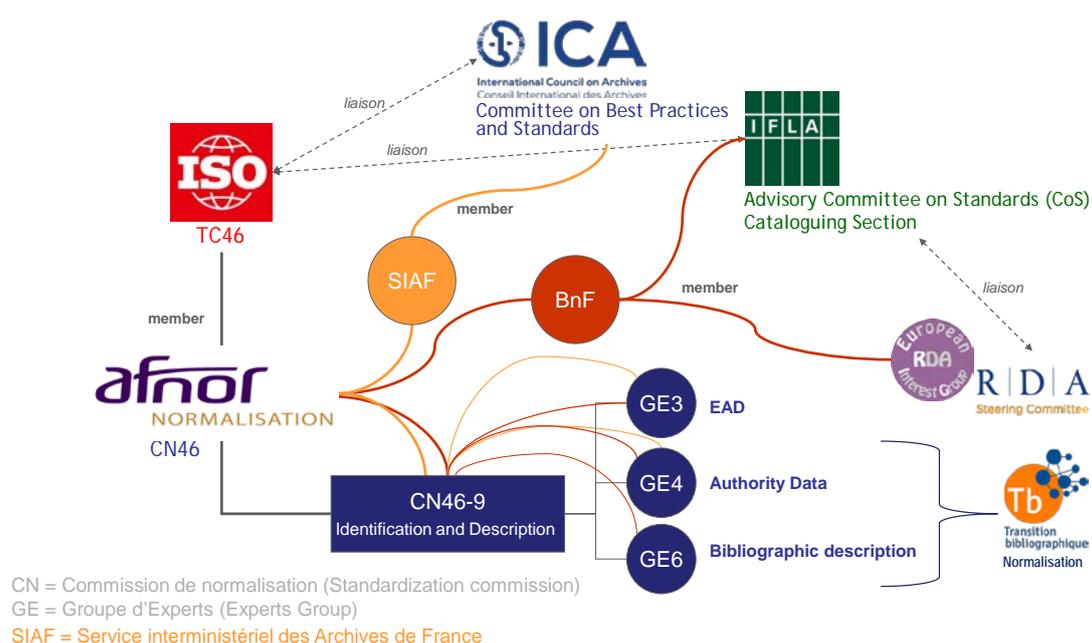
Figure 2: Organisation of documentary standardisation in France, including the development of cataloguing rules (source: Françoise Leresche, 2022)

This choice reflects the wish to have a neutral working and meeting space for professionals from different institutions (libraries, archives, museums, documentation, etc.) and different administrations (ministries of culture, education, higher education and research, etc.). Such a choice indeed fosters the collaboration between cultural institutions across different professions that is much appreciated today: libraries and archives have a tradition of working together and articulating specific standards for the benefit of everyone. This choice has another fundamental consequence which is the main feature of the French cataloguing rules: the reference to international standards, developed in the ISO framework for generic standards (transliteration, units of measurement, monetary symbols, etc.) or the International Federation of Library Associations and Institutions (IFLA) for bibliographic description and its modelling.

The CN 46-9 takes an active part in the work of the IFLA Cataloguing Section, with French representatives in the Section's Permanent Committee and in its working groups: development and revision of the *International Standard Bibliographic Description* (ISBD), development of the models for *Functional Requirements for Bibliographic Records* (FRBR) (IFLA, 2009a) and *Functional Requirements for Authority Data* (FRAD) (IFLA, 2009b), work of the *IFLA Meeting of Experts on an International Cataloguing Code* (IME-ICC) which led to the publication of the ICP (IFLA, 2016) and to the development of the integrated ISBD. It also ensures the French translation of these prescriptive documents after their publication in English by IFLA. When the Joint Steering Committee for Development of RDA (JSC) decided to initiate the revision of the *Anglo-American Cataloguing Rules, 2nd Edition Revised* (AACR), which lead to the development of a new cataloguing standard based on the FRBR model and the ICP, entitled *RDA: Resource Description and Access*, France took part in the consultations on the intermediary texts during the work and sent comments to the JSC (Afnor, 2009). When RDA was published in 2010, it was immediately presented as an internationally oriented

standard and supported by the IFLA Cataloguing Section. Therefore, France should consider whether to abandon the French cataloguing standards that are closely linked to the ISBD and other IFLA normative documents, in favour of RDA, so the task of detailed examination of this new standard is entrusted to CN 46-9 (Figure 2).

3.2 Concerns regarding the adoption of RDA

In 2010, the need for general revision of the French cataloguing standards was recognised by all. The publication of the integrated ISBD actually obviates bibliographic description standards based on different ISBDs specialised by type of resource.

The growing importance of electronic documentation and the role of the web in documentary research require the development of catalogues in order to adapt to web standards and, especially, to propose a network structure for bibliographic information. This is the objective pursued at international level by the ICP (2009), which are based on the FRBR and FRAD models. France shares this analysis and wishes to move towards FRBRised catalogues, not only by converting existing data, but also by directly producing bibliographic data in compliance with the structure of these models, WEMI entities (Work, Expression, Manifestation, Item).

The publication of RDA, a cataloguing standard based on the FRBR and FRAD models, seems to be an opportunity to avoid the need to engage in time-consuming standardisation work when libraries are increasingly delegating cataloguing tasks and the definition of rules which lead to them, to bibliographic agencies. However, RDA is seen in this approach as a way to achieve FRBRised cataloguing, which is not an aim in itself. What is important is compliance with the FRBR model in the implementation choices – some of which may be guided by other considerations (e.g. ease of reuse of existing data).

3.3 The French stance towards RDA

Initially, the work on RDA focused on the question of the adoption of RDA in France, mainly from the point of view of cataloguing rules. Two working groups have been set up: the Technical Group working on the adoption of RDA in France which came from NC 46-9 and the Strategic Group which brings together the bibliographic agencies as well as representatives of the supervisory ministries and professional associations. In 2012, following the RDA analysis report presented by the Technical Group, the Strategy Group took several decisions:

- not to adopt RDA as is due to major discrepancies in the bibliographic analysis and implementation choices of the FRBR model;
- to participate in the development of RDA in order to progressively remove the obstacles to its adoption in France through the European Interest Group on RDA (EURIG) whose members are the two national bibliographic agencies;
- to develop a French cataloguing standard which shall enable the creation of FRBRised bibliographic data, based as much as possible on RDA, but retaining the French analysis in case of major disagreement. The main references shall remain the normative documents developed by IFLA (Models of Bibliographic Information, ICP and the international ISO standards.

These decisions are included into the orientation report (Abes, BnF, 2012) prepared by the two national bibliographic agencies, Abes and BnF, and published in 2012 defining a more general vision of the organisation of bibliographic information in France. They were confirmed

two years later by a statement issued by the two national bibliographic agencies, entitled *De RDA en France à la Transition bibliographique* (Abes, BnF, 2014) which clarified France's strategy and its position towards RDA. In order to achieve the objectives defined in these two documents, a new organisation was set up confirming the essential role of bibliographic agencies in managing the change towards catalogues adapted to the web and libraries that are present and active on the web: the programme of Bibliographic Transition.

4 The issues raised by the adoption of RDA

When RDA was published in 2010, the question of its adoption in France was considered from several points of views (bibliographic, certainly, but also economic, organisational, etc.) which raised various issues.

The main arguments in favour of adopting RDA were the following:

- cataloguing standard in compliance with the ICP and based on the modelling of bibliographic information, in particular WEMI entities, enabling the creation of usable data on the web of data, thus complying with the objectives of the Bibliographic Transition;
- savings in terms of work on national standardisation, as most of the work on the transformation of rules to conform to the WEMI structure had already been done by the JSC and the Anglo-American library community;
- savings in terms of current cataloguing, as the international designation of the standard shall guarantee a wider practice of collecting bibliographic records (»copy cataloguing«) from foreign repositories, without having to correct the derived records to adjust them to French rules, in particular with regards to the construction of access points.

On the other hand, there were several obstacles to the adoption of RDA in France. The following issues were emphasised:

- abandoning the priority reference to IFLA and ISO normative documents, which is a characteristic of the French bibliographic culture, in favour of a standard written by a particular professional community - Anglo-American libraries. Neither the AACR2 nor the MARC 21 format were really disseminated in French libraries and libraries that used them remain an exception;
- a difference in the structure of catalogues between France where large libraries or networks already had a common practice of links and browsing by bouncing and Anglo-American libraries where links did not exist in a dynamic form. This lack of link culture was reflected in the RDA rules and would lead to a regression of the French catalogues;
- an interpretation of the modelling of bibliographic information to suit economic, historical (reuse of existing records) or cultural criteria which did not seem justified to the French experts.

In 2017, RDA was updated in order to take into account the IFLA LRM model. Indeed, the FRBR, FRAD and FRSAD models had been consolidated into the single model IFLA LRM[20] (Figure 3). The IFLA LRM model became the reference for the work of the RDA Steering Committee (RSC)

---

[20] We will refer precisely to this model hereinafter.

as well as for the standardisation of cataloguing in France and the development of the RDA-FR standard.

Figure 3: Diagram of the IFLA LRM model (source: Riva, Le Bœuf and Žumer, 2017)

With the new version of RDA resulting from the '3R project' (*RDA Toolkit Restructure and Redesign Project*) (Dunsire, 2018), a number of pro and con arguments had become obsolete. Two major changes in the objectives and content of the standard have significantly reduced the economic benefits of adopting RDA. On one hand, RDA has become too generic and oriented towards expressing bibliographic information in RDF (W3C, 2014) to be used directly as a cataloguing standard by cataloguers: every professional community, even those which have adopted RDA, needs to define its own application profile and develop detailed instructions in order to complete instructions and provide examples. This is a significant amount of standardisation work that falls to RDA users. On the other hand, since RDA no longer gives precise instructions regarding the construction of access points, which are referred to the instructions associated with the application profile and authorises the use of various vocabularies as long as their source is indicated, the interest in terms of cataloguing time savings when retrieving data is considerably reduced, at least if the notion of coherence of the data within a catalogue and ease of use for the users of this catalogue remains a priority, as stated in the ICP.

This development of events persuaded the management of the Bibliographic Transition programme that the choice made in 2012 to create a French cataloguing standard referring to RDA but respecting the French bibliographic analysis in the implementation of the IFLA LRM model – the RDA-FR, *French Transposition of RDA standard*, was a good decision. The work of the standardisation group which develops this new standard certainly represents a major investment in terms of the experts involved in this long-term project, but it also allows priorities to be managed at national level and a certain amount of autonomy to be maintained,

whereas similar and more constrained work on regular monitoring of RDA developments is required from RDA users anyway.

Beyond the question of cataloguing rules and regardless of the final decision on the adoption of RDA, the transition to a new catalogue structure in compliance with the network structure of the web, which is at the very heart of the bibliographic transition, required support from French libraries.

Two main areas were identified:

- Upgrading the knowledge of skilled staff: information on web-related issues, training in the field of modelling underlying the new cataloguing rules, progressive implementation of these rules;
- Development of library management systems to enable effective technical implementation of the new catalogue structure based on links and identifiers: information is needed for both system providers and data providers (metadata associated with acquisition of resources), as well as for professionals responsible for catalogue management in libraries themselves. At the same time, the preparation of the FRBRisation/LRMisation of existing catalogues has been handed to the national bibliographic agencies whose catalogues (the BnF's General Catalogue and the Abes' Sudoc) are the major repositories for the collection of records by French libraries.

The Bibliographic Transition programme has therefore been organised around these three main components: Standardisation, Training, Systems & Data.

5 French organisational choices

Since its creation, the Bibliographic Transition programme has included in its ranks many professionals from French libraries. In 2021, 136 members were participating in one or more working groups, 40% of whom came from national bibliographic agencies such as Abes and BnF, 24% of whom worked in higher education libraries, 21% of whom worked in specialised libraries such as the library of the Philharmonie de Paris or the library of the Conservatoire National de Musique et de Danse de Paris, and 15% of whom worked in local libraries (public or intercommunal). This diversity is a strategic choice that takes into account the needs of the users of the RDA-FR cataloguing standard and reflects a state of mind which can be found at different levels in the working methods and in the decision-making processes.

The representation of the different professional communities is shown in the organisation of the programme. The members of the groups mostly belong to these three working groups: the »RDA in France« standardisation group, divided into sub-groups, each corresponding to one or more IFLA LRM entities (TB, 2022h), in charge of editing the RDA-FR cataloguing standard; the training group in charge of the national coordination of the training programme (TB, 2021c) and the animation of the network of trainers who provide training throughout France (TB, 2022i); the System & Data (S&D) group, which is responsible for discussions on technical developments related to the UNIMARC format through the French UNIMARC Committee (CfU) (TB, 2022a), and library software.

These working groups are also led by professionals from various backgrounds: Françoise Leresche, in charge of documentary standardisation (fr. Normalisation »RDA en France«); Claire Toussaint, representative of training organisations for librarians (fr. Formation);

Christelle Gianolio, catalogue manager; and François Pichenot, digital manager (fr. Systemes et donnees) (Figure 4). They ensure the technical coordination of the programme amongst colleagues, which corresponds to an operational management level and is reflected in methodological and organisational choices. It is also a question of manifesting the strategic orientations of the Bibliographic Transition into the work plans of the groups and of organising this work. Finally, the role of the group leaders is to give feedback from the groups' considerations to the higher organisational level, the strategic management, in order to clarify their decisions.
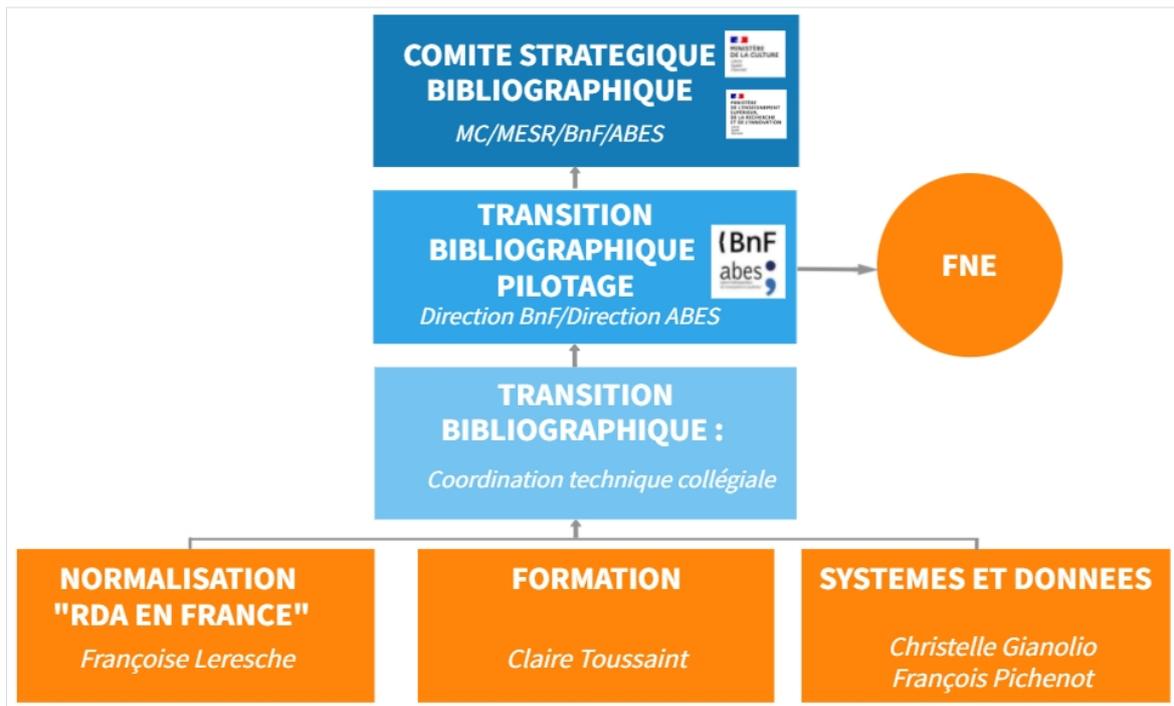
Figure 4: Organisational chart of the Bibliographic Transition (in French) (source: Transition bibliographique, 2021)

The strategic management of the Bibliographic Transition is ensured by the two national bibliographic agencies, Abes and BnF, and constitutes the second pillar of the programme. The strategic managers keep the operational managers informed of the orientations validated by the BSC, which includes representatives of the supervisory ministries of the two agencies[21]; the BSC is the French decision-making body for bibliographic information.

The managers of each group rely on exchanges with the strategic managers in order to establish their work programmes. They coordinate their actions when necessary and can organise joint projects between several groups if relevant. We notice a double movement within this organisational chart, a bottom-up movement, ensured by the group leaders who have the role of supporting the decision by passing on information from their groups representing a large professional community; and a top-down role of applying the strategic decisions taken by the BSC.

---

[21] The Ministry of Culture for the BnF and the Ministry of Higher Education and Research for the Abes.

This organisation allows the Bibliographic Transition programme to incorporate its own issues within the French professional community. These issues are sometimes difficult to understand, but they often get support. They correspond to the values shared by librarians, particularly the value regarding the quality of service provided to the user. One of the foundations of the IFLA LRM model is the consideration of the user's perspective, with five user tasks: find, identify, select, obtain, explore. This approach raises a strong concern of professionals: taking into account the user's point of view and the quality of service.

The implementation of the IFLA LRM model in library catalogues represents a major paradigm change for professionals. It is a question of switching from cataloguing whose aim is to create bibliographic records which describe a resource, sometimes with links between these records, to cataloguing by entities, making it possible to pool certain data which describe the resources, with more numerous relationships between this data. The impact of this change on professional practices will be significant, particularly for cataloguers, the future producers of this data, but also for all library professionals who provide information, bibliographic research, collection management or user training. The Bibliographic Transition has taken into account the importance of this change with the Training and Systems & Data groups; the first group builds training courses that are based on a well-argued discourse, resulting from collective reflections within the group and the second one deals with the impact of the Bibliographic Transition on data production and on library management systems (LMS).

This organisation is reflected in the meetings of the working groups during the year in order to draft the RDA-FR standard, to build a national training offer and to carry out a reflection on BMS and data production that could lead to the production of recommendations. The leaders of the Standardisation, Training and Systems & Data groups meet to ensure the technical coordination amongst colleagues of the programme and organise highlights such as plenary meetings. These plenary meetings take place twice a year, bring together all the members of the programme and have several objectives: to disseminate information within the groups through the presentation of work in progress, to bring the programme to life and create cohesion and collective dynamics, and to contribute to the development of the participants' skills through in-depth presentations.

Thus, the Bibliographic Transition programme reflects by its structure the desire to take into account the needs and points of view of library professionals as users of the RDA-FR cataloguing standard, a long process which guarantees the quality of the standard thus provided.

6 Tasks of the Standardisation Group

As part of the Bibliographic Transition programme, the Standardisation group is responsible for drawing up *the French transposition of RDA* based as far as possible on the international RDA standard without sacrificing the French bibliographic analysis and by underlining differences between the two standards. Within the framework of this work, the Standardisation Group naturally follows the work of the RSC and issues proposals or opinions on the evolution of RDA through EURIG. However, the development of the RDA-FR standard is determined by the needs of French libraries and the priorities defined by the bibliographic agencies with regard to the categories of resources or entities to be treated successively: the timetable of the work is completely independent of the timetable of RDA. The Concepts, Place,

Time-span sub-group is about to publish the RDA-FR rules for the Place entity, whereas the RSC has not yet really addressed this entity.

Following the organisation adopted in France for the development and updating of cataloguing rules, the Standardisation group is also attached to the Afnor Standardisation committee CN 46-9 for Information and Documentation – Identification and Description, to which it regularly reports on the progress of its work, and which organises public enquiries before publishing various chapters of the standard.

6.1 Editing cataloguing rules by IFLA LRM entity

The RDA-FR standard is organised by entities and gathers identification attributes, relationships between instances of the entity and relationships with instances of other entities for each entity contained in the French implementation of the IFLA LRM model. Therefore, the Standardisation group has several sub-groups, each dedicated to one or more entities for which it drafts the rules and provides many French examples. Six sub-groups are currently active:

- Manifestations and Items,
- Work and Expressions: different sub-groups in charge of elaborating rules for individual categories of works and expressions with specific attributes are linked to this sub-group (currently, three specialised sub-groups are active, dedicated respectively to textual works, musical works and continuous resources);
- Persons and Families,
- Corporate Body,
- Concept, Place, Time-span,
- Relationships between entities.

While the two national bibliographic agencies play a leading role in the development of cataloguing rules, in particular by managing various sub-groups, their composition is broad: different categories of libraries are represented to reflect specific needs and expertise; for entities for which interoperability and even collaboration in shared repositories is desired (TB, 2021b), in particular agents and places, other cultural institutions, in particular archives, may be associated in the form of members or associates.

The Normalisation group leader ensures general coordination of the work of various sub-groups, ensuring in particular the consistency of all rules in terms of terminology, but also the organisation and presentation of the rules (rules relating to identification attributes, general rules on relationship elements, definition of relationship indicators). That is why meetings of the heads of the standardisation sub-groups are organised at regular intervals, the frequency of which may vary according to the field to be dealt with.

The Standardisation Group, and more precisely the small group of its sub-group leaders, is also in charge of work related to the actual drafting of the RDA-FR standard: after the evaluation of the new version of RDA based on the IFLA LRM model, which led to the publication of a report presented during the BSC in 2021 (TB, 2021d), the group is now working on two important projects:

- the publication of the RDA-FR standard in the form of a website;

- the definition of ontology reflecting the RDA-FR standard.

6.2 Development of the RDA-FR standard according to strong principles

Like its RDA model, which is an adaptation to the French context, the RDA-FR standard relies on the IFLA LRM model and the ICP. The IFLA LRM model is the first and main reference, since the RDA is considered only as a particular implementation of the model whose choices are examined in the light of the French analysis and needs and adopted when they meet them. At the beginning, the RDA-FR standard was designed as a prefiguration of a future French RDA application profile, which is why convergence with the RDA choices is required wherever possible leading to changes in French practices when these changes, sometimes significant, are deemed relevant to the model. This is also why the alignment between the two standards is precisely documented by indicating at the beginning of each rule of the RDA-FR standard its conformity with RDA or the extent of the changes (from clarifications to complete divergence).

Furthermore, in accordance with the initial request of the strategic management of the Bibliographic Transition, the RDA-FR standard is first and foremost a cataloguing standard whose primary recipients are cataloguers of large and small libraries in France. It differs from the RDA-FR ontology which expresses in RDF the implementation choices of the IFLA LRM model made in the standard, but whose (some purely instrumental) entities are transparent to cataloguers. For example, the Nomen entity is only present in the standard through its declensions (name or title, identifier, access point) treated as attributes of the relevant entity, whereas it is defined as an entity in the ontology to express in RDF the meta-metadata associated with it (language, writing, source, etc.). This is already an important difference for the drafting and presentation of the two standards.

As far as the drafting itself is concerned, the RDA-FR standard uses the style and terminology used in the French translation of the initial version of the RDA, since it was the applicable version at the time when the initial drafting of the French standard began. This is a change for French cataloguers who were used to a more direct and synthetic style similar to ISBD, and who must gradually get used to the new terminology – the adjustment may need hard work and may arouse reluctance. However, the RDA-FR standard favours a pragmatic and practical approach based on the cataloguing cases encountered by the members of the working groups: the rules are detailed and illustrated with numerous examples, some taken from RDA, but many of them correspond to the reality of the French publications. The aim of these rules is to provide a solution for most situations that a cataloguer may encounter in their day-to-day work by explaining and implementing the instructions so that they can be adjusted to similar cases that are not explicitly covered.

As a result, the RDA-FR standard is much richer and more complete than RDA, even for categories of resources well covered by RDA. Finally, it is intended to cover all types of resources present in French libraries, whether they are textual, musical, cartographic, numismatic, etc. or monographs, material published in a series or collected in artificial collections. These different categories of resources are incorporated directly into the rules for events but are to be declined in specialised parts of the standard for works and expressions – which will probably require work over several more years.

The RDA-FR standard should also provide rules for all entities needed in catalogues, including subject analysis. The French implementation of the IFLA LRM model defines new entities in

compliance with the rules on expansion of the model: besides Family and Corporate Body[22], other entities are defined as sub-classes of Res: Concept, Object, Event, Cultural Event (covering in particular shows, exhibitions, etc.), but also Public identity of a person (corresponding to a cluster of nomens used by a person)[23].

The ICP highlight user-friendliness as the primary objective of cataloguing rules. This corresponds to the approach of the Bibliographic Transition programme, but how can it be interpreted in practice? Besides the simplicity represented by the possibility of finding answers to a bibliographic search directly in a search engine, with a reference to a nearby library catalogue to access the physical document, if necessary, the concern for the internal consistency of a catalogue remains predominant in France as a means of guaranteeing search ease and the exhaustiveness of the answers to a query sent to the catalogue. Similarly, the interoperability with other professional communities that share the same entities with libraries, primarily agents, must be enabled. As a consequence, special attention must be paid to the definition of rules for the construction of access points that can be applied by all, by respecting French culture (for names or titles identifying instances that fall within the national perimeter) and articulating common French forms with forms of international value (for names or titles identifying foreign instances).

Another principle put forward to decide between different options for implementing the IFLA LRM model is the principle of economy, but this time considered from the point of view of cataloguing teams. This is expressed particularly in the choices of modelling of aggregates – while the RSC has a different vision of this principle which is directed by considerations of automatic data processing which transfers the task of bringing together and merging of works to the interfaces.

6.3 Considerations on areas of disagreement with RDA

Following the revision of RDA, many points of disagreement between RDA-FR and RDA have been resolved: the priority given by RDA to interoperability by means of identifiers and graph alignment in the web of data has led to the referral of rules on authorised access points, which have a very cultural aspect, to the national application profiles – which resolves the Anglo-American bias argued in the first version of RDA. In addition, the reference to the IFLA LRM model has clarified some problematic modelling issues, in particular with regard to aggregates and continuing resources.

However, there are still some obstacles. The reason for this lies in different interpretation of the IFLA LRM model, and consequently in more or less compatible implementation choices which make it necessary to develop shortcuts or alignments in case of different granularity of the information in order to guarantee interoperability between the data that is produced according to the two standards. This particularly concerns aggregates, relationships between agents and WEMI and the management of pseudonyms.

6.3.1 Processing of aggregates which are collections of expressions
For aggregates that are collections of expressions, RDA has chosen to apply the same lock principle between the aggregative work and the aggregative expression as the IFLA LRM model

---

[22] Two subclasses of Agent are also defined in RDA.
[23] In accordance with the recommendations of the chapter 5.5 of the IFLA LRM model concerning the modelling of bibliographic identities.

has defined between work, expression and manifestation for continuous resources (»WEM lock«). While this is justified for resources that disseminate over time and whose evolution cannot be predicted, this constraint, which does not exist in the IFLA LRM model, seems questionable for monographic aggregates. This constraint also leads RDA to consider that there is no representative expression for aggregates, which does not prevent the standard from using the representative expression attributes to describe the result of the aggregation. Furthermore, relationship with the creators of the aggregative works are established at the manifestation level – probably to be consistent with the treatment of augmentations (another category of aggregates) (Figure 5).
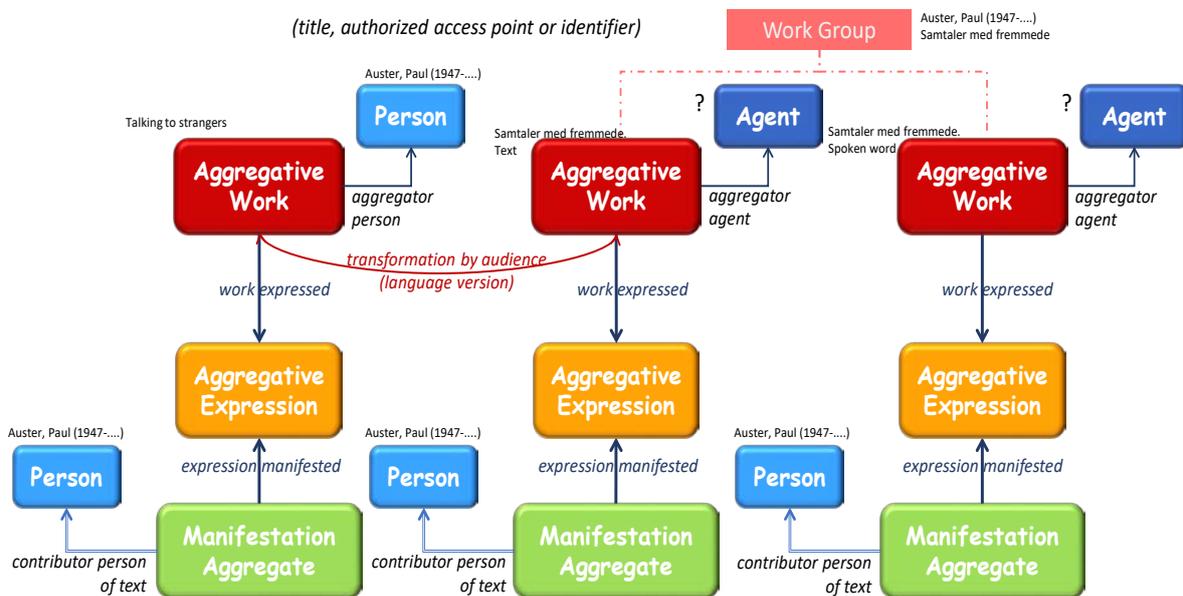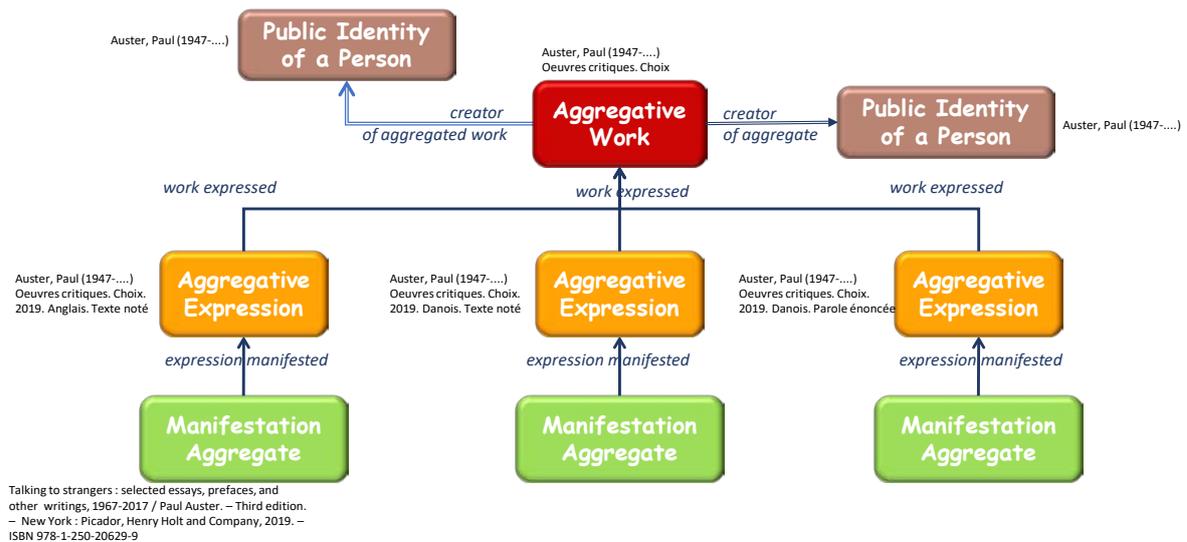

Figure 5: Aggregates which are collections of expressions[24] - Modelling scheme according to RDA[25] (source: Françoise Leresche, 2022)

The French analysis shows that the treatment adopted by RDA is not very functional (loss of grouping by work, distortion between aggregates and other resources when it comes to the distribution of attributes and relationship between WEM entities), not very consistent (who are the creators of the aggregative work corresponding to a new version, for example a translation?, various tricks to link together aggregative works that are in fact variations of the same aggregate) and above all not very economical (creation of a new aggregative work for each new version of the aggregate, repetition of relationship in the creators of the aggregative works in each manifestation). However, these aggregates are very common: they represent the majority of audio-visual resources (sound recordings, video DVDs) and are also numerous in printed resources (complete or selected works, conference proceedings etc.).

---

[24] The modelling scheme is based on an example (*Real world example # 3*, slides 30-32) given by Kathy Glennan, Chair of the RSC, in a presentation to EURIG on 19 May 2020. See: Glennan (2020).
[25] Relationships that are shortcuts are represented by an arrow with a double line.

The RDA-FR standard does not create an exception for these aggregates and applies the same tree structure to them by grouping them by work, as for the other resources. The description of the result of aggregation is mostly done at the expression level. Relationships with creators of aggregative works are established at the level of the aggregative work – this is more economical in case of multiple reissues and also more consistent with the rules related to the construction of authorised access point which represents an aggregative work that brings together works by the same creator (complete or selected works etc.) (Figure 6).

Figure 6: Aggregates which are collections of expressions – Modelling scheme according to RDA-FR (source: Françoise Leresche, 2022)

6.3.2 Relationships between agents and WEMIs

RDA is still marked by the legacy of the old Anglo-American rules which spread a particular interpretation of the notion of work and the role of different player. This is reflected in particular in the definition of relationships between the agents and the WEMI entities, both in the distribution of relationships between four entities and in the distinction between »creators« of a work and »other agents associated« with a work. There are also cultural differences in the definition of these relationships which lead to different distribution between the two standards. Typical examples are audio-visual works, especially films. From the French point of view, filming is inseparable from the creation of a cinematographic work: hence, the actors, but also the director of photography and the other technical and artistic collaborators are associated with the work in the same way as the director or the producer in RDA-FR; RDA, on the other hand, attaches the actors to the expression, in the same way as the other performers (musicians or singers, in the case of musical works for example).

Differences in the implementation of the IFLA LRM model also led to different distributions of relationships, including shortcuts such as shortcuts defined for creators of aggregative works (see *above*).

Additionally, the relationship indicators are generally more detailed and precise in RDA-FR, for example for academic works such as theses.

6.3.3   Management of pseudonyms and other identities used by individuals

While it promotes interoperability on the web through identifiers, RDA is not always compatible with international identifiers. This is especially the case of the *International Standard Name Identifier* (ISNI, 2022), which has become widespread in the cultural industry to identify various stakeholders involved at one stage or another in the creation or distribution of resources. However, ISNI identifies names of resources under which they are produced, it does not claim to identify the agents (in the sense of IFLA LRM) that use these names. It is to ensure easy exchanges with the ISNI database[26] and to guarantee interoperability with applications using the ISNI identifier that has defined a new entity »Public identity of a person« in the RDA-FR standard. This solution helps find different identities that a person may use to publish his/her works, in current cataloguing it enables easy matching of a work and the public identity under which the work was published and clarifies the construction of the access point representing this work.

The RSC did not feel the need to define a new entity and RDA uses attributes and relationships of the Nomen entity to manage different identities used by a person. This is sufficient for exposing data on the web of data, but it is particularly complex for managing operable links between a creator and his or her works within a catalogue.

6.4 An essential long-term project

Since RDA now refers to application profiles a large number of rules on which international consensus would be difficult to achieve, it is no longer a cataloguing standard directly used by cataloguers. It should be supplemented by local or community/network-specific guidelines to deal with cases that fall outside its scope.

RDA-FR is applied when it comes to the definition of French application profile and drafting of precise instructions. It also complements RDA, as it is necessary to define rules for entities that are and will remain outside the scope of RDA, such as fictional entities or entities used in subject analysis. This is the main task of the members of the Standardisation Group.

However, RDA-FR retains its autonomy from RDA as long as differences in interpretation of the IFLA LRM model remain, especially as these differences correspond to important day-to-day cataloguing needs. This autonomy is also a guarantee of independence in managing priorities according to national needs and projects.

The development of the RDA-FR standard is a major investment in terms of human resources and work time, but the results become more and more tangible with the publication of the rules relating to several entities. As far as the general rules are concerned, the RDA-FR standard should be completed by the end of 2025, while the work on defining detailed rules for particular categories of works and expressions will continue beyond that date.

---

[26] BnF and Abes are ISNI agencies that assign ISNI identifiers.

The RDA-FR ontology, whose definition has only begun, will complete this work and will enable the expression of the data created according to the standard in RDF favouring their presence on the web of data and their alignment with data of other communities.

7 Tasks of the Training Group

The main tasks of the Training group are to set up a national training programme and to promote the Bibliographic Transition in France.

This work is being done in permanent interaction with the Standardisation and Systems & Data groups, which allows the identification of relevant topics. The Training Group also relies on good knowledge of the field.

The Training Group distinguishes from the national network of trainers. The group members are more involved. They participate in four annual meetings of the group, in two plenary meetings of the Bibliographic Transition group and may be called upon to manage training creation projects. As for the members of the network, they participate in two annual trainers' days, contribute to the drafting of teaching materials and run courses. Neither the Training Group nor the Trainers' Network have the status of a training organisation, they are national work groups. Therefore, the logistical organisation is carried out by public training bodies which are spread throughout the country.

7.1 Supporting the development of the skills of the Training group

A constant point of interest of the group is to maintain the level of expertise and information on the Bibliographic Transition and the work of the Standardisation and S&D groups for all its members. This is reflected by the number of exchanges on core matters related to RDA-FR or library management systems (LMS) for example. In order to reinforce this need for skills on RDA-FR, the training group started a new activity on practical cataloguing cases prepared by RDA-FR experts in late 2021. A document links the hypertextual link to the bibliographic record of a resource in the BnF catalogue describing its modelling with an WEMI schema and providing an RDA-FR grid by entity with the name and reference of the RDA-FR element. For each element, the group members should fill in the corresponding value. In the second stage of this project, the reference to RDA-FR will be removed, and over time the model will be built (Figures 7 and 8).
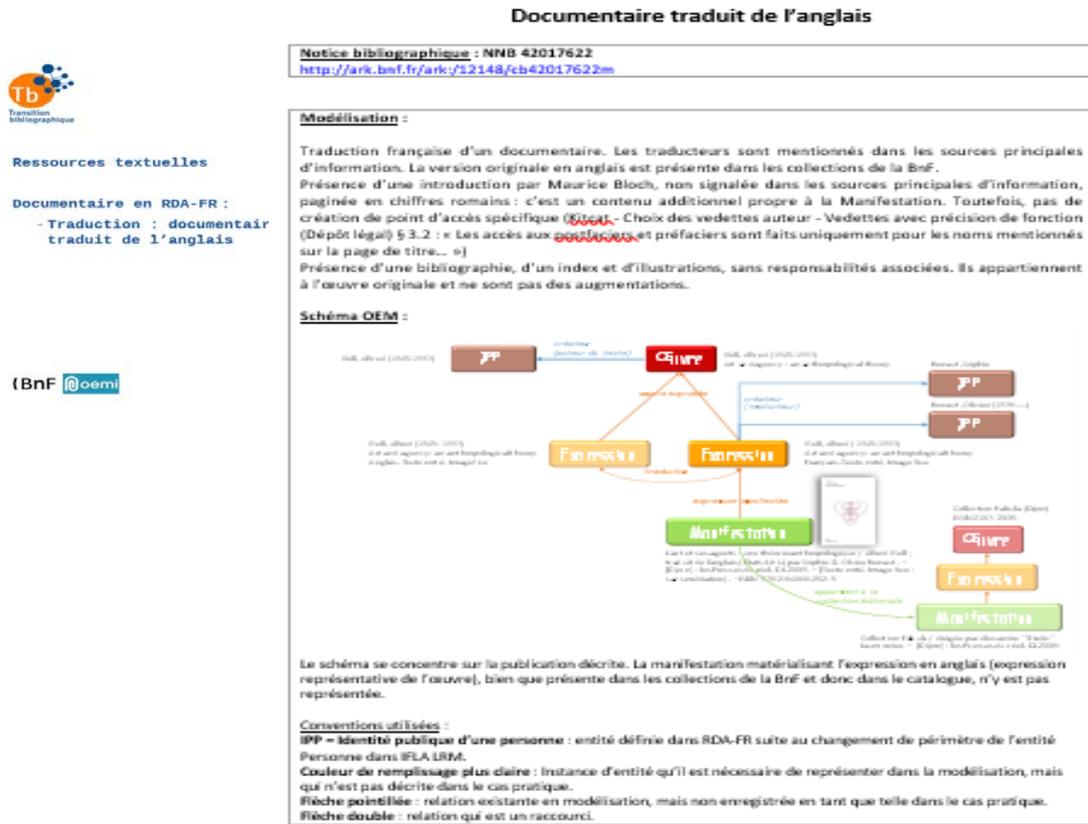
Figure 7: Modelling of a practical cataloguing case (in French) (source: Françoise Leresche, 2022)

Figure 8: RDA-FR grid of a practical cataloguing case (in French) (source: Françoise Leresche, 2022)

This activity has many advantages: in addition to enabling members to increase their skills in terms of cultural integration to the RDA-FR cataloguing standard, it inspires them to take new training courses and informs them on difficulties to be anticipated by professionals in the handling of cataloguing according to the entity-relationship model. It also encourages exchanges and questioning about the appropriation of RDA-FR and IFLA LRM. This work is then retained by the S&D group to produce data in UNIMARC format compatible with IFLA LRM.

7.2 Concept of trainings

7.2.1 Current training offer

The main task of the group is to design the national training program on the Bibliographic Transition. The training is primarily done through internships and teaching materials. The identification of themes is a crucial point as they are collected from the parts of RDA-FR implemented by bibliographic agencies on the one hand, and from the group's reflections and exchanges on the skills that could be useful for the work with the future software on the other.

The training is currently organised around a course whose aim is to raise awareness of the evolution of catalogues, which is available in a version for general public (TB, 2021g) and a version for professional librarians from local libraries (TB, 2021f); a course on the application of the RDA-FR cataloguing rules implemented since 2015; and finally, a course corresponding to sections 2 and 5 of RDA-FR for LMS administrators and documentary IT specialists (TB, 2022j).

7.2.2 Ongoing projects

Several projects are currently being developed. The first project aims to support the practice of record derivation linked with the Bibliographic Transition. The second one aims at acquiring a better knowledge of the IFLA LRM model and will be addressed first and foremost to the members of the Bibliographic Transition. Finally, the last training project could focus on the knowledge of the stakeholders involved in the book chain and in the design and production of documents that libraries collect, such as CDs or DVDs.

7.2.3 Working methodology

Once the theme has been determined, the group formalises the training objectives based on its knowledge of the target audiences and the problems of the Bibliographic Transition. The defined objectives enable to set the scope in terms of content.

Based on the first results, a two-person team is responsible for the conception of the course and the support. This team gathers members of the Training group and members of the network of trainers. The participants collaborate and meet remotely as frequently as it suits them, they regularly report on the progress to the training group during four annual meetings and, on this occasion, share any points that might be a problem in order to find a collective solution. These consultation sessions are often the occasion for rich and numerous exchanges which aim to create a form of consensus on the training choices and opinions developed in the discussion.

Once the training material is finalised and accompanied by user notes, it is presented to the whole training group and experts whom the topic of the material concerns. Time is set aside for re-reading while the feedback comments are reviewed and integrated if they are relevant.

7.3 Organisation of sessions throughout the country

The next step is the dissemination of the training on several levels:

- on dedicated session within the national network of trainers;
- for skilled public by creating a new page on the Bibliographic Transition website;
- within professional training organisations by sending a full presentation.

The trainers shall take over the execution of courses at the request of the training organisations. After 2 to 3 years of implementation, all forms of support shall be fully reviewed, revised and updated by a team established especially for this purpose.

7.4 Benefits of participating in the Training group

Skilled workers and his/her institution participate in the Training group (TB, 2021a) on a voluntary basis. In return, each member increases his or her skills in terms of knowledge of the Bibliographic Transition and also develops his or her ability to conduct training on this subject. This way of operation contributes to the dissemination of the Bibliographic Transition within institutions and encourages the awareness of professional practices and the needs of French libraries. This helps the group develop a communication that is connected with the concerns of French library professionals. There are a few members that represent French-speaking institutions outside France as observers.

Today, the training offer is expanding by taking into account the needs related to the implementation of the Bibliographic Transition in French libraries. This organisation is a real advantage for the Bibliographic Transition programme as well as for French library professionals as it enables the production of high-quality training courses and guarantees their equitable dissemination throughout the country. It is also a great way of sharing the concept of training courses and meeting the professionals from very different backgrounds.

8 Tasks of the Systems & Data Group

After deciding to adapt RDA as a French standard RDA-FR, the Bibliographic Transition programme officially started in 2015 and followed three lines. One of these orientations concerns library management systems (LMS) and the bibliographic data processed by these systems. The main task of the Systems & Data (S&D) group is »to consider what these [BMS] tools might be and to prepare for the migration of data from the current catalogues to the new structure of bibliographic information« (TB, 2022g). These tasks are either addressed by the group as a whole or by working in sub-groups.

As soon as the S&D group was set up, a person outside the bibliographic agencies (BnF and Abes) was chosen to lead the group. This comes from the wish to open up the possibilities for IT developments for the uses of LRM-ed data bearing in mind that the development of the agencies' systems within the framework of their own constraints and needs may not be suitable for all other possible contexts. This choice also facilitates the dialogue with various market stakeholders (BMS publishers, metadata producers, professional community) by separating it from the services of data dissemination offered by the agencies.

8.1 Monitoring and tests on data processing

The group is composed of 30 library professionals. 11 of them come from public reading structures (public and intercommunal libraries, departmental lending libraries), 3 from higher education libraries (university libraries) and 5 from specialised libraries (documentation centres and works council libraries). The bibliographic agencies represent one third of the members with 3 members coming from the Abes and 8 from the BnF.

Broadly speaking, the positions are held by IT managers or persons in charge of business software, cataloguing coordinators or persons in charge of data quality (bibliographic and/or authority). The variety of profiles corresponds to the scope of the group's mission: structured data, either by bibliographic and authority records or by entity records, must be able to be integrated into systems through compatible exchange formats and managed in all their granularity with all their links. During the exchange it ensures a global vision of data processing and impacts on software at all stages: import, correction, research (professional and public) and display.

The main mission of the group is to provide information to professional librarians through publications on developments from a technical point of view or tests. For example, the changes in the Rameau language have had an impact on the authority data in the systems: in 2019, with a significant help of the agencies, the group has proposed an accompanying document in order to modify the data in the catalogues through different scenarios (TB, 2022e). On the other hand, during the last few years we have not seen the implementation of developments related to the Bibliographic Transition in the exchange formats of the agencies.

As far as the tests are concerned, the group monitors ongoing or completed projects, such as the Concordance project of the Bibliothèque Publique d'Information (data cleaning and harmonisation of cataloguing practices), algorithmic processing for Sudoc, implementation of the IFLA LRM model in catalogues with the BnF's Noemi tool and projects concerning the visualisation of data in public interfaces (TB, 2022d).

These tests are also used as material for the *study days* that the group has been offering since 2016 (TB, 2022f). These days traditionally take place in November or December at the BnF. The first sessions remained very general on the Bibliographic Transition: in 2016 on the innovative uses of metadata in libraries, in 2017 with an overview of the work that can be done on data and in 2018 on the current state of the Bibliographic Transition. The next study days have focused on particular aspects, such as in 2019 on authority data, the black gold of libraries. The 2020 session study days brought the main objective of the Bibliographic Transition back into focus, namely entity-based cataloguing, with a brief introduction to four WEMI entities, the developments in UNIMARC for describing works and expressions (thus enabling them to be disseminated by agencies and imported into the systems).

The last study days in 2021 highlighted the level of Expression, whereas the levels of Work, Manifestation and Item are more intuitive and correspond more to the current structuring of the data. The objective of this 2021 day was to explain, through practical cases, this level which is undoubtedly the one that will require the most adjustment and development, particularly in the research field. This day also gave space to user clubs and the role they can play in the IT developments undertaken by BMS editors.

8.2 Presentation of a set of encoded records

The 2022 edition of the study days is based on the presentation of a set of records encoded in the UNIMARC exchange format and consistent with the IFLA LRM model. One of the main contributions of the latest developments in the UNIMARC format is indeed the possibility to express the various WEMI entities (all of these updates will hereafter be referred to as »UNIMARC-LRM«). This dataset, developed by a team from three groups of the Bibliographic Transition Programme and coordinated by the S&D group, is intended as a practical illustration of these new possibilities. Interested professionals (including BMS publishers) will have the kind of data that will allow them to implement three types of tests and/or experiments: testing and improvement of tools for importing the UNIMARC format into systems; development of new (professional and public) search and display functionalities can be explored by exploiting as much as possible the links present in an WEMI tree (corresponding to the complete description of a document declined in the four entities) or internal to the corpus (between entities of different trees); brainstorming on new professional interfaces for data production and on different work steps required to create an WEMI tree from scratch or from entities already existing in the system.

To create this set of records, the team took advantage of the appropriation of the RDA-FR standard used by the Training group to extend it to descriptions in UNIMARC-LRM (see above). Then, using the current bibliographic records and the first tree generated by the BnF tool, the team revised, corrected and amended the necessary entity records. This work has enabled the group members to increase their skills.

8.3 Collaboration in the development of training courses

There are frequent exchanges between the S&D and Formation groups. Members of the S&D group were involved for the first time in the complete creation of a training course, entitled *Data management in the light of the Bibliographic Transition: knowledge requirements for a well-argued exploitation of Works and Expressions* (TB, 2022j). The S&D group made a major contribution to the design of the approach and drafting of training material, in particular for two sections: one dedicated to the functioning of relational databases and the other to the possible settings of SBG and the impacts on the public interface of the catalogue. This first test will be repeated for the training on the derivation of records for public reading libraries that download records from the BnF. The S&D group's contribution should mainly concern warning points at the level of settings, in particular import filters, as well as the creation and updating of records. In both cases, the test of the members of the S&D group using different systems in different contexts helps cover a wide range of cases trying to respond to the different contexts of the trainees of these courses.

8.4 Exchanges with publishers of software solutions for libraries

Previous elements concern mainly library professionals. Publishers of software solutions for libraries have not been forgotten. A dedicated sub-group is devoted to them. The primary motivation for the creation of this sub-group was to manage changes of export profiles of the bibliographic agencies. While the RDA-FR standard was being drafted, changes in cataloguing rules were adopted by the bibliographic agencies with varying degrees of impact on the exported data. Some changes relate to data only and may have an impact on the retrospective. Other changes may concern new UNIMARC fields which must first be created in the system to

ensure that they can be imported and used which also involves the creation of indices. Finally, it may concern the changes within existing UNIMARC fields (new or obsolete subfields, indicators). In the last two cases, most professional librarians have called upon their software provider to integrate these changes. However, depending on the used solutions, maintenance times can lead to delays that create gaps between the real application of changes by agencies and the technical capacities of professional librarians to retrieve and exploit them.

The first step has been to ensure that the two bibliographic agencies apply the changes at the same pace. Subsequently, an implementation schedule was adopted (TB, 2022c) in 2019 in cooperation with BMS publishers (Figure 9).
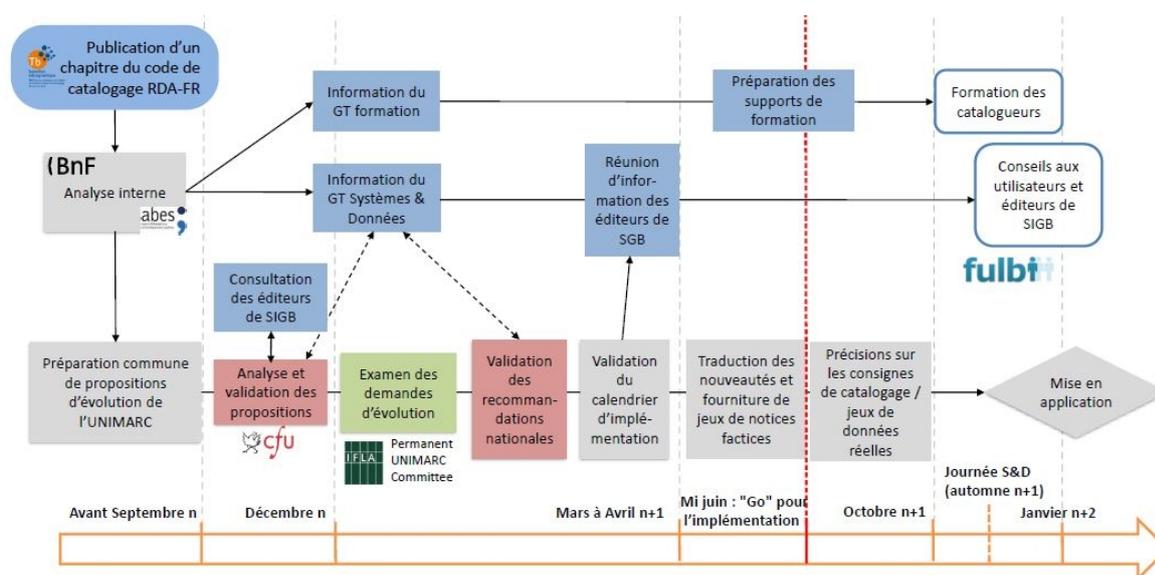

Figure 9: Procedure for the development of the agency format and data (in French) (source: Bibliographic Transition, 2020)

Since then, the pandemic and the lack of change in export formats linked to the Bibliographic Transition have not necessarily confronted it with reality. Whatever changes the agencies make to their export formats, this scheme has the feature of notifying BMS publishers with appropriate documentation before the summer for implementation on the following January 1.

Exchanges with BMS publishers were also rich in 2022. Following the publication of the *Revised RDA Assessment Report* (2019) by the Standards Group (TB, 2021d) the S&D group was mandated to carry out an impact assessment with BMS editors. Instead of taking a very theoretical approach, the S&D group preferred to discuss directly with the publishers. During the first half of the year, the group members conducted 14 interviews with stakeholders on the French market. These interviews underlined the necessity of a roadmap for the future development of the Bibliographic Transition, in particular after the full publication of the RDA-FR standard planned for 2025, so that publishers can have a clear vision and a timetable in order to plan their own development. The conclusions will be presented at the meeting of the Strategic Bibliographic Committee (SBC) in December 2022 and will be the subject of a subsequent communication on the Bibliographic Transition website in early 2023.

The sub-group Dialogue with publishers has also organised the library software users as group in the Federation of Software Users for Libraries, Information & Documentation (Fulbi, 2022). This brings the two sides together: the library professionals who use the software and those who produce it. The intention of the S&D group is to give sufficient information to users to discuss about developments with their BMS provider. One last stakeholder needs to be included in this discussion: the metadata providers. Some of them are specialised in providing records (such as Electre...) or provide data besides acquiring documents (mainly audio-visual suppliers such as Adav, RDM, Colaco, CDMail, GAM...). Moving to entity-based cataloguing may have strong implications, particularly for suppliers whose primary service is not entity-based cataloguing.

8.5 National and international actions within the French UNIMARC Committee

One of these suppliers has already taken part in the dialogue by participating in the French UNIMARC Committee (TB, 2022a). The CfU was created in 2000 on the initiative of the Fulbi and the BnF. The aim was to build a permanent structure at national level to prepare the French position on certain issues within the Permanent UNIMARC Committee (PUC) as an international body. In this light, the first mission of the CfU is to identify, examine and formalise requests for modifications to the UNIMARC format in order to present them to the PUC. The CfU also examines modification requests submitted to the PUC by foreign libraries. It ensures the dissemination of information on the work of the PUC and the French translation of UNIMARC formats. It also publishes recommendations for the exchange of bibliographic data in France, such as the recommendation for the description of data on copy for the exchange of bibliographic information in UNIMARC format, published in 1998 and revised in 2020 (TB, 2022b).

The composition of the group reflects the heterogeneity of the French community which uses the UNIMARC format: there are of course professional librarians from bibliographic agencies (Abes and BnF) and from public and university libraries, but also representatives of bibliographic data providers and BMS publishers. Its members have an important role in identifying needs and requests for modifications: agency representatives gather feedback from the public they cover. One can get in touch with the CfU through its members or on the Bibliographic Transition website. Once the needs have been identified, they are analysed once a year by the group which discusses the possibilities of changing the format in order to meet the needs. The heterogeneity of the group diversifies the discussion from various perspectives: bibliographic by the presence of the library professionals; documentary computing and technical compatibility with the recent integration of BMS suppliers. One or more editors within the CfU take(s) on the task of shaping the proposals in the form requested by the PUC. The drafted proposals are reviewed collectively by the CfU and then forwarded to the PUC a few months before its annual meeting, so that the PUC can discuss proposals for format changes.

During the annual meeting, the CfU representative presents the French proposals, which are discussed and then rejected or accepted and modified if required. Once the proposals are accepted, the changes are published and integrated into the format by the PUC and can be implemented. The CfU then translates and publishes the format updates on the TB site. In the case of particularly complex proposals, the CfU may draft a working document outlining the relative issues and forwards it to the PUC for discussion prior to draft one or more format

development proposals. In this case, the working document is presented the first year, and the proposal(s) are drafted and discussed the following year.

In order to implement the Bibliographic Data Transition, it is necessary that the formats used by libraries and their partners to produce and exchange data are compliant with IFLA LRM and RDA-FR. As UNIMARC is the French national exchange format and also the production format of a large number of libraries, the role of CfU is essential. The CfU drafts and advocates proposals for the format development to bring it into line with this conceptual model and this cataloguing standard. A series of proposals submitted by the CfU in 2020 and published by the PUC in 2021 now allow the creation of works and expressions records in UNIMARC. Initial elements were adopted by UNIMARC in 2012 on a French proposal.

8.6 Development of Bibliostratus, a metadata alignment tool

Finally, the S&D group supplies to library professionals a metadata alignment tool, Bibliostratus. French documentary institutions are strongly encouraged to integrate into their local records the identifiers of the records describing the same entity in the general catalogue of the BnF, the Sudoc[27] or IdRef[28]. In this way, these institutions will be able to benefit from the MLA work carried out by each of the two national agencies.

Figure 10: Bibliostratus picto (source: Transition bibliographique, 2022)

Bibliostratus offers a set of functionalities enabling the necessary alignments to be made. The software is licensed under the GNU licence (TB, 2022k) and updated regularly, according to the needs expressed by the users. The latter can benefit from support in the form of documentation, a forum or workshops.

If Bibliostratus is first and foremost conceived as a tool dedicated to the Bibliographic Transition, it also fills the obvious lack of data curation tools that are easy to use, without any programming knowledge, to perform various kinds of work on data.

The S&D group therefore has several roles. It focuses on the present in order to facilitate exchanges between various stakeholders in the bibliographic transition and to guide them during the development with the production of documentation. It also looks towards the future to anticipate and imagine how entity-based cataloguing will impact the work of professional librarians and the services they offer to their users.

9 Conclusion

After about a decade where the drafting of new cataloguing rules for entity-based cataloguing was at the centre of the work, this phase is gradually coming to an end and the other two facets of the programme will become predominant. This new phase is just as important as the

---

[27] The Système Universitaire de Documentation (Sudoc) catalogue is the French union catalogue produced by the libraries and documentation centres of higher education and research and maintained by the Abes (Abes, 2022b).
[28] The web application »Identifiers et Référentiels pour l'Enseignement supérieur et la Recherche« (IdRef) is developed and maintained by Abes. IdRef allows users and third-party applications to query, consult, create and enrich authorities (Abes, 2022a).

real implementation of the new cataloguing rules in catalogues whose relational structure expresses the relationships between entities.

This relational structure marks a break with the current structure of catalogues and must be understood by all professional librarians in order to improve user services or create new services based on user experience. Its implementation in all French libraries is a long-term project which will be supported by the bibliographic agencies in terms of data supply and progressive LRMisation of catalogues. The renewal of BMS is subject to economic constraints and local decisions of institutions and their supervisory bodies: therefore, the work that involves both the Training and S&D group includes library professionals and BMS suppliers to explain the benefits and challenges of the Bibliographic Transition. This work is to be continued in a long term, with a strong focus on quality and international developments, while integrating at the same time innovative practical achievements as a source of inspiration for the professional community as a whole.

Resources

Abes, 2022a. Agence bibliographique de l'enseignement supérieur (France), *À propos d'IdRef*. Available at: https://www.idref.fr/a_propos.jsp [30. 8. 2022].

Abes, 2022b. Agence bibliographique de l'enseignement supérieur (France). *Page d'accueil du Sudoc*. Available at: http://www.sudoc.abes.fr [30. 8. 2022].

Abes, BnF, 2012. Agence bibliographique de l'enseignement supérieur (France), Bibliothèque nationale de France. *Rapport d'orientation pour le Comité stratégique bibliographique*. Available at: https://www.transition-bibliographique.fr/wp-content/uploads/2019/03/rapport_csb.pdf [18. 8. 2022].

Abes, BnF, 2014. Agence bibliographique de l'enseignement supérieur (France), Bibliothèque nationale de France*. De RDA en France à la Transition bibliographique*. Available at: https://www.transition-bibliographique.fr/wp-content/uploads/2015/05/communique201411_transition_bibliographique.pdf [18. 8. 2022].

Afnor, 2009. Association française de normalisation. Commission de normalisation CG46/CN357 Modélisation, production et accès aux documents. *French comments on RDA*. Available at: http://www.rda-rsc.org/archivedsite/docs/5rda-fulldraft-chairfolup7.pdf [18. 8. 2022].

Dunsire, Gordon, 2018. *Outcomes of the RDA Toolkit Restructure and Redesign Project*. Available at: http://www.rda-rsc.org/sites/all/files/RSC-Chair-19.pdf [20. 8. 2022].

Fulbi, 2022. Fédération des utilisateurs de logiciels pour bibliothèques, information & documentation (France). *Statuts de l'association*. Available at: https://fulbi.fr/qui-sommes-nous/statuts-de-lassociation/ [10. 8. 2022].

Glennan, Kathy, 2020. *RSC Report to EURIG, 19 May 2020*. Available at: http://www.rda-rsc.org/sites/all/files/Eurig%20report%20from%20RSC%20Chair.pdf [28. 8. 2022].

IFLA, 2009a. IFLA Study Group on the Functional Requirements for Bibliographic Records. *Functional requirements for bibliographic records: final report, Saur, 1998. Révisé en 2009.*

Available at: https://cdn.ifla.org/wp-content/uploads/2019/05/assets/cataloguing/frbr/frbr_2008.pdf [20. 9. 2022].

IFLA, 2009b. IFLA Working Group on Functional Requirements and Numbering of Authority Records (FRANAR). *Functional requirements for authority data: a conceptual model : final report, K. G. Saur, 2009*. Available at: https://cdn.ifla.org/wp-content/uploads/files/assets/cataloguing/frad/frad_2013.pdf [20. 9. 2022].

IFLA, 2016. IFLA Cataloguing Section and IFLA Meetings of Experts on an International Cataloguing Code. *Statement of International Cataloguing Principles: ICP. 2016 edition with minor revisions, 2017.* Available at: https://www.ifla.org/files/assets/cataloguing/icp/icp_2016-en.pdf [20. 9. 2022].

ISNI, 2022. ISNI International Agency. *Home page of ISNI*. Available at: https://isni.org [30. 8. 2022].

Riva, P., Le Bœuf, P. and Žumer, M., 2017. *IFLA Library Reference Model: a conceptual model for bibliographic information*. Available at: https://www.ifla.org/files/assets/cataloguing/frbr-lrm/ifla-lrm-august-2017_rev201712.pdf [20. 9. 2022].

TB, 2021a. Programme Transition bibliographique (France). *Le nouveau visage du groupe Formation de la Transition bibliographique*. Available at: https://www.transition-bibliographique.fr/2021-12-01-nouveau-visage-groupe-formation-transition-bibliographique/ [6. 7. 2022].

TB, 2021b. Programme Transition bibliographique (France). *Le projet Fichier national d'entité*s. Available at: https://www.transition-bibliographique.fr/fne/fichier-national-entites/ [10. 8. 2022].

TB, 2021c. Programme Transition bibliographique (France). *Offre de formation*. Available at: https://www.transition-bibliographique.fr/se-former/modalites-pratiques/ [12. 5 2022].

TB, 2021d. Programme Transition bibliographique (France). *Rapport d'évaluation de RDA révisé (2019)*. Available at: https://www.transition-bibliographique.fr/2021-06-24-rapport-evaluation-rda-revise-2019/ [10. 8. 2022].

TB, 2021e. Programme Transition bibliographique (France). *Stage »Règles de catalogage RDA-FR relatives aux manifestations en application depuis 2015«*. Available at: https://www.transition-bibliographique.fr/se-former/stage-regles-rda-fr/ [6 juillet 2022].

TB, 2021f. Programme Transition bibliographique (France). *Stage »Sensibilisation à l'évolution des catalogues« pour la lecture publique*. Available at: https://www.transition-bibliographique.fr/se-former/programme-stage-sensibilisation-a-levolution-des-catalogues-pour-lecture-publique/ [6. 7. 2022].

TB, 2021g. Programme Transition bibliographique (France). *Stage »Sensibilisation à l'évolution des catalogues« pour tous publics*. Available at: https://www.transition-bibliographique.fr/se-former/stage-sensibilisation/ [6. 7. 2022].

TB, 2022a. Programme Transition bibliographique (France). *Comité français UNIMARC*. Available at: https://www.transition-bibliographique.fr/unimarc/comite-francais-unimarc/ [10. 8. 2022].

TB, 2022b. Programme Transition bibliographique (France). *Description des données d'exemplaire pour l'échange d'information bibliographique en format UNIMARC*. Available at: https://www.transition-bibliographique.fr/wp-content/uploads/2022/05/Description_FormatUNIMARCEchange_Exemplaire_2022.pdf [10. 8. 2022].

TB, 2022c. Programme Transition bibliographique (France). *Échanges avec les éditeurs de SGB*. Available at: https://www.transition-bibliographique.fr/systemes-et-donnees/consultation-des-editeurs/ [10. 8. 2022].

TB, 2022d. Programme Transition bibliographique (France). *Expérimentations et chantiers*. Available at: https://www.transition-bibliographique.fr/systemes-et-donnees/frbr-veille-experimentations/ [10. 8. 2022].

TB, 2022e. Programme Transition bibliographique (France). *Impacts de la réforme de Rameau dans les pratiques de catalogage et les SIGB en 2019*. Available at: https://www.transition-bibliographique.fr/wp-content/uploads/2022/05/2019-03-05-reforme-rameau.pdf [10. 8. 2022].

TB, 2022f. Programme Transition bibliographique (France). *Journées professionnelles sur les métadonnées en bibliothèques*. Available at: https://www.transition-bibliographique.fr/systemes-et-donnees/journees-professionnelles/ [10. 8. 2022].

TB, 2022g. Programme Transition bibliographique (France). *La Transition bibliographique en France*. Available at: https://www.transition-bibliographique.fr/enjeux/position-francaise-rda/ [10. 8. 2022].

TB, 2022h. Programme Transition bibliographique (France). *Présentation des sous-groupes de normalisation*. Available at: https://www.transition-bibliographique.fr/rda-fr/normalisation-en-cours/ [12. 5. 2022].

TB, 2022i. Programme Transition bibliographique (France). *Répertoire des formateurs*. Available at: https://www.transition-bibliographique.fr/se-former/repertoire-formateurs/ [12. 5. 2022].

TB, 2022j. Programme Transition bibliographique (France). *Stage »Administrer et structurer ses données à l'aune de la Transition bibliographique: connaissances requises pour une exploitation raisonnée des Œuvres et des Expressions«*. Available at: https://www.transition-bibliographique.fr/se-former/programme-stage-administrer-structurer-donnees/ [10. 8. 2022].

TB, 2022k. Programme Transition bibliographique (France). *Bibliostratus: STRatégie d'Alignement d'URIs pour la Transition bibliographique*. Available at: https://github.com/Transition-bibliographique/bibliostratus [10. 8. 2022].

W3C, 2014. World Wide Web Consortium. *Resource Description Framework (RDF)*. Available at: https://www.w3.org/RDF/ [14. 9. 2022].