Enriching the local catalog with bibliographic data exposed online: interaction with the national catalog via web services.

Philippe Bourdenet
Université du Maine (DSI), Le Mans, France
E-mail : Philippe.Bourdenet@univ-lemans.fr

Abstract

Interoperability efforts represent a significant part within the fieldwork of documentary engineering. The enhancement of its catalog is one of its primary objectives. From that preoccupation came the idea of using a web service of the ABES in order to offer a functionality such as "Get more information about this author" accessible from a view on the authority record, usable during the consultation of the OPAC. This web service brings back directly pieces of information coming from IdRef, the authority database reference of the SUDOC[1] and displays the abbreviated forms of the different records linked to a given authority, classified by relator code. The response in XML or in JSON is elaborated in order to be in compliance with the graphic charter of the ILS and to not create any disruption through the chain of information.

A general problematic assumption shows the high stakes and the context in which this web service was imagined and designed. A global expertise of the general outline of the ABES[2] network is useful when trying to understand this functionality; the collaborative structure is briefly described. The articulation between the local and the national bases is made possible with the mediation of a PHP script whose major steps are detailed. Finally, as this project is aimed at being an experiment to reach further and operate other interactions of this kind, it is also important to apprehend the perspectives for the future that such new methods of accessing information can open.

The implementation of this functionality has contributed to explore and stabilize new methods of project developments, but also to question the opening of the catalog on the universe of knowledge and to its potential use as a discovery tool. It questions again the interdependence between the local catalog and the SUDOC and has the virtue to set the issues according to a user-centered design.

Key Words: Interoperability, Evolution of the library catalogs, Web Services, Serendipity, Information Search Process, Author access points.

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[1] In French : "Système universitaire de documentation", i.e. "Academic documentary system". An cumulative OPAC for all the French academic libraries, http://www.sudoc.abes.fr
[2] ABES= Agence Bibliographique de l'Enseignement supérieur, i.e. *Higher Education Bibliographic Agency*

1 Introduction

In their continuous search of evolution and of trying to have their services consistent with the expectations of their end users, academic libraries of France have at their disposal, with the SUDOC, an incomparable advantage as well as an innovative framework. The shared cataloguing is a guarantee of the practical application of common rules and of the promotion of local collections within a greater ensemble. The ABES has developed along this decade many innovative services that are helping the institutions to make the use of scientific and technical information easier. Among these innovations, a particular interest was shown to *micro web services* enabling the querying of the exposed metadata of the SUDOC via HTTP outside the frame of an interface. Within the actual context of crisis of intermediation, the exploiting of these services at the local scale aims at raising the esteem of the catalog and helps it, in part, to find back its legitimacy and its central role. In this perspective, the *Biblio* service is used to extend an authority search made locally to other works of the said author available in other libraries of the network. Thus, the local catalog's record becomes the access point of a bibliographical universe much larger. The use of this function, which still covers nowadays an experimental aspect, covets the creation of a dynamic interaction between the national network and the local frame, in order to prevent itself from considering the latter on its own or disconnected. It aims at making up for the expectations of the university community in terms of information search, and makes the most of the exploiting of controlled and structured metadata with a strong added value. The expectations of the different publics are heavily influenced by the universal search engines and the libraries are trying to adjust their services at the scale of these needs (Salaün & Arsenault, 2010). In spite of the impressive efforts made during this last decade to make significant progresses resulting from the web use powerful levers of innovation within libraries' software (Ballard & Blaine, 2011), the catalogs still have to evolve with introducing dynamically in the presented results, bibliographic elements coming from repositories that have a very high level of trust.

This project, which has now become a service, shows this articulation in a perspective of agile development, as well as the drawbacks encountered along the way. It unfolds within the frame of a strict bibliographic control, based on the exploiting of structured metadata and creates an opportunity of innovative service destined to academic publics.

2 The catalog in crisis mode: information search vs searching for objects.

The evolution of the ILS today is a difficult task given the systems' complexity, the multiplication of the technologies used and the fragility of the ecosystem of the documentary information system essentially fed by the retrieve of records coming from bibliographic agencies. Yet, it is on this capacity of evolution that depends the expanding of the catalog, the emerging part of the information system around which revolves the intermediation between users and professionals of the information-documentation who manage accesses to the collections. This evolution of the catalog is perceived today as a crucial stake by the libraries, since they admitted they were going through a crisis of intermediation. Thus, universities started to analyze the crisis' mechanisms, as K. Markey shows through a thinking process based on the inability of catalogs to follow the fast-paced upgradeable uses influenced by the many possibilities of universal search engines of the web. Another factor accentuating the gap between the performances of the library catalog and the expectations of the users, falls within the difficulty felt by libraries to adapt themselves to lifestyles that evolve faster than

institutions can handle: increasing mobility, out of sync lifestyles of the users, sporadic consumption of services, trivialization of computing medias and electronic resources preferred to a regular visits to the library because they have the significant advantage of being available at any time. But if today libraries are succeeding in considering viable solutions on that plane by mastering methods of remote access, they do not always meet the needs of information search nor to the expectations of serendipity, which is, no doubt, the most aggravating factor of the crisis. K. Markey underlines it when she states that "Google and other web search engines give people a good start, and, in fact, with Wikipedia links in hand, it gives them a running start, for building on their bare-bones, basic knowledge of a topic" (Markey, 2007). Catalogs would gain on the plane of information search by offering to users interactions with the rest of the universe of knowledge, but on this particular point, they often remain isolated and continue their slow evolution in a gated environment. It thus seems that one of the main challenge to overcome today with the constitution of a search interface is to succeed in combining the simplicity of universal search engines with the possibility for the user to "dive into our vast collection and come out with useful information"[3], as the professional blog of Cornell University puts it.

The academic library catalogs have at their disposal important assets to turn towards those objectives, but they are still anchored in the deep web in spite of their efforts to adopt web technologies, the proper use of W3C RFC and the imminent perspective of evolution towards the semantic web. Is it so hard to present the library data on the web through the constitution of storage units, data warehouses? It seems that it is, but the field is favorable and with another important advantage: the data managed by the libraries are standardized, controlled, and are based, most of the time, on the use of international identifiers. This should facilitate a long term transition, but before that, it could offer immediate possibilities of interaction.

2.1 Interoperability needs

In academic libraries, the data in the catalog are almost all inherited. The libraries have demonstrated their great capacity in terms of interoperability; the catalog gathers data that have been entered "elsewhere", put into the local database via FTP, Z30.50, SRU or OAI-PMH, but also enhanced contents that can come from other sources. The ILS has a high absorption capacity of important volumes of bibliographic information. However, these apparatus of interoperability are based on the copy of records but do not convey systematically elements of comprehension about what these data actually represent. In short, these apparatus represent a *mechanical layer* and again, too little efforts are made to create dynamic rebounds towards other informational repositories from the local catalog, or to locate a resource in relation to an ensemble of resources it is pertaining to.

Introducing interactive services in the rigid structure of the documentary information system is complicated if one do not want to upset its general architecture, but it is conceivable to take advantage from the fact that, as of now, the catalog almost always uses web technologies, which facilitates the developments in and agile philosophy (peripheral developments that do not impact the core) boosts the utilization of hyperlinks, or, to go even further, enables to convey informational micro-elements dynamically.

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[3] (Cornell, 2014) ; http://blogs.cornell.edu/dsps/2014/01/30/the-library-search-experience-embracing-simplicity/

Lately, a strong tendency leads to the adopting of discovery tools or new generation catalogs capable of absorbing easily data coming from heterogeneous sources (Wang & Lim, 2009), but that supposes a new computerization, a sudden change of technology which is very costly when lighter arrangements in present tools could be very efficient in the mid-term and a lot less expensive.

2.2 "Library mashups"

The informational apparatus of tomorrow will probably integrate more possibilities of interaction, more clarity about what the data are and will enable the automation of the insertion of foreign elements within a single page of results. In 2009, the book entitled "Library Mashups" published by N. Engard clearly explains all the advantages that the library catalogs can learn from the software connection processes to show, in the local record, micro-elements drawn from knowledge bases, content-enriched records, images, covers and back covers, abstracts, short authors' biographies, etc. Three technologies in particular can be used to such ends:

IFRAME: enables to insert into a geographic zone of a page the content of another page.

AJAX: enables a dialogue of lower level between a client and a server without going through the reemitting of web pages, aiming at the integration of data coming from another website or application.

JAVASCRIPT: enables the manipulation of objects, integrating methods and treatments, and making visible information coming from other websites (Engard, 2009).

The public catalog is often a poor version of the professional catalog and fits the objective of listing documentary objects, just as the professional tool manages objects, in which it reached satisfactorily level of performance. But is also should provide for the role of entry point for the world of knowledge, and could succeed if interaction is reinforced with knowledge bases, articulation with other repositories of encyclopedic data and thus meet the needs of information search of the users.

3 Using the SUDOC services

Thanks to the SUDOC, French university libraries have beneficiate of a clear advantage to organize the access to scientific and technical information. Even if the primary objective of the SUDOC was to gather together French universities around common cataloguing practices and to establish a collective catalog of resources destined to university communities (Bérard, 2008), it has largely exceeded its original ambition as it gradually distilled a set of services of which the university libraries and their users could not do without anymore. For the different university communities, the SUDOC represents a formidable reservoir of information: it notifies the ensemble of available resources in French university libraries, which proves to be useful for students, university teachers as well as researchers. Besides, it facilitates the acquisition of contents as it releases not only bibliographic data but also holdings data. The authority data coming, for the most of it, from the Bibliothèque nationale de France[4] enable a univocal identification of persons as well as corporate bodies.

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[4] The Bibliothèque nationale de France now produces those authority data under « Open Licence »(as explained in http://www.bnf.fr/fr/professionnels/autorites_bnf/s.autorite_bnf_presentation_statistiques.html) but the

```
001 $a029232082
008 $aTp5
035 ##$afrBN004183378
035 ##$aFRBNF12090126X$zFRBNF12090126
101 ##$afre
102 ##$aFR
103 ##$a1954$b....
106 ##$a0$b1$c0
120 ##$ab
200 #1$90y$aSurya$bMichel$f1954-....
340 ##$aEcrivain, éditeur. Directeur de la revue "Lignes" (en 2004)
810 ##$aGeorges Bataille : "la mort à l'œuvre" / M. Surya, 1987
```

Example 1 : UNIMARC A

In a perspective of a shared catalog, the librarians of the network have become accustomed to notify a resource first in the SUDOC, before the record could even be uploaded in the local system, practice which derives from a shared cataloguing logic. (In order to do that, they use the application client/server "WinIBW"). As for the personal name, the catalogers have instructions to link a resource to an existing authority of the database when they can identify it, or to create one if it does not exist yet, which is rather frequent for certain types of documents, as for philosophical dissertations for instance. When a PhD is defended, the young doctor is surely destined to produce more texts and it will facilitate the description of his or her future scientific productions.

Thus, the ABES with the SUDOC is able to help localizing the collections of academic libraries, to indirectly facilitate the access to documents, to ensure coordination as it supervises the standardization of the cataloguing and indexation activities and to assist universities with their documentary projects (Bérard, 2008).

3.1 Beyond the shared catalog

Today, the SUDOC describes the collections of the quasi entirety of French university libraries, which allows us to consider it not as a simple cumulative catalog, but at the fringe of a bibliographic database presenting two major criteria:

- it shows the ensemble of resources worthy of the scientific community interest, and thus flatters the documentary added-value created through the filtering of sources;

- the data repository is large enough to centralize all types of research and to claim a certain degree of exhaustiveness, thus in line with the processes of information search (ISP)(Kuhlthau, 1991).

The creation of a record then goes through processes that can seem disconnected but that are, in fact, unified in the perspective of a global ensemble of resources. When a library acquires a resource, it puts it, by default, at the disposal of the totality of university communities, and not only for its own community, because even if this resource is not destined to be the item for an ILL-Transaction, it is at least mentioned in the collective catalog which brings, in itself, a documentary added-value.

Bibliothèque has supplied them to the ABES for many years now, as the area 035 about "Other system control Numbers" shows in example 1.

This practice has many virtues, but we shall isolate at least two in particular that are interesting for this analysis:

- the practices of derivative cataloguing imprint a *descending* movement, but also encourage an *ascending* movement: when a library retrieves a bibliographic record and notices a mistake, this mistake can be corrected at its source; then, every library that has derived this record can beneficiate from this rectification which results in a better quality of records, and thus of the service itself, resting on a shared effort;

- this pattern limits the number of duplication of bibliographic records but also of authority records. Indeed, every cataloger of the network apply themselves to looking for a strong coherence in this immense collective catalog and favor as many links as possible between records.

From a technical point of view, each record is given a unique identifier which corresponds to a production number: the PPN[5]. This identifier is introduced by a "$3" in the fields which are calling for an authority record (as shown in example 2 for the fields 600 and 700).

```
003 http://www.sudoc.fr/162155123
008 $aAax3
010 ##$A978-2-07-013749-7$bbr.$d15,90 EUR
034 $aOCoLC$0805012993
073 #1$a9782070137497
100 0#$a2012
101 0#$afre
102 ##$aFR
104 ##$ak$by$cy$dba$e0$ffre
105 ##$ay$ba$c0$d0$e1$fy$gd
106 ##$ar
200 1#$a@Georges Bataille, la mort à l'œuvre$bTexte imprimé$fMichel Surya
205 ##$a[Edition actualisée en 2012]
210 ##$a[Paris]$cGallimard$dimpr. 2012
215 ##$a1 vol. (704 p.)$ccouv. ill.$d19 cm
225 0#$a@Tel$v390
320 ##$aBibliogr. p. [574]-587. Notes bibliogr. Index
410 ##$0001024299@Collection Tel, ISSN 0339-8560$v390
600 #1$3026649446Bataille, Georges (1897-1962)$3028633067Critique et
    [interprétation$2rameau
600 #1$3026649446Bataille, Georges (1897-1962)$3027281558Biographies$2rameau
676 ##$a843.9$v21a
700 #1$3029232082Surya, Michel (1954-....)$4070
```

Example 2 : UNIMARC B

Linking a resource to an authority record is now considered as a work with high added-value since it requires more poise within the universe of knowledge, but also the ability to cross-check information and to analyze sources (deciding whether they are reliable or not, undertaking verifications, using communication tools to bring about this verification, etc.). But this work remains exploited only on the surface if we just see its use in the very limited context of the local catalog. If the connection between a bibliographic record and an authority record serves to "identify" an author, for example a physical being, when describing the responsibility he owns towards the resource, why not make of the entirety of these connections an instrument of encyclopedic significance, meaning, on the global scale of the SUDOC, answer to this question: How to define a person, not from what he or she is but by highlighting the totality of his or her intellectual production? This is precisely what this micro

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[5] PICA Production Number as a unique identifier for each record.

development intends to do as it lists from an identified personal name, the overall collection of book titles mentioned in the SUDOC in which the said person has a statement of responsibility.

3.2 IdRef and Biblio

IdRef ("Identifiers and referentials") is a web application developed and maintained by the ABES which "enables users and client applications to query, look up, create and enrich authorities". It thus is an access point to the totality of a personal name authority record of the SUDOC. Since 2011, the Micro Web Service Biblio "enables to list all the described documents in the SUDOC that are linked to a given person, identified by its authority record identifier IdRef (PPN Sudoc)"[6]. This web service takes into account the requests presented by the handler "http://www.idref.fr/services/biblio/" followed by the identifier (PPN) of the authority record. And so, with the following request : http://www.idref.fr/services/biblio/06903994, the client browser gets an XML file with selected elements from bibliographic records linked, here to the person "Madjid Ihadjadène", classified by relator code:

```
[...]
<!-- Code de fonction pour un ensemble de 6 documents -->
<role>
<unimarcCode>651</unimarcCode>
<marc21Code>pbd</marc21Code>
<roleName>Directeur de publication</roleName>
<count>6</count>
<!-- Première occurrence -->
<doc>
<ppn>177470909</ppn>
<citation>L'Architecture de l'information  [Texte imprimé]  : un concept opératoire ?  / [dossier coordonné par   Ghislaine
CHARTRON, Stéphane CHAUDIRON et Madjid IHADJADENE] / [Villeneuve d'Ascq] : Université Charles-de-Gaulle-Lille 3 ,
DL 2013</citation>
</doc>
<!-- deuxième occurrence -->
<doc>
<ppn>175887810</ppn>
<citation>Dispositifs numériques  [Texte imprimé]  : contenus, interactivité et visualisation  : actes du16e Colloque international
sur le document électronique (CiDE. 16), 21-22 novembre 2013,Université Lille 3  / sous la direction de Stéphane Chaudiron,
Madjid Ihadjadene, Bernard Jacquemin / Paris : Europia , DL 2013, cop. 2013</citation>
</doc>
[…]
</role>
```

Example 3: Ordering by relator code, here "Publishing Director" (UNIMARC 651, or pbd)

A computer software can handle this request and get a response under the format of an XML flux or in a JSON file, easier to work with and work on. This web service has the advantage of transmitting a request from a univocal identifier. From this possibility, we now have to imagine the services that could be offered to end users in a catalographic research context.

4 How the system works

In the short-term, oscillating between the aging model of the library catalog designed for a community of initiated users (hidden in the deep web) and the perspective of exposing

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[6] http://www.idref.fr/autorites/apropos.htm

bibliographic data on the web under the format of RDF repository, there are means to enhance the local catalog when creating a dynamic link with the global catalog, without upsetting the local ecosystem, and of course, without having at our disposal, colossal means of development which would be proportionate to the complexity of the ILS. The Université du Maine uses the SIGB *FLORA*, produced by the EVER TEAM society, to handle the collections of the library. The catalog's records are presented on a JavaServer Page (JSP) that generates an HTML page. The objective sought by this micro development was to produce a function such as "Get more information about this author" from the visited records (as shown in example 4).

Example 4: Presentation of an authority record (brief form) in the catalog

Since this service is still at an experimental level, it is only discreetly displayed on the authority record page, but in the end, it is destined to enhance the bibliographic record page itself. It enables, modestly, to expand the field of research to the totality of the SUDOC catalog, which corresponds immediately to identification needs, but which could also imply an ambition of serendipity.

4.1 Proceedings of the script

The script unfolds in five big steps:

1- Code insertion in the JSP
The authority record PPN is isolated and put into a variable.

2- Construction of a HTTP request
A link is instantly built up in the HTML view by concatenation of the web service handler and of the record's PPN called by the variable. The PPN structure would have been checked beforehand thanks to a regular expression: it must be made up of 9 digits or 8 digits with a final "X".

3- Transmission of the request to the ABES web service
The server hosting the ILS is not allowed to generate direct requests on the port 80 (standard default port used by HTTP); we thus have to create a filtering rule or "entrust" the request to the proxy server of the library and task it with transmitting the response. A PHP script handles this passage and includes a program which analyzes the response.

4- Listening and analyse of the (XML or JSON) and XSL transformation.

The result of the request can be presented in XML or JSON. Here, the DOM method has been selected and presents each XML element to a XSL transformation sheet whose role is to display the information in a human-readable format.

5- Harmonization and conformity of the result with the graphic environment of the SIGB. Finally, the PHP script calls for a CSS so that the user ends up with a result subjected to the same graphic constraint than that of the ILS, so that he should not be surprised by a change of informational environment.

4.2 Raised problems

When we started this development, the author table had 122.703 entries in the database, of which 94.731 were coming from the SUDOC, meaning a little more than 77% (an SQL indicator enables us to isolate the records' origin); only 49.452 of them were equipped with a PPN. Hardly 52% of these authority records offered a high-enough quality level to consider systematizing this micro service to the totality of author references. For what reasons? It is impossible to know: the many and successive recuperation policies have had a variable minimal level of requirement; this absence has probably never disturbed the internal operating of the service and would not have alarmed the administrators of the system. No matter what reasons, we have to deal with this lack, but this observation encourages us to learn a primordial lesson: one must never allow the insertion of records in the local catalog without the original identifiers, because this information can prove to be crucial someday, and their absence actually is a serious drawback. Even if the information is not used, it is a shame to do without this source, especially since in 2012, the ABES has announced as an ongoing work "the injection of the VIAF identifier inside each IdRef authority"[7], which creates even more interesting perspectives of opening the local informational universe to many more sources, and as many possibilities of rebound. Consequently, additional constraints have been written in the import routine and alert the administrator when an identifier is not present in the database after its retrieval, or other inconsistencies (malformed PPN, duplication of authority, etc.).

5 Positioning of the web service within the general problems and perspectives for the future

As we have said earlier, this development places itself, to a certain extent, in an agile methodology:

- it cannot upset the general functioning of the principal application;

- its implementation rests over an ensemble of computer scripts correlated according web technologies and remains accessible to any web developer as much in its writing as in its maintenance; it does not rely on any particular knowledge of technologies specific to library applications;

- it falls under a user-centered approach. This service has not caused the redaction of a bill of specifications but it results of a quick analysis of the offered possibilities by the succinct

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[7] http://punktokomo.abes.fr/2012/05/11/idref-dans-viaf-identifiants/

description of the ABES web services, and of a quick analysis of the means. In that sense, it can even be considered as experimental. Immediately, two potential uses have emerged:

- For the resources managers:

This web service gives the possibility to verify all the connections between bibliographic records and an author record in the SUDOC without having to load the client server (WinIBW) nor having to repeat its request in the public catalog or in IdRef, and facilitates the quality control of catalogers in offering a direct link.

This development shows that it is possible to think interoperability other than through the only retrieving and copying into local data. For catalogers, it forms the incentive for another motivation by encouraging them to be more vigilant during the creation of links with authorities since now, all discrepancies within the network becomes immediately visible by the public. Moreover, it gives a stronger feeling of participating to the elaboration of a global system of information, with a work more actively orientated towards a network system in becoming increasingly aware of its universal range. Through this immediate interaction, it is more difficult to consider the local catalog as an isolated element.

- For patrons:

The university library benefits from a status of trust in the eyes of its users. Its catalog conveys a strong educational value, and for students, teachers or researchers who are making bibliographic researches, it must be able to state "To what extent the author is an authority on the topic at hand" (Markey, 2007). A quick overview on his or her intellectual production can legitimize this position.

In a more general manner, this micro web service offers an broadening of documentary research as it makes the intellectual identification of an author easier, as shown in the following example which is a screen capture of the result produced by the following request: http://cyberlib.univ-lemans.fr/biblio/search.php?PPN=026648156.

Collaborateur (205)
- 066364892 : Lycée Corneille de Rouen [Texte imprimé] / [Alain, Charles Bellanger, Gontran Pailhes... [et al.] ; préface d'André Maurois ;

Commentateur (210)
- 011088605 : La jeune Parque / Paul Valéry,... ; commenté par Alain / 7e éd / Paris : Gallimard , 1955
- 012345911 : Charmes / Paul Valéry ; commentés par Alain / 14e éd / [Paris] : Gallimard , 1955
- 115563962 : La jeune Parque [Texte imprimé] / Paul Valéry,... ; commenté par Alain / 10e édition / Paris : Gallimard , 1955
- 011088508 : Charmes / Paul Valéry ; commentés par Alain / Paris : Gallimard , 1972

Auteur du commentaire (212)
- 055565123 : Charmes [Texte imprimé] / poèmes de Paul Valéry ; commentés par Alain / Paris : Gallimard , 1929
- 036023191 : La jeune parque [Texte imprimé] / Paul Valéry ; commenté par Alain / Paris : Gallimard , 1964
- 080955436 : Charmes [Texte imprimé] : commentés par Alain / Paul Valéry / Neuvième édition / Paris : Gallimard , [1955]
- 018482376 : Charmes [Texte imprimé] / poèmes de Paul Valéry ; commentés par Alain / Paris : Gallimard , impr. 1929
- 017559715 : La jeune Parque [Texte imprimé] / Paul Valéry,... ; commentée par Alain / Paris : Gallimard , impr. 1953

Dédicataire (280)
- 087003759 : Hommage à Alain, 1868-1951 : Alain dans sa classe - L'état d'homme - Les arts en compagnie d'Alain - Alain vu de l'étrang

Editeur scientifique (340)
- 087176572 : Charmes [Texte imprimé] : commentés par Alain / Paul Valéry,... ; [Préface de Paul Valéry. 2e édition.] / (Paris,) Gallimard :
- 010965300 : Philosophie [Texte imprimé] / Alain ; textes choisis pour les classes par Antoinette Drevet / 4e édition / Paris : Presses Univ
- 012345946 : Charmes [Texte imprimé] / Paul Valéry ; commentés par Alain / [Nouv. tirage] / [Paris] : Gallimard , 1964
- 008231699 : Jules Lagneau [Texte imprimé] / [Alain] / Paris : Union pour l'action morale , [1894]
- 014418533 : Charmes / Paul Valéry ; commentés par Alain / Paris] : Gallimard , [1967]
- 022619305 : Charmes [Texte imprimé] / Paul Valéry,... ; commentés par Alain / Paris : Gallimard , impr. 1952

Traducteur (730)
- 063063069 : Une Ténébreuse affaire. Préf. de Alain / [Paris] : Le Livre de poche , 1969

Example 5: Result produced for the PPN 026648156, "Alain (1868-1951)"

In the list of results for the relator code "Author of introduction, etc." (UNM 080, aui), we also find:

- 047165294 : Mémoires Chapais 1, 1744-1848 : documentation : correspondances : souvenirs / Julienne Barnard ; [préf. Emile Chartier] / Montréal : Fides , 1961

Example 6: Alain, Pseud. Emile Chartier

Hence the identification work on pseudonyms made within the network becomes heavily capitalized in this precise context, and which becomes undeniably more efficient and uses fully the organization of shared cataloguing.

Beyond this possibility helping the user to identify sources, this access method to information favors serendipity. This result makes us realize promptly that a specialist in a particular domain can also have written about others correlated intellectually and also be an authority figure in these other domains. This is especially noticeable in the human sciences or in literary analysis. To give a practical example, a biographical research about Albert Camus which can generate an impressive number of references highlights quickly a group of biographers or exegetes who also worked on the literary production of André Malraux. Through a bibliographic research, the encyclopedic aspect induced by this web service renders the real relation between the two men in their productions and in their interest for a common literary genre (Hartman, 1960). The catalogue thus sticks very close to the human activity and renders intellectual relations created from structured metadata. This web service fills the need to open to knowledge and discovery and falls within serendipity. It enables, when required, to render the *transdisciplinary* position of authors, much like what A. Foster and N. Ford describe in their empirical approach (Foster & Ford, 2003). This can also be confirmed in some hard sciences, as, for example, a research in polymer chemistry reveals an

author who is also a specialist of international regulations in terms of material acceptability for food packaging.

This development shyly put into action proves to be less modest in its use as it were during its inception since it could become a model for generalized enhancement to other levels.

In the obtained information we can also find the PPN of bibliographic records linked to the authority record (example 5). This would allow us, in order to go even further, to offer a deep link towards each listed bibliographic record, so long as we put it into an other variable and that a script enhance it with appropriated syntactic elements. In example 6, the PPN record 047165294 is mentioned. The value "047165294" could be expressed under the form of a hyperlink.

Consulter la notice

OR Consulter la notice

Exemple 7: creation of a hyperlink from a given reference

The user would then download directly the mentioned record from the result of his search without having to resort to any particular informational skills, nor without any ambiguity. This upgrade is actually under consideration.

This model could be extended to items, with the help of *Where*, another web service distributed by the ABES which enables to localize a given resource in France as a whole; which could make easier the process of lending between libraries for a book unavailable locally, all the while offering automatically a link towards other catalogs of university libraries when the book is already borrowed. In the actual state of things, we are only at the beginning of our think tank about the service improvements that these methods can bring about on a local level. Experimenting is beneficial on several levels but it especially allows us to better envision the service improvements, but also speeds up the need to take decisions: should we, in the near future, offer this service head-on? Technically, how should the result be presented: in a new browser tab, or rather be injected asynchronously in the page produced by the catalog itself, with for example, the help of the AJAX technology? Many adjustments have yet to be made and the service still needs to be worked on.

This project federates the library staff around new perspectives of bibliographic information exploitation and makes us very much aware but gently so, of the changes ahead. It requires to be more thorough and demanding in quality terms and shows to catalogers the advantage that can be taken from the meticulous work they achieved these last fifteen years. It is then very encouraging, at a time when the profession itself tends to doubt its very position within the informational sphere, even to doubt the immediate and future interest which could emerge from the modeling worksites on the massive scale that they foreshadow (Sanchez, 2011).

6 Conclusion

The ability of bibliographic information exposure on the Internet is a considerable opportunity for libraries who can make good use of the abundance of their structured data and take on a role of true actors in the elaboration of knowledge.

This service, hence characterized by its modesty, developed on the margin, and completely immerged in the ILS of the Université du Maine reveals itself to be, in the end, rather ambitious in its objectives since it intends to open the skimpy local catalog to a much larger universe (the SUDOC), from which it is separated but on which it depends upon. It is also just as modest in its technicality since it results from a very moderate development, on the client's side at least. Its effectiveness rests on a shared economy that has cost millions in staff-time of cataloguing and scrupulous applications to create and manage authority data of good quality. Its repercussions are very important as they force us to recognize that future bibliographic information will need univocal identification processes as it bets on a scrupulous and continuous improvement approach.

Web technologies, embraced all over the world, already allow us to navigate from one informational universe to another in a very transparent way for users, but libraries unfortunately do not take enough advantage of them. Maybe that this small development will have planted the seeds for other ideas to grow favoring interaction between informational spheres.

This project notably announces a change in mentalities: the fact of belonging to a precise network means something else entirely than just facilitate the data production through the shared cataloguing practice. It propels the libraries in a greater ecosystem in which they can influence its balance and must learn to constantly position themselves according to and inside it, implying new ways to comprehend bibliographic information and its circulation. Finally, this development opens new food for thought because the very idea of this micro service comes from a user-centered design, to fix a need for bibliographic information and sets itself in an encyclopedic prospect to support university publics and make serendipity a reality.

This approach is not incompatible with objectives set by the FRBR model which introduces a level of abstraction in records in order to make them compatible with information research, and which enables also an "external enhancement" via web services on the ground of an univocal identifier, as shown by R. Callewaert in an experience report about FRBRization of Flanders public catalogs (Chambers, 2013), or also with the OAI-ORE model which provides for the transmission of information on relations that might exist between resources retrieved via OAI-PMH and to keep the existing links of their original repository, before their retrieving. This operation thus makes perceptible the process of interoperability by other means than just simple mechanical layers, but as sensible procedures (Tarrant, 2009). With a new way to utilize bibliographic data through the implementation of interactive services, it's a series of questions about library services that are being enquired once more. The notion of collection is being largely examined, as the expansion of the catalog to the knowledge base and its ability to render intellectual links between documentary artifacts. It is also the notion of documentary space that is being tackled, a space in which "there is an intern cohesiveness, cohesion that manifests itself through links in-between documents, and even in-between fragments of documents, links that can be explicit (referencing, comments...) or rebuilt" (Metzger & Lallich-Boidin, 2004). The implementation of this service has shown us that it was less important to harvest a descriptive record within a derivative cataloguing practice, than to make explicit links that the described resource can entertain with other resources, referenced in the local catalog or elsewhere. It thus rely upon the importance of giving the end user the possibility to locate a specific resource among the rest of the other works produced by the same author and *de facto* enforces itself to provide an information with a stronger added-value.

Bibliography

(Ballard & Blaine, 2011) Ballard, Terry, Blaine, Anna. « User search-limiting behavior in online catalogs: Comparing classic catalog use to search behavior in next-generation catalogs ». *New Library World* 112.5/6 (2011): 261-273.

(Bérard, 2008) Bérard, Raymond. « ABES – the Bibliographic Agency for Higher Education: Its Role in the Resource Sharing of Documents in French Universities and in Document Supply ». *Interlending & Document Supply* 36.1 (2008) : 4-10.

(Chambers, 2013) Chambers, Sally. *Catalogue 2.0 : The future of the library catalog.* Facet Publishing, 2013.

(Cornell, 2014) « The Library Search Experience: Embracing Simplicity | DSPS Press ». Web. 28 avr. 2014.

(Engard, 2009) Engard, Nicole C. *Library Mashups: Exploring New Ways to Deliver Library Data*. Medford, N.J.: Information Today, Inc., 2009.

(Foster & Ford, 2003) Foster, Allen and Ford, Nigel. « Serendipity and information seeking: an empirical study ». *Journal of Documentation* 59.3 (2003): 321-340.

(Hartman, 1960) Hartman, Geoffrey H. « Camus and Malraux : The Common Ground ». *Yale French Studies* 25 (1960) : 104-110.

(Kuhlthau, 1991) Kuhlthau, C. C. « Inside the search process: information seeking from the user's perspective ». *J. Am. Soc. Inf. Sci.* 42.5 (1991): 361-371.

(Markey, 2007) Markey, Karen. « The Online Library Catalog: Paradise Lost and Paradise Regained? » *D-Lib Magazine* 13.1/2 (2007).

(Metzger & Lallich-Boidin, 2004) Metzger, Jean-Paul, Lallich-Boidin, Geneviève. « Temps et documents numériques ». *Document numérique* Vol. 8.4 (2004) : 11-21.

(Salaün & Arsenault, 2010) Salaün, Jean-Michel, Arsenault, Clément. « Introduction aux sciences de l'information ». La Découverte, coll. « Grands Repères », 2010

(Sanchez, 2011) Sanchez, Elaine R., Gorman, Michael. *Conversations with catalogers in the 21st century [Print] / Elaine R. Sanchez, editor; foreword by Michael Gorman*. Santa Barbara, California: Libraries Unlimited, 2011.

(Tarrant, 2009) Tarrant, David et al. « Using OAI-ORE to Transform Digital Repositories into Interoperable Storage and Services Applications ». *The Code4Lib Journal* 6 (2009)

(Wang & Lim, 2009) Jian Wang, Lim. Adriene. « Local touch and global reach: The next generation of network-level information discovery and delivery services in a digital landscape ». *Library Management* 30.1/2 (2009): 25-34.