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**Dianne Cmor:**

With the overwhelming uptake of discovery systems by both libraries and library users, one has to ask – do we still need the OPAC? I would argue that they are not worth maintaining. Obviously, we still need back-end catalogues (or some other equivalent perhaps) to feed our local holdings into discovery systems, but what is the purpose of the user interface of our library management systems now that our records are well integrated into discovery systems? I, like many librarians, still believe there is an important place in research for sophisticated native databases with advanced disciplinary search features such as Medline, SciFinder, Historical Abstracts, etc., but who among us has ever described our library catalogues in such a way? We have long lamented that the OPAC modules of our library management systems have been less than optimal. It is true that discovery systems are far from perfect, and I look forward to them improving over time, but they do easily allow our users to find all of our owned and subscribed materials in a way that is easy and intuitive – including our books and multimedia items. Is it easier and more accurate for librarians to use the library catalogue to find a known item by quickly browsing the title field? – yes. Is it intuitive to our users to choose the browse mode and the title field for searching? – no. Are the advanced search features of our library catalogues (namely field searching/browsing for title/author/subject) integral to sophisticated, comprehensive searching (as in the databases I mention above)? No, I don’t believe that the necessarily generic search features of multidisciplinary library catalogues offer the same added value that would make them worthwhile to sustain.

**Rory Litwin**

I think it depends on the type of user. I once attended a presentation by a representative of one of the major ILS vendors, to introduce us to their discovery system. I recall being the only reference librarian present. Everyone else was a systems librarian or a technical services librarian. The vendor rep introduced the discovery system by saying it was the result of extensive user studies of undergraduates, and that it was geared toward their needs. That is, the system was designed in order to help undergraduates find useful resources without a librarian’s help, and it was not designed for the needs of advanced researchers who are often looking for something very specific, as opposed to something useful for a research paper. At my institution, we were encouraged to use the discovery tool (the new catalog, as we called it) when helping students. I noticed that when I wanted to help a student find something based on my interpretation of their needs and my personal knowledge of the field they were researching, the
discovery tool presented an obstacle. It was often harder to find the specific item that I wanted to direct the student to. So while it is useful for discovery, especially for undergrads, it is not good at helping users who want to leverage the knowledge they already have of an area of study or of the collection. So I think we need to maintain some tool that it geared toward knowledgeable searchers (and, I hope, also to improve it). I think it is important to understand that discovery tools are designed to substitute for much of the work that knowledgeable librarians do in helping users. Sometimes it does that well, but it depends on the kind of user that it is and what they need from the interface.

DC:
I, too, have experienced the occasional frustration in not easily finding a known item that I know we have in our collection – but quite rarely, and this is usually a result of poor mapping or insufficient or incorrect catalog data. When reported, these things can usually be fixed. Instead of working to improve our catalogues, I would suggest that we insist that our discovery tools improve at known item searching – changing algorithms so that matching book titles are highly relevant and showing in the first few hits. As you note, discovery tools are strong when it comes to easy and simple “discovery”. They are also excellent tools for interdisciplinary topics, current topics, and very unique topics because titles and subject headings are often not enough to uncover these types of books. Enriched publisher metadata in central indexes and fulltext searching when available, is highly useful for these types of topics. I agree that advanced researchers need advanced tools for comprehensive searching. I agree that a discovery tool cannot (currently) replace Medline for sophisticated searching, but I do believe that it can replace the MLA Bibliography, for example. The latter is not a strong database (though the content is invaluable to literature majors such as myself) for sophisticated searching. I feel the same about library catalogues. Though the “Next Generation” catalogs that came out just prior to discovery systems were certainly an improvement, I’m not convinced they are good enough to make me want to pay for both.

RL:
Regarding MLA Bibliography, I would agree that traditional Boolean-based tools only work well to the extent that the data structures are used consistently when the individual records are created, and poor cataloging reduces the power of traditional search tools more than it affects the newer discovery tools. What I would say about that, though, is that it is an example of how Boolean-based tools require knowledgeable users in order to work well. Discovery tools not only require less knowledge, but they make it more difficult to take advantage of the expert knowledge that you have as a searcher. The knowledge that counts is not just knowing how to use Boolean operators and to know what the different fields are, as defenders of Discovery tools often counter. Where the older “manual transmission” tools have an advantage (to use an analogy that I like) is when you have enough subject knowledge and knowledge of the data that’s in the catalog to want to have a lot of direct control of the search. Without direct control of
what the search is doing, you have to rely on the system to do some of your thinking for you. A lot of systems that we interact with are getting “smarter” that way, doing some of our thinking for us. When the user fits the average profile that was used to program the tools, that’s not a problem. The problem is when the smart system begins to get in the way of what an expert user wants to do. In our context, what that highlights is that the discovery tools were not created with librarians in mind, and disregard the fact that what reference librarians have to offer is not just the mechanics of how old-style catalogs work, but knowledge of subject matter and of the collection that we can use to help people in ways that discovery tools can’t.

**DC:**
So, I think we both agree on a couple of points. First, search tools that are built on sophisticated taxonomies and structures, that take good advantage of that sophistication should be retained for serious research (thus my point about databases such as Medline). Second, librarians have subject and collection knowledge that adds great value to the work of researchers. But the OPAC is for the “public” primarily, not for librarians. Also, OPACs are broad in subject scope and do not take advantage of discipline specific search features (exploding of taxonomies, discipline-specific fields, etc.). So what exactly are the advantages of OPACs to users, both novice and more advanced searchers? And are those advantages (which I do believe exist) significant enough to justify maintaining the OPAC? OPACs require additional human resources on the backend that could be put elsewhere, and require users to know when to use the OPAC for certain types of book/av searches and when to use the discovery tool for other types of book/av searches.

**RL:**
I would start by rephrasing your question just a bit, because I think the OPAC is for reference librarians as well as for the “public,” since librarians need to access the catalog as well. I would say that in planning for systems to access the catalog, the first question should be, “Who is the user?” And I think answering that question responsibly means accepting that there are different types of users who have different requirements of the tools. Reference librarians are among those users, and so are people whom I would call advanced users, researchers who are looking for specific items (known or not) as opposed to coming to the system needing to find “something” that fulfills a broadly defined need. These will be grad students, professors in certain fields, and other people doing serious bibliographic research over an extended period. I think that means that large research libraries are the most relevant settings, in terms of the need to maintain the OPAC, as I see it, but medium sized research libraries serve a number of people with that type of need as well.

I think the specific advantages of the OPAC in terms of serving that type of user is in the ability to have direct control over the search. With a tool that allows you to use the structures of the database with clear Boolean terms, a researcher can do things like browse all items that have been assigned a specific subject headings, look at the most relevant ones to pick up better subject headings, see all other titles by a specific author, follow the threads of co-authors, see titles in a series,
identify technical keywords that he wants to find in a title, and use resources that are external to the OPAC to learn about specific items to look up (known items, especially from bibliographies and references). While most of these strategies are possible to use in the newer discovery tools, they don’t function as precisely, since the basic search engine uses algorithmic term weighting instead of clear-cut Boolean inclusion/exclusion that allows the user to have precise control. Furthermore, some discovery tools don’t even make some of these advanced features available.

**DC:**
I agree that there is room for improvement in the features and functionality of discovery systems, but I’m not convinced that the majority of our researchers are still searching in the ways they once did. In a world of unlimited human and financial resources, I also agree that we should provide as many paths and options for our diverse users as possible. However, in a world of limited resources and shifting/growing areas for library services, we must weigh the impact and value of the work that we do and the systems we maintain. If we continue to provide all of the “useful” precision that is possible, but this type of precise searching is actually happening less and less - how useful is it really? How much impact does the availability of such a tool have? To those minority of advanced searchers – quite a lot! And I would love to be able to take care of all of the needs of all user groups no matter their size, but I don’t think this is feasible. I have also seen a great difference from library to library about how precisely they map their catalog records to the discovery system, e.g. some map series titles to title searches in discovery systems, and some don’t, so I think if we are going to put effort into advanced searching features let’s focus on the tool used by most users, so all users only have to learn one tool instead of two.

Looking at the logs of catalog searches a couple of years ago, I rarely saw a precise search properly executed and more often saw “advanced” functions being used improperly e.g. subject searches that are not using proper subject headings. Perhaps this is different now that most general searches are going through discovery tools and only the more advanced searchers go to the OPAC. Perhaps now we might see more properly constructed, precise searches in the logs because they are no longer being buried by all of those simple searches. If this were the case, I may have to reconsider my position, but I doubt that we would see this pattern. I do find that most of my precise and specific needs can be met by discovery platforms, most of which allow for pre-search field searching and post-search format limiting. When I cannot find what I am looking for, the problem can often be traced to incorrect or insufficient mapping. Following up on problems is time-consuming, but often result in hundreds of records being more discoverable by fixing a generic mapping problem. Unfortunately, there are times when library staff (myself included!!) when faced with not finding something in the discovery system, quickly default back to the OPAC and fail to report and correct problems. This reinforces the superiority of the OPAC instead of working to ensure our discovery system gets as much attention as do our OPACs. Fair enough, I say, as it is rather time-consuming to maintain two systems ...
RL:
You make some very good points. I would acknowledge that at my institution, many of the frustrations we encountered with the discovery system could have been attributed to mapping problems. However, as it was explained to us by the head of technical services, the discovery system didn’t allow for direct mapping of the MARC fields in the same way that the OPAC did. I am not an expert in the details of how these systems use MARC data, but if that were the case, and it was the source of the problem, it is an example of an area where our discovery system could have been improved. Also, if there are shortcomings to the current discovery systems that could be remedied more quickly if the vendors had more contact with front line reference librarians (whom they tend not to talk to), then that would be another reason to argue that discovery systems aren’t a problem in principle but should be seen in terms of the potential for improvement. So I acknowledge that point: discovery systems can potentially work better than they have worked for many of us.

That said, in debating this topic, I have mostly been thinking about discovery systems and traditional OPACs in terms of the principles behind them as I understand them, which is that discovery tools provide help to the user by putting some complex programming into the interface, that connects the user to the data through a search engine that uses term weighting, and sometimes other techniques. Much of this programming is aimed at doing some of the thinking for the user. That is in contrast to the relatively much simpler programming behind a traditional OPAC, that gives the user a direct mechanical connection between the interface and the data, by returning records using Boolean matching. I reiterate that just to highlight that what I want to see preserved for users is just that direct mechanical control of the search. The programming behind that is much simpler. I would say that if that kind of a search facility can be built into the discovery tool as an optional interface, I would have no problem giving up the traditional OPAC, and then I think the economic problem of maintaining two distinct software packages would be solved (especially considering that the programming needed to provide a direct mechanical search of the data is simple).

As to your argument that given limited resources we should concentrate on serving the majority of users, I have to disclose that I am coming at this from a somewhat elitist perspective, in that I think the more socially significant use of library resources is generally not coming from the majority of users, and that the advanced-search minority is doing work that should be supported because of the difference it is likely to make for society. That is not to say we shouldn’t support the needs of students, but just that others users can be very important as well, even if there aren’t as many of them. One way to think of that that free you from the elitist/populist dichotomy is just to think about the way a university library has to serve the needs of undergraduates at the same time it serves the research needs of faculty. That equation is different at different kinds of institutions, but part of the mission of an academic library is always going to be to serve the needs of faculty, or in general to serve the needs of researchers as well as the
educational needs of students. While I would not say that the needs of researchers are always going to be best-served by a Boolean search tool, they are more likely going to need the precision and known-item searching capabilities that are most easily accomplished through a direct, mechanical Boolean search (whether it is a complex or simple search expression).

And aside from the needs of researchers, I think we shouldn’t overlook the needs of reference librarians, whom the designers of discovery tools are not viewing as a necessary part of serving the undergrads who provide the profile for their designs. I believe that reference librarians make a contribution to student learning as search intermediaries that a discovery tool does not, through their subject knowledge and knowledge of what’s in the catalog. Reference librarians are able to help undergrads distinguish between resources that are appropriate for their work or not through knowledge that the students don’t have yet, and that the discovery tools do not have (even the smarter ones). Yes, it is certainly possible for librarians to use the discovery tools to provide this help, but my point is that developers of discovery tools leave librarians out of the equation in programming tools that prioritize it easy for undergrads to “find stuff.” An alternative interface that is designed for reference librarians would most optimally be a direct, mechanical interface like the traditional OPAC. (And I am not exaggerating about the vendors leaving librarians out of the equation in designing these discovery tools. At a presentation I attended, the vendor presented their vision for the library reorganized around their products, and it included redefined roles for reference librarians that did not include helping undergraduates find materials, but mainly assisting faculty in research.)

DC:
I support all of the things that you have on your wish list for discovery systems: options for precision searching, an expanded view of who the “user” is to include serious researchers, and better communication between vendors and the librarians who are working directly with the full range of our users. I also take your excellent point that the needs of the masses do not outweigh the need for an interface that supports serious, socially significant research. As you have suggested, if discovery systems could provide an option for field-specific searching with precise inclusion/exclusion options, that would help to meet the needs of all types of researchers, including librarians. I recognize that this is not currently the case, thus your strong argument to maintain the OPAC. However, if nothing changes, we will have to decide if we can afford to maintain both systems and if there is truly enough evidence to support that decision. Perhaps there is. Perhaps this may differ between institutions based on their user populations and user needs/behaviours. Perhaps a local OPAC is not the answer, but for serious researchers Worldcat or some other equivalent might be the future path.

RL:
Well it does look like we agree on many points, including the fact that these questions are going to be answered differently at different institutions. I also think you’re right to focus on the fact that it is basically an economic question: can libraries afford to maintain these systems? But you state an assumption for
asking that question, which is “if nothing changes.” I think we can be sure that these systems will continue to evolve, and that therefore there is a decent chance that if reference librarians lobby for improvements that support precise, controlled searching now that the vendors are phasing out the OPACs, we will see those improvements. Ultimately, I think that is where we should focus, because the whole question we're debating may end up being moot if the vendors answer it for us by simply phasing out the traditional OPAC from their product lines. So I think we've come to a good agreement, that the OPAC has search capabilities that we like and that we would like to see eventually incorporated in our discovery tools. The big problem, I think, is that the economic challenges you cite raise the same question about reference service that it does about the OPAC: Nice, but can we afford it? Our leverage in asking for improvements in the discovery system is based on our general leverage in institutions. I think the case for OPAC-style search capabilities is to a large extent also the case for reference librarians.