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On the Methods by which we Acquire Information, and the Effectiveness of Libraries in Supporting these Behaviors

JACK KORMOS

Pratt Institute, New York, NY, United States

It seems clear that one of the primary functions and goals of libraries and librarians in our societies is to connect people with information, whether it be in the form of a book, manuscript, painting or digital document. But what is not clear is how this connection in fact takes place, which is essential to understand if librarians are to design and manage their libraries most effectively. It is the purpose of this paper to argue that there are two distinct ways in which people come in contact with information, namely self-initiated acquisition

of information and environment-imparted acquisition of information, and that the former is dependent upon the latter. Given this, this paper argues that the present state of librarianship is catering primarily to self-initiated acquisition and paying little attention to environment-imparted acquisition of information, and that as a result, the connection of people with information is not as effective as it could be and indeed should be, if we are striving to live in societies the foundations of which are well educated individuals.

The American Library Association identifies eight core values of librarians and information specialists, the first of which is "connection of people to ideas" ("ALA | Statement on Core Values" 2005). Of course, people cannot literally be connected to ideas, since ideas, by the common use of the word, are phenomena of the mind that are inseparable from the person who has them, and they could thus never be found to exist by themselves and then be brought into contact with an individual. It is the information that forms peoples' ideas that can exist by itself and that can be brought into contact with others. But let us assume that the American Library Association would not object to replacing "ideas" with "information" in their first core value, so that the connection of people to information is what is of real importance to librarians and information specialists, and this seems apparent enough that there should be little reason to reject it. As a result, let us assume that the connection of people to information is the primary value and objective of libraries and librarians.

It is not clear, however, how librarians should go about making this connection. The American Library Association explains their first core value with the following: "We guide the seeker in defining and refining the search; we foster intellectual inquiry; we nurture communication in all forms and formats" ("ALA | Statement on Core Values" 2005). Defining and refining the search are presumably tasks assumed by the reference librarian, and reference service is a fairly clearly defined means in which libraries help to connect people with information. But fostering intellectual inquiry and nurturing communication are vague expressions that cannot easily be translated into specific library functions or services. But if libraries are to succeed in honoring this value and in carrying out their primary function in society, then librarians need to be clear on how to go about doing so. Aside from providing reference service, the American Library Association's explanation of how to connect people with information is basically insufficient. As a result, let us consider the matter now, and

attempt to determine precisely how the connection that is the subject of this discourse can be achieved.

Two methods of information acquisition

Rather than relying on outside sources to satisfy our inquiry, let us concentrate for the moment on the facts of human behavior as we witness it every day. Doing so should provide for strong conclusions that rely on nothing but the trust of our own experiences for their validity. That said, perhaps the most obvious way that library users acquire information is by actively seeking it out. The library catalog, whether online, on cards or in print, is designed precisely for seeking out specific information, and libraries continue to make this method of access more and more sophisticated. The Anglo-American Cataloguing Rules, for example, are themselves evidence of highly sophisticated and thoroughly thought-out work in this area. But to seek out information in a library's catalog, a user must first know something about the information that the user seeks. The user must know the title, author, subject, publisher or any one of the other various fields that can be queried in a catalog; even though the user may not know everything about the information sought, he must know something about it. As a result, catalogs are for use when people already know what they are looking for. And people do quite often know what they are looking for, and in these cases catalogs are an effective means of accessing a library's collection of information.

This seeking-out behavior is not a phenomenon in libraries only. Every day people access the Internet to search for endless types of information, while knowing what they are looking for. We consult telephone directories for the telephone number or address of a specific person or business. We locate our destinations by seeking out their addresses on maps. We know when the symphony performs next by finding it on a performance schedule, just as we know when to catch our train by consulting a timetable. Any time that someone seeks out something that he or she desires, that person is using what he or she already knows about it in order to find it. So if we can agree that this seeking out of information is an evident and prominent part of our behavior, then for the sake of this argument let us concede that it is a

significant method of acquiring information, and for the sake of clarity let us call it user-initiated acquisition of information.

User-initiated acquisition of information seems to be an obvious approach to accessing libraries' information, but consider one that is perhaps less obvious. Firstly, if there is a means of information acquisition other than that which is initiated and driven by the user, then it of course must be initiated by someone or something other than the user, in other words, by the user's environment. And again, we see this type of information acquisition every day. Advertising agencies, for example, have learned to take wonderful advantage of this type of acquisition. Advertisements proliferate throughout our environment, and we generally have no choice but to see them and acquire the messages that they convey. We do not make the choice to seek out information from particular advertisements that we are looking for; instead, ads bring new information to us, information about products of which we would not otherwise be aware, and they impart this information to us, not at our discretion, but without our control of time or place. This result is an example of what we can call environment-imparted acquisition of information, and it plays a substantial role in our perception of our world – it is connecting us with information, whether we like it or not.

A somewhat more controlled example of environment-imparted acquisition of information is newspapers. Except for, say, researchers, people usually do not read newspapers to seek out particular information of interest, as one would with an online public access catalog. Instead, one reads the paper to learn about events of which one was previously unaware. The newspaper, by organizing selected information in a particular format and then disseminating it throughout a city, effectively exposes its readers to that information, and anyone who is willing to browse through the newspaper will acquire a variety of information about the government, the economy and world events that that person would not otherwise know to seek out, but of which that person has nevertheless become aware.

A third and final example of this type of information acquisition is advice or suggestions given by others. For example, if someone is looking for a good restaurant in his neighborhood, he may be able to find one using a restaurant guide, but he

will never know about the unreviewed gem down the block until his neighbor tells him about it. Or, if a family member is in distress, another family member may take the responsibility to suggest a course of action or a new way of seeing his situation that would be of benefit, but that would not have occurred to him himself. In both of these cases, information is being connected to people by others in their environment who are imparting it to them. And whether they ultimately use that information or not, they could not have sought it out by themselves, since they knew nothing about it. Instead, their environments – here in the form of other people – impart information to them without solicitation, but in a manner that is nevertheless effective and that has a common place in our daily lives.

The relationship between user-initiated and environment-imparted acquisition of information

If we can accept the above analysis as representative of how we behave and thus as veridical, then it follows that the process of connecting people with information is either initiated by the person himself or by his environment. But what is the significance of making this distinction? Before we can answer this question we must ask another: is one form of information acquisition more important than or more fundamental to the other? On the face of it, both user-initiated and environment-imparted acquisition of information are apparent in our behavior, but neither seems to be related to the other. When we want a book by Voltaire we go to the library and search for it in the catalog and find it on the shelves. When we watch a film or talk with others who have interests disparate from our own, we learn various things that we would otherwise have not known had we not been exposed to the film or to the discourse with our acquaintances. The two forms of information acquisition are what they are, without seeming to have any necessary relation.

But consider the structure of our institutions of higher education, for example. Students who are working for a bachelor's degree usually concentrate on taking pre-planned courses. These courses are structured and conducted by a professor or lecturer who organizes certain information, and who then presents this information to his stu-

dents, usually in the form of lectures and required readings. This is for the student an example of environment-imparted acquisition of information. Indeed, one of the wonderful things about being a student is that one is continually exposed to a variety of new ways of thinking and of understanding one's self and one's world, just by attending one's classes. Certainly, all of this new information can be accepted or rejected, and although much of it may be rejected, the opportunity to accept any of it nevertheless exists. By allowing the environment to impart information to him, the student can grow in ways that he could never have imagined prior to taking up his studies.

Now consider the post-graduate or doctoral student who has fulfilled his coursework requirements and who is now required to carry out intensive research on a particular topic and to write a thesis or dissertation on that topic. The student must now choose something from the information that he has previously acquired that is of particular interest, and seek out more information in the form of books, journal articles, manuscripts, or whatever, that relates to his topic of interest, and that adds to the information on that topic of which he is already aware. And now the student is engaged in user-initiated acquisition of information, the type of acquisition which our libraries can in particular so readily support.

In the case of our educational institutions, then, environment-imparted acquisition must come prior to user-initiated acquisition of information, if research is to succeed at all. And it follows, then, that the research that occurs every day in every discipline, whether it be the natural sciences, medicine, law or the humanities, is dependent upon a more fundamental form of information acquisition, namely environment-imparted acquisition of information. Moreover, this phenomenon of environment-imparted acquisition of information necessarily preceding user-initiated acquisition of information is not endemic to education. In every case of a person searching for information of whatever nature, that person must necessarily already know something about that which he is seeking, in order to get going with his searching, and he must have acquired this already-known information in some way. But surely he could not have sought it out himself, since he would again need to already know something about it, in order to get going with his searching.

In the last analysis he can only have acquired this already-known information by his environment imparting it to him in some way.

In the case of libraries, we cannot search for a book without first knowing, for example, its author, editor, translator, title, subject, publisher, call number or ISBN. Say we only know the title. We must have acquired this information somehow, but certainly we could not have performed research to discover what the title is, since we would have needed to know something else about the book, say, for example, its author. We can only have acquired the book's title by, say, reading it in a footnote, hearing about it from a friend or seeing it in a bookstore. In any case, the information needed to initiate information searching of any kind can ultimately only be acquired through its being imparted to us by our environment. It thus seems apparent that the relationship between user-initiated and environment-imparted acquisition of information, is that the former is dependent upon the latter.

Implications for librarianship

If we can accept this conclusion as representative of human behavior, and if we can agree that the primary objective of libraries is, or should be, to connect people with information, then we have before us two clear and distinct models of information acquisition to which libraries should strive to support. Now libraries are for the most part highly sophisticated at aiding the user in his self-initiated search for information. International standards have been developed that guide the creation of meticulous and highly structured electronic bibliographic records of all types of media like works of art, books, periodicals, maps, microfilm, music scores, and sound recordings, which are then made searchable through the use of an online public access catalog. Such a catalog can accommodate searching on many types of information like, for example, author, title, subject heading, call number or ISBN. Finding aids to libraries' manuscript collections are now formatted electronically, making them searchable online. Libraries provide access to electronic journal indexes that allow searching on a wide variety of journal publications, often including the full text of their articles. Similar search capabilities are available on electronic versions of dictionaries,

encyclopedias, newspapers and newswires from throughout the world, statistics databases, medical and legal resources, poetry databases, and image databases, to name a few.

In addition to these resources, libraries – including the libraries of Harvard, Stanford, the University of Michigan, and the University of Oxford, as well as The New York Public Library – are putting even more effort into making their collections searchable by planning to cooperate with Google, Inc., the operator of the world's most popular Internet search engine, to "digitally scan books from their collections so that users worldwide can search them in Google" (Markoff 2004). And President Jacques Chirac of France has asked his national library and culture ministry to devise a plan to make European literature available on the Internet. This was in part motivated by "fears that a similar plan announced by Google...would result in a dominance of English-language texts" online (Bahney 2005), but it is nevertheless progress towards greater and greater accessibility of libraries' holdings through the use of search tools.

Of course another powerful means of seeking out information is the assistance of the reference librarian. A role of a reference librarian is to help users find the information that they are looking for, however vague or distinct their conceptions of it might be, and a good reference librarian who is familiar with the reference tools that are available to him or her can effectively seek out whatever information a user desires.

All of these tools for searching for information are similar in that they require that their users already have at least some idea of what it is that they seek. A library user cannot use an online public access catalog, a journal index or Google, and a reference librarian cannot help a user with a query, without first knowing something about what the user wishes to find. In short, these methods that allow for powerful search capabilities over increasingly large databases of information are tailored for user-initiated acquisition of information. But if libraries are using so many of their resources to support this type of acquisition, and if user-initiated acquisition is dependent upon environment-imparted acquisition of information, then libraries should naturally be placing as much or more importance on creating tools and resources that support the latter. And if the fundamentals of education rely upon environment-imparted ac-

quisition of information, and if libraries are at all concerned with education of their users – “commitment to literacy and learning” is the American Library Association’s third core value of librarians and information specialists (“ALA | Statement on Core Values” 2005) – then supporting environment-imparted acquisition of information should indeed be important to libraries and librarians.

But is it in fact important, and if so, then to what extent? To answer this question, we must first determine what it means for a library to support environment-imparted acquisition of information. This type of acquisition requires that something external to a person, whether a painting, the spoken words of another or the printed text of a book that somehow catches his attention, is made accessible to that person in his environment, so that he will be able to become aware of and acknowledge it as something that he has never encountered before. The person can then either accept the new information as interesting or useful, or he can reject it as useless. But in either case, he has the opportunity to acquire new information that he otherwise would have never discovered.

Reference librarians, in addition to being proficient at searching through many types of resources for any type of information, also make suggestions about information resources that might interest the library user. The reference librarian can introduce the user to books or journals or simply ways of thinking about, say, a homework assignment, that would otherwise have never occurred to the user. In this way, the reference librarian can be a part of the user’s environment that is imparting information to him. He can either accept or reject what the librarian has to offer, but he in any case has an opportunity to learn and grow, which is the result of the particular environment that he is in.

Perhaps the most evident example of supporting the environment-imparted acquisition of information is the open stack. If books are available to the user to browse through and to take off the shelves at will, then the user has the opportunity of seeing all or most of the libraries’ holdings, which, regardless of the size of the library, is bound to include books that the browsing user has never encountered before. Thus, in a short period of time the user can expose himself to much new information about the world, its people and their ideas, which he could not have obtained

otherwise. Of course, the user can reject it all as uninteresting if he wishes, but his opportunity is where education begins. As an example, the Bibliothèque Centre Pompidou is a public library in Paris that can sometimes have queues at its doors that are hours long. Inside, the open stacks, which are of a height that permits the user to see all of the books that they hold, which have aisles of a reasonable width between them that allow room for several people at once, and which are located in spacious, well-lit, attractive and comfortable rooms, encourage browsing. Moreover, users can sit in chairs that line the ends of the stacks and read whatever interests them. The library’s design gives the user the sense that the library wants him to be there, browsing its stacks, reading its books and educating himself.

Another example of an even more effective approach to supporting the environment-imparted acquisition of information is the bookstore. The primary objective of a bookstore is to sell its books, no matter what they are. Thus, it wants to encourage its customers to become interested in the information that it is selling. To do this, a good bookstore will create an environment that will maximally expose its products to its customers – it will “face out” as many titles as it can, it will create promotional displays that will catch eyes, it will place books of similar subject matters near each other, and it will advertise its books to make people aware of them without even needing to enter the store. Upon walking into a well-managed bookstore, customers readily become aware of books that were previously unknown to them, and this is true because the bookstore’s intent is to create an environment that efficiently and encouragingly imparts information to its customers, in hopes that they will in this case purchase it. And there is no reason why libraries should not share this general sentiment, despite the differences in the underlying intentions of the two types of organizations.

Of course, open stacks are impractical for many libraries. The New York Public Library’s Humanities and Social Sciences Library, despite its floor after floor of closed-stack books that are arranged by size in order to maximize space, has constructed a stack extension underneath the park that is adjacent to the library, which is equipped with compact shelving units. In addition, it houses lesser-used materials in an off-site storage facility

in a nearby state, which it shares with two major academic institutions ("NYPL, The Research Libraries" n.d.). A library of this size cannot possibly afford to make its holdings available to its users for browsing. But such a library might, for example, offer well-designed exhibitions that draw on its rich collections. It can create rooms full of manuscripts, rare books and paintings through which its users can stroll, all the while being exposed to various types of interesting information that may or may not stimulate their minds, but that in any case are often new to the library's users, and that they would not have encountered elsewhere. In this case the library is successfully creating an environment that promotes the environment-imparted acquisition of information by its users. And this is true of museums as well.

But when the physical holdings of libraries cannot at all be a part of the user's environment, technology can sometimes help to represent those holdings. Some online public access catalogs, for example, are to a certain extent browsable, since a user can search for a certain call number, subject or author, and then scroll through the returned entries that are near the item that was searched. This is true of the Columbia University Libraries online catalog ("CLIO" 2005), for example. But this is an awkward and less than stimulating method of supporting the environment-imparted acquisition of information.

A perhaps more amenable use of technology is the lists of recommended reading and prize-winning books that one can often find on libraries' websites. Although not a library, a nevertheless good example of this is Amazon.com's website ("Browse Books Subjects" 2005), from which customers can access over twenty lists of books and authors that have won awards, including the Pulitzer Prize, the Nobel Prize for Literature, and the James Beard Foundation/KitchenAid Book Awards, for example. Customers can also browse up-to-date lists of the New York Times Best Sellers, and the best books of the year, including "editor's picks" and "customers' favorites". Or consider the Great Books Lists website (Teeter 2005) that, although again not the product of a library, was created and is maintained by a librarian. This website provides access to browsable lists of enduring classics, including the Great Books of the Western World, reading lists for literature courses

at Columbia University, and the reading list of St. John's College, which was a pioneer in the United States of an undergraduate curriculum based on the classic texts of the western world. The website also includes browsable lists of eastern classics and highly regarded contemporary literature, including the Modern Library's 100 Best English-Language Novels and 100 Best English-Language Nonfiction Novels of the 20th Century.

To cite any more of these recommended reading lists would be to belabor a point, which is that all of these online tools create an environment that exposes the user to a variety of information of good quality – titles of classic works and names of prize-winning authors – that the user might otherwise never encounter, surely not if he confines the satisfaction of his interests to search engines. Browsable lists can permit the environment-imparted acquisition of information to occur, and in a way that opens the user's mind to information of the highest integrity, which is essential to the education of a curious individual.

How else can libraries encourage the environment-imparted acquisition of information, as we have described it?

Consider one more example: the Dossiers Pédagogiques of the Bibliothèque nationale de France ("Bibliothèque nationale de France" n.d.), a service that provides a wealth of browsable, professionally designed resources. To begin, the website provides access to thirty-eight different virtual expositions in the categories of books and literature, history, arts and architecture, and photography. These expositions are highly stylized presentations that combine digitized books, manuscripts, illustrations and photographs, as well as original text, to create self-guided, sometimes interactive, tours through information on each of the individual subjects. They are each their own learning experience.

In addition, the Dossiers Pédagogiques website provides a browsable hierarchy of approximately two hundred different resources about the middle ages, sorted under twenty-three different subjects including gastronomy, cathedrals, commerce, family, Islam, knowledge and rural life. These resources include narratives with accompanying illustrations, digitized illuminated manuscripts, excerpts from relevant texts, and interactive games that, for example, ask the user to choose a picture of one of four foods that was not eaten by the nobility in the middle ages. All of the resources

are of excellent quality, well designed, highly usable and visually attractive. The entire *Dossiers Pédagogiques* website is an educational tool that accomplishes its purpose by making available to its users multiple types of attractive resources on a variety of individuals and subjects. Anyone who visits this website will be introduced to these resources simply by virtue of their presentation, and, if willing, cannot help but be educated by some aspect of the total information that the Bibliothèque nationale de France has chosen to represent here.

Toward a more effective approach to information acquisition

We can see, then, that supporting environment-imparted acquisition of information is currently important to libraries and librarians. But one question remains: how important is it? Consider again the above examples. Reference librarians can be quite helpful to individual library users by providing them with suggestions that the librarians feel will help them and educate them. But it is probably safe to assume that librarians only affect a small percentage of their library's total users. Many users do not, for a variety of reasons, approach reference librarians. And a vast number of people in society who could benefit from the advice of reference librarians are not aware of them at all. And even if they were, there are simply not enough reference librarians in existence to efficiently help all of humanity that actually needs their help.

Open-stack browsing may be the means by which libraries most readily create information-rich environments for their users, since many libraries have no reason to maintain closed stacks. But even so, open stacks are not always designed to grasp the users' attention or to invite them to leisurely peruse the books that are on those stacks. And some of the richest collections of the world are for various reasons on closed stacks and entirely removed from the library user's environment. Exhibitions, on the other hand, do create environments in which users have the opportunity to be exposed to rare, valuable or otherwise interesting materials that would otherwise be available only upon request, if at all. But exhibitions are usually specific in focus, and usually present only a handful of an institution's

holdings. So if someone visits an exhibition of, for example, real and imaginary gardens portrayed by writers throughout the ages, which was a recent exhibition at The British Library, that person will have an opportunity to be introduced to much interesting information about writers and gardens that would otherwise be unknown to him, but his education in this respect is quite limited. Exhibitions by themselves cannot support an education with the breadth that presumably one would need in order to become a well-rounded individual.

Browsable lists of prize-winning books and authors, classic texts, and recommended readings also give the opportunity for a library user to educate himself with good information of which he might not otherwise become aware, but they are often not a prominent part of a library's presence, if they exist at all. Indeed, booksellers sometimes offer better types of these resources than libraries, if only because they do anything they can to sell their books, which are usually on the lists that they provide. Finally, the *Dossiers Pédagogiques* project of the Bibliothèque nationale de France is a serious and exceptional achievement in the type of education that we have been discussing, that is to say the support of environment-imparted acquisition of information, or the active dissemination of information into a user's environment so that he may grasp it and benefit from it. But the *Dossiers Pédagogiques* project is an exception to the Bibliothèque nationale de France, and projects of its caliber do not exist for the vast majority of other libraries.

We have determined, then, that there are two ways in which people acquire information. We either actively seek it out ourselves, or it is imparted to us by our environment, whether we are ultimately interested in it or not. We also have good reason to believe that user-initiated acquisition of information is dependent upon environment-imparted acquisition of information. Moreover, we can see that libraries' attempts to support environment-imparted acquisition of information can often be minor. Instead, libraries tend to focus on cataloging their books, manuscripts and other vehicles of information, sharing their catalogs with other libraries to be searched by a world of users, permitting the full text of their books to be searchable via the Internet, and doing the same for journal and newspaper articles

via commercial indexes and databases. And this is only a summary of the efforts that are being invested in search capabilities.

This is not to say that such capabilities are somehow unimportant. The power of search engines, especially over the full text of information resources, is incredible. It is incredible when one can find what one is looking for from wherever one is in the world, and either view it immediately on one's computer, request that it be either electronically or physically delivered, or find out where to go to obtain it. And these capabilities are without doubt unleashing the vast amounts of information that libraries hold. But when a more fundamental method of acquiring information is necessary before any of these research tools can be useful, why do librarians not give it priority? If the primary function of libraries and librarians is to connect people with information, then why is little effort being placed on environment-imparted acquisition of information? Why is this form of human behavior that is most basic to all of education being relegated by the power to search, especially since if anyone should be concerned with the education of humanity, it should be librarians, who have at their command all of the information that could possibly be required for such a task?

Research libraries and research tools are without doubt essential to our communities and serve a real human need. But they do not account for the complete picture of how humanity naturally acquires information. Of course, making environment-imparted acquisition of information a major part of librarianship would require in some cases serious changes to the field as it is practiced today. But if libraries and librarians are truly concerned with connecting people with information and thus educating members of our societies, then perhaps we must reconsider our methods of doing so.

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