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Introduction and Philosophy

Librarianship and Reference in the Digital Age

1.1 Introduction to the Introduction

Libraries are a vital part of the information life of a community.

It seemed important to make that the first sentence of this book. It's true, has been for quite some time, and I dearly hope it will continue to be true for a long time to come.

It is not, though, guaranteed. Libraries as we know them today are a relatively recent innovation, arising to meet perceived societal or institutional needs. In general, as a group, they've met those needs extremely well, and there is a rich heritage and tradition of library work and librarianship for future generations to draw from. There are also several reasons why libraries as we know them today are in peril, facing competition from a broad array of other ways in which people can satisfy their information needs, many of which are perceived to be easier to use than libraries, friendlier, more accessible and of equal—if not greater—quality. Those of us in the library business know (or think we know, or would like to believe we know) better, but it is the people that libraries serve who ultimately make those decisions with their feet and eventually their pocketbooks.

Make no mistake, though; there is tremendous life and power in the idea of the library, in the profession of librarianship, and in the future of libraries in an increasingly dynamic and complicated information environment. With frustrating and depressing regularity, one sees news articles pondering the future of the musty old library in the shiny high-tech World of Tomorrow in which we now live. In most of those stories, thankfully, someone stands us and gives the "libraries are more important than ever" answer. I honestly believe that answer is true, but it only will be if the people who work there spend their time making sure that their work and institutions are central to the information lives of their communities. Happily, most librarians do precisely that.

That said, we must face the myriad ways in which the information environment is changing. Fifty years ago, people had a number of information sources they could turn to: books and periodicals, of course, the popular and scholarly literature that continues to grow and diversify so wonderfully today. Newspapers, mass media such as radio and television, plus friends and family, personal information collections of all kinds, direct investigation and observation of the world around us, and others. A fairly rich set of resources, and one in which libraries fit right in, since getting access to much of the monographic and periodical literature was expensive and difficult, and that's where the really good stuff often was.

For lots of reasons, that world is totally transformed, and you don't mean me to enumerate how. It's easy to see the *technological* changes in the information environment, and they are indeed profound and wide, and the popular embrace of the Internet and all it represents since the mid-1990s still takes my breath away in its societally transformative power. Who would have thought, even a few years ago, that typing a few words into a little box would yield, in a matter of seconds, so many wonders…and horrors?

We know, by the way, that the entire human record is not available in a search engine. We know that any Internet tool has only a slice of a slice of a slice of the world of knowledge—only what its spider programs can find and index, which is only a piece of the freely available Internet, which

doesn't include the deep web of resources behind password or economic barriers, which doesn't include the wide variety of digital resources not on the web, which doesn't include the even wider variety of resources not in digital formats.

This evolution is also not strictly technological. *Economics* are involved, as publishers merge and acquire each other, establishing effective monopolies and cartels and raising prices for trusted, high-quality resources like journals and databases, as communities ponder the value of libraries in a world where "everything's on the Internet, right?"

There are *demographic* effects as well. The American population is aging and diversifying. In 2010, there will be 39 million Americans 65 or older; by 2030 there will be 69 million, representing 20% of the population, which will have a median age of approximately 39. Nonhispanic whites will account for only 53% percent of the population by 2050, down from 74% today, and growth rates among Hispanic and Asian populations are a substantial 2% per year. These will have effects on what is written, communicated, and sought.

In the last decade or so, the *political and legal* environment around information has changed as well. The Communications Decency Act, the Child Internet Protection Act, the Children's Online Protection Act, the Sonny Bono copyright extension, the Digital Millennium Copyright Act, and the USA PATRIOT Act have all had effects on the publishing and library worlds, as have file sharing, piracy, and attempts to control them, not to mention concerns about privacy, identity theft and so on.

And the *perception* people have of libraries and librarians has evolved as well. While many people see us as a great place to get books, for kids, that support reading and literacy, there are others who are convinced we are little better than pornographers, that we're a glorified place to surf the web and read email, that we are hysterical for opposing governmental attempts to facilitate access to circulation or web searching records, or that we're just boring.

It is this last that is the most insidious and dangerous. We can survive bad economic times, wave after wave of technological changes, a hostile legal climate, and all the rest, but if the people we serve are indifferent to us, we're cooked. If they don't care about what we do and stand for, they won't support us and we're gone. It's as simple as that, at least from where I sit, and if we believe that libraries still have power, we've got to do whatever we can to make sure that doesn't happen.

One of the most important ways in which librarianship has adapted to a shifting information environment happened over a century ago. As public libraries were forming in North American in the latter quarter of the 19th century, librarians began to notice that people were having difficulty finding what they were looking for. This was due to an increase in the amount and specialization of the resources available as well as the resulting and necessary increase in complexity of the tools for finding resources. Mind you, compared to even a small library of today, these were very simple organizations, but that doesn't diminish the perceived magnitude of the situation they faced.

There's too much stuff, and it's too hard for people to find. So what did librarians of the day do? They started to help. That sounds absolutely obvious to us today; at the time it was unusual. Librarianship up to this point largely consisted of what we would call collections work, keeping the doors open, maintaining order, and making sure everything was where it was supposed to be. (Not unlike contemporary stereotypes of librarians, interestingly enough.)

Slowly, helping people became commonplace. First in public and special libraries, then spreading to the academic libraries, librarians began to answer questions and provide assistance on a fairly ad hoc basis, then evolving specialists and departments to handle those questions and eventually even furniture, the now mythic "reference desk".

Reference work, as it is now known—though the gods alone knows why—became an important means to an end, to help people find information. That end, and those means, are as necessary and potent today as they ever were.

One of the great library educators of the previous century was Margaret Hutchins. She wrote the preeminent textbook in reference of the middle twentieth century. Her writing is clear and strong and quite wry, even mischievous in spots. She must have been a formidable and fascinating woman; I would love to have been able to talk with her sometime.

In her *Introduction to Reference Work*, published by the American Library Association in 1944, on the next to last page, she has this remarkable passage:

> [Reference] has become an indispensable public service because it
> *saves the money of the individual* by providing communal ownership
> of reference materials too expensive for most individuals to own; and
> by furnishing skilled bibliographical aid in the use of reference
> materials it *saves the time of busy people* and *ensures possession of
> facts which by themselves they could not obtain*. (p. 204-205,
> emphasis mine)

I couldn't have said it better myself, so I didn't try. The language here is a little 1940s; what we do now often goes beyond just "bibliographical aid" or "reference materials", but by and large, this is a pretty good kernel for a manifesto for reference work even today.

The three highlighted sections point out important and distinctive aspects of reference services, then and now. The money-saving comment almost goes without saying; reference materials were costly in Hutchins' day but she could scarcely have imagined the thousands, even millions of dollars that large libraries and systems spend on databases and resources at the dawn of the 21st century. Families could comfortably afford a *Funk & Wagnall's Encyclopedia* in the old days; no single person would dream of licensing an Elsevier database today.

Saving time is perhaps even more important now than it was then. I'm always amused by references to the fast-paced lives that people live today, in library literature of the 1930s discussing telephone reference. What would they make of people using text messaging, cell phones in their cars, wireless PDAs, Internet-based chat technology? Indeed, while information is no longer a scarce commodity, human attention increasingly is. Good information services help people not only in finding what they're looking for, but quickly and efficiently as well.

Now to the third leg of Margaret Hutchins' stool. "Ensuring possession of facts which by themselves they could not obtain." As a justification for reference work, that sentence is now problematic in two ways. First, "facts" are not the only game in town. To be sure, people are looking for facts now as they did then; they are also, though, often looking for more. They want answers, depth, context, explanation, meaning. And as for things they can't obtain, well, that is a very different equation in a Google world. Information and search tools are so ubiquitous now, so much more stuff and so many kinds of things are available now, that libraries have to focus on and feature what makes them unique, what they can do and do better than any other potential venue for information seeking and retrieval.

People still need help, for many of the same reasons they did in 1944, or 1876 for that matter. There's a lot of information and it's hard to find what you're looking for. But now, people have so many options and many of those people don't really care about the finer points of quality, authority, currency and so on that libraries and librarians treasure and stand for.

To be effective, our services must fit with what people want and need. Yet we have to balance tailoring our services to those needs and wants with our notions of what is best and right and appropriate. This is the nature of professionalism.

In my experience, I have found that most people who go into reference librarianship share certain traits and characteristics. **We love to**:

- search
- know about resources
- show off our skills
- help people
- find the best stuff

There are also several areas of work in which I believe reference librarians are superior or uniquely positioned. In addition to mastering search technique, knowing about resources and having a service orientation, **we:**

- can help people to better understand and articulate their information needs
- can conceive and execute multiple methods of searching for any given problem
- know better when to stop a search when further effort is likely to be unproductive
- can evaluate information resources effectively
- have a strong service orientation toward our clientele
- can teach people more about information resources and their use
- are based in and base our work on the communities in which that clientele lives and works

On the other side of the equation, in an expanding and complicating information environment, people **need:**

- support in searching, finding, identifying, and accessing not only high-quality resources but also ideas and options
- answers to specific questions (sometimes)
- advice, guidance and help
- all dependent on context and situation, tailored to their needs

In general, though, they **want** things that are:
- quick
- cheap (or free)
- easy to access and use
- good enough

There's an obvious mismatch here. Our skills and interests mesh well with what people really need—or what we think they need, or perhaps more accurately what we think they ought to want. There is not a great fit, though, between a profession dedicated to expert guidance, professional knowledge and a commitment to quality and a population often interested in quick and dirty, good-enough resources.

It's easy to characterize this as a "Google" problem, since Google symbolizes much of the good-enough character of 21st century searching. They didn't create this, though; Zipf articulated his

Law of Least Effort in 1949[1], which, simply put, says that people won't work any harder then they think they ought to in seeking information. Google, and free web searching in general, make the process of search so easy and so ubiquitous that other modes of search seem positively antique, not to mention boring, slow and hard. Which they often are.

The easy/quick/cheap approach can work, for some people in some situations with some information needs. Typing a few words into a search engine box and hoping for the best can be effective. There are, however, a substantial number of situations where that will either fail miserably (try typing the word "fish" into your favorite search engine and see what you get, for example) or yield results that simply won't work.

This, then, is the fertile ground for the interests, skills and experience of the reference librarian. The more detailed inquiry, the deeper need that requires richer resources, more time and effort and skill in searching, multiple approaches, a keen eye for authority and quality; this is where we shine.

What reference librarians have long called "ready reference", responding to factual questions with simple answers after quick searches in specialized resources we knew well, has been an important part of our traditional work. Such questions will continue to come to libraries, I'm sure, but I can't imagine that their numbers will ever rise. Indeed, the common wisdom today is that the large majority of libraries of all types have seen their number of reference questions drop, and that the difficulty of those questions is rising. It seems more likely that what's really going on, at least in part, is that the easy ones are missing and the harder ones just seem harder as a result. And where are the easier ones going? One guess.

Given all of this, reference librarianship has got to reorient itself to address a shifting environment. Ready reference should be less of a focus of our work, and helping people to address those deeper, richer needs where we can excel and be of greater value should be of increasing importance. That also likely necessarily means shifting resources (time, technology, staffing, information resources) toward responding to those deeper needs.

That reorientation will not only allow us to more effectively and efficiently serve our clientele, it allows us as professionals to flex more of our intellectual muscles. Wouldn't it be better to have highly-trained and experienced reference librarians spending substantial time with someone researching their family history or a dissertation topic or finding exactly the right next book to read, rather than answering a question like "What is the capital of Bolivia?"?

In fact, I'd prefer if we moved away from the notion of reference as question-answering. I've seen recent academic and corporate research efforts toward adding question-answering facilities to search engines such as MSN or Google. AskJeeves hasn't provided a particularly attractive example of how such systems might work, but if large companies such as these decide to devote time and energy to figuring out how to answer questions, I'd guess they're likely to come up with something at least serviceable.

So we should turn instead toward supporting those deeper, more complex needs. Questions will obviously form the focus by which those are communicated ("How can I find out when my ancestors came here?"), beneath which lie fascinating, challenging, and meaty needs ripe for the reference librarian to work with.

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[1] George K. Zipf, *Human Behaviour and the Principle of Least-Effort*, Addison-Wesley, Cambridge MA, 1949. Somewhat perversely, perhaps, I found this citation using Google, which lead me to the Wikipedia entry on Zipf's Law.

In fact, while I highly value the ideas and work of "reference", I don't like the name or what it connotes, to us and to others. To normal people, it's effectively a cipher, so it's not a great marketing or explanatory tool, and I doubt one in a hundred librarians could tell you the genesis of the name (quick précis: a back-formation from working with "reference books" which entered the language by 1836, before "reference librarian" did by perhaps a generation or two).

A more appropriate, and meaningful, terminology for the work we do is perhaps **mediation.** That's not original to me, we've been using this word to describe functions of reference for decades. To me it captures so much more, though; mediation implies an ability to understand all the features of a situation; for us, that's people, communities, information needs, organizations, resources, tools, mechanisms, structures, and processes. Then we function effectively to make those all work together to the benefit of the individual client.

Mediation manifests itself in lots of ways. The active modes—question-answering, researching, working with people to refine what they need and want, advising, searching—are all obvious. There are less obvious, passive ones, such as appropriate signage and web design to support self-help, collection development and management, and development of tools like databases and pathfinders and research guides and even blogs and wikis.

It can go further as well. Thinking of our work as mediation between people and the information that can help them leads to other ideas. As a profession that knows about searching at a deep level, can't we also be of service to people who want to be found, say in designing web pages that will be easily found in web search engines? Or people who *don't* want to be found, protecting them against identity theft or fraud. We can also be of great help in the production and package of information objects such as reports, publications, web pages, and the like.

At the mundane level, this also includes technical support issues. I can't tell you the number of times I've been asked for help from someone who's done a great search and found some terrific resources in a highly expensive and complicated journal database, but then can't figure out how to email or save the results, or have them print out somewhere accessible. Small things, and yet important to making sure that people have a satisfactory experience all around.

I'd even say that marketing is a form of mediation. If people don't know what you have, they are unlikely to ask you for it. Which of these sounds more effective to you: a press release announcing that a library has now licensed three new databases, including ABI/Inform and D&B Million Dollar Directory (neither of which any normal people will have the slightest notion of), or a press releasing announcing that a library now has three new ways to support small business development?

So after all that, you might flip over the cover and see the title of the book and ponder my hypocrisy. I'll admit it; this is a book about and for reference librarianship. The preceding several paragraphs outline my thinking and I hope provides an intellectual framework for the way I've written and structured this book. I'm not immodest enough to think that I can single-handedly change the name of our field; if, though, this discussion helps you to think in larger ways about this work and perhaps plants a seed or two for future conversations, I'm content with that.

Every once in a while, we all have moments when something unbelievably obvious hits us square in the face and you have one those duh-why-didn't-I-think-of-that moments. I had one of those at the 2004 Virtual Reference Desk conference when Eva Miller (a former student—but I claim no credit for this idea) crystallized my reference practice over 20-plus years in three words during her extraordinary keynote address. Up on the screen appeared

MEMORY AND IMAGINATION

Well, of course. When working to find stuff or answers to help people, we rely on these two techniques for identifying likely sources. Either we remember a known source like the *World Almanac* or the *Dictionary of American Biography* or the Internet Movie Database, or, usually when that fails, we conjure what a source would have to look like to be of use.

Need something in-depth on a school of thought in sociology? There's probably an *Encyclopedia of Sociology* to help out. Trying to find background information on a scholar in transgender studies? See if there's a good biographical source covering gays and lesbians. Need a list of all the characters in *The Simpsons* who have died? Trust me, there's a web site for that.

I vividly remember one of the first reference classes I taught, when we were discussing hunting for good potential resources. I casually told them that one of my favorite tactics was to get a call number or area that seemed likely and then to troll the stacks, just looking to see what was there and if anything jumped out at me. One woman on the right looked stricken, and said, in horrified tones, "Is that all there is? I always thought it was more *scientific* than that…." To this day, I'm proud of myself that I didn't actually laugh when she said that. (I sincerely hope I didn't!)

There's no way that anyone could have total mastery over anything but the smallest of contemporary reference collections, and when you add potentially valuable digital resources to the mix, it becomes absolutely hopeless. Even in days gone by, experienced reference librarians relied on a basic knowledge of a core set of resources and then learned new ones as they went along and knew they could identify ones beyond that with when needed.

Moreover, the mix of print to digital resources that are of regular use in most settings has shifted dramatically, even in the last few years. Conversations about the future viability of many if not most of the print resources we have known and used for generations are commonplace, and as libraries re-engineer their services, it's not unusual for them to trim back print reference collections, albeit often with a catch in their throat and a bit of moisture around the eyes.

I know that feeling; I was raised in the print culture as well. In fact, returning to the theme of deeper information needs, those print (and licensed digital) resources may well still have considerable use. Ready-reference print tools of many types may well have come and gone; some of their deeper cousins might yet find new life in many settings.

So in the current environment, it would seem that imagination is at least as important as memory, and perhaps even more so in many ways. It's not enough just to know a lot of resources, you must be able to find resources, recognize them and evaluate their possible use and effectiveness for a given situation.

That finding and evaluating process can't occur in a vacuum, however. That's why here I will discuss a number of sources, by category, to help you begin. I'll include the major ones that everybody knows, some examples of specialized or interesting ones, important recent or near-future developments, and a few old things to know and love and to impress your future colleagues. Once you get these under your belt, you can use them as a foundation on which to build your own future repertoire of sources you turn to regularly and beyond which you can search for sources for individual needs and inquiries. Memory first, then imagination.

1.2 Evaluation

I would love to tell you that evaluation of information resources is an exact science, guided by immutable principles honed and developed over generations of practice and widely accepted and universally applied. It's a lovely thought, but it just ain't the case.

And moreover, it's probably just as well that it isn't. Evaluation of any information resource depends on *context*—how well it would suit an individual person, need, situation. Evaluation often takes place in two difference circumstances; either on-the-fly, for its usefulness in an immediate situation, or more comprehensively, as a decision for selection for a collection. This isn't completely catch-as-catch-can, there are general guidelines, rules of thumb, and so on, which will be described here and in individual sections of chapters dealing with particular kinds of resources.

Overall, though, most experienced librarians would agree, I hope, that no matter how great a source is on general principles, there's no such thing as a "perfect" one and even if there were, it woulnd't be perfect if a given user doesn't want it, has already consulted it, can't get at it or understand it, and so on.

One of the hallmarks of libraries and the people who work there is a dedication to quality. In an increasingly "good enough" world, this makes us a bit unusual and even retrograde, but that's nothing to apologize for. There are and will always be substantial numbers of people and information needs for which high-quality information resources are sought and appreciated, and that's where we shine. Not only being able to find those great resources, but to separate the wheat from the chaff, present them to users in an understandable and meaningful way, help them to be used and perhaps instruct people in their use, formally or informally.

This kind of evaluation function implies, by necessity, that we have to take a stand. Evaluating means saying some things are better than others, some things are great, others worthless or nearly so. That seems straightforward enough; not everybody thinks that way though, and sometimes librarians, especially those just starting out, can be a bit wary of making evaluative statements or decisions. It's inherent in our work, though; we know information sources and their use better than almost anyone, and thus it's incumbent on us to use that knowledge and help other out in understanding what in our professional opinion will likely be best for someone, in an increasingly overwhelming and bewildering information environment.

This makes me think of Samuel Green, father of us all, who was so prescient in so many ways. In his article, "Personal Relations Between Librarians and Readers", published in the very first volume of *Library Journal* way back in 1876, he laid out much that is still recognizable today as reference practice, though he never uses the word. He spends considerable time advocating what we would today call reader's advisory to engage people in the use of the library and, along the way, improving their minds and tastes. But he also recognized the delicate balance involved in such suggestions and decisions:

> The person placed in charge of this work must have tact, and be careful not to attempt too much. If an applicant would cease to consult her unless she gives him a sensational novel, I would have her give him such a book. Only let her aim at providing every person who applies for aid with *the best book he is willing to read*. (p. xx, emphasis mine)

That pretty much sums it up. Evaluation in that context and this is situational and imperfect. In many situations, when working with someone to satisfy an information need, we seek to give them the best source and that we can find.and they are willing to accept.

1.2.1   Criteria for Evaluation

All that said, there are certain criteria that are often applied in making decisions about resources. Perhaps the most central are **authority** and **accuracy**. These are very important features of any information resource, closely related but also potentially quite different.

If time is not of the essence, if you're evaluating a source for purchase or inclusion in a collection rather than for an immediate need, both of these can be checked in some detail. Spot checking of facts in other known or potential sources can help with accuracy, and biographical checking of authors, contributors, editors, and other participants as well as examination of publishers and any other organizations involved in compilation or production.

On the fly, though, accuracy is pretty hard to assess in a meaningful way, especially if the person you're working with is standing there or on the phone or the other end of a synchronous conversation. In those situations, we often fall back on authority. In a way, authority can serve as a sort of avatar for accuracy, especially because many of the markers we use to think about authority can be seen fairly quickly and easily.

For example:

- Is there a publisher or distributor listed? Is it familiar? Can you find out any more about it?
- Does the source appear reasonable, professionally done? If printed, is it well constructed? If digital, is it well designed, free from typographical or grammatical errors, strange graphics or sounds, distracting features?
- Does it share a track record, heritage, or pedigree with a source you know and trust?
- Can you find (and perhaps verify) an institutional or academic affiliation for the authors, compilers? Are they in a position to know the subject matter involved? For freely available Internet resources, does the domain of the serve concern you at all (.com, .net, .edu, .org, etc.)
- Is there an appearance of care in the source as a whole?
- Are there costs for use (money, registration, personal information required to gain entry)?

And there are others.

To me, this is all a sort of gestalt process. You examine a potential source from these angles and others that make sense in the time and circumstance involved and then you make a judgment call based on the totality of what you see and experience. It's as much a general comfort, look-and-feel kind of decision as anything else. It's rarely binary or black-and-white; I've suggested lots of sources I wasn't crazy about but seemed ok at the time, and conveyed any reservations I might have had to the person I was working with. ("Well, this isn't bad, I like the fact that it comes from a hospital web site but I wish it was slightly better organized.")

It often boils down to two big questions:

- *Does the resource meet its stated purpose?*
- *Can you imagine a better resource, and are you likely to be able to find it quickly?*

Those two will take you a long way.

There are, of course, other criteria that often get used in evaluating resources, including

- *purpose and audience* What does the resource intend to do, for what audience? Does it meet those objectives? Is the audience appropriate for the particular use or person you have in mind?

- *scope and coverage* How comprehensive or selective is the resource? Does it meet its own criteria for scope and coverage?
- *arrangement and organization* Does the organization make sense? Print resources or those on a static Web page can be arranged by alphabetical order (called a "dictionary" arrangement) or by some thematic approach—by subject, time, geography, etc. (a "classified" arrangement) or some combination of the two. Digital resources that are databases require reasonable and useful search and browsing mechanisms that work well for the subject matter, and have sufficient metadata to support required search types.
- *time-appropriateness* In some cases this refers to currency or update frequency, for resources that deal with dynamic topics. In others, this refers to whether or not the source covers a reasonable historical time frame.
- *format* Does the physical or logical format make sense? Is it a printed resource that would be better in digital form, or vice versa? Is it easy to read, to view, to navigate?
- *special features* These run the gamut from annotations of bibliographic entries in a print source to the ability to search by color and shape in a museum image web site database. These can either be positive or negative; great features that add value to the resource and its experience can be great; lousy or intrusive ones might diminish your opinion of it or even disqualify it.

There's a category of resources that is worth mentioning here. These are sources that are so widely known and used, that have been around forever, that most librarians don't think twice about using them in most settings. They are the canonical sources, the ones nobody really bothers to "evaluate" any more, unless something radically changes with the source itself such as a new edition, a new publisher, a new format, or the like, or the world around it changes so much that we need to examine an old source with new eyes. When sources such as the *Grove Dictionary of Art* or *World Book Encyclopedia* came out in digital formats, they got a pretty substantial once over, as did the *Dictionary of National Biography* when Oxford University Press took it over.

These sources are, honestly, really beyond evaluation at this stage. It's worth examining them closely if you're learning them or seeing them for the first time, or for that matter if you're not. It's unlikely, though, that you're going to decide that a source like *Encyclopedia of Associations* just isn't any good. Whether you believe that, for example, a freely available web resource like idealist.org has advantages in a particular setting is another story, and in fact that kind of decision goes on all the time. The big ones, though? Have a look, learn and understand, but don't sweat the detailed investigation for purely evaluative purposes.

In sum, in a rapidly changing and dynamic information environment, the ability to examine and evaluate and make good, balanced, professional decisions about information resources is one of the characteristics that distinguish librarians from other players in the information world; advocating for quality, within reason, is something we take great pride in and something that is valued in many circumstances.

1.3 Searching

The ability to effectively search using tools of all kinds is a necessary component of making this all work, and one of the aims of this book is to help explain search technique, in the context of discussing sources.

Searching for information is much harder than it looks. Modern search tools, beginning with free web search engines—but their interfaces have had impacts on the interfaces to more complex, professional-level tools as well—make it look very easy, and for what they do and cover and can

provide, it is actually quite simple. There are some tricks to web searching, of course, about which more later; basically, though, a few elementary things are all 99% of people do anyway.

Those search tools mask the complexities that underlie information searching in several areas, which I'll work through briefly here:

Language is **ambiguous**. Do you take classes from teachers? Or faculty? Or educators? Professors? Instructors? And how many different meaning can the 5-character string "pitch" have, or "china" or "bush"? These sources of ambiguity, *synonymy* and *polysemy*, respectively, mean that although we want to search for concepts when approaching an information system, we are instead forced to search for words, and those words may not be unique and perfect matches to those concepts. And let's not even get started on the search for things that aren't textual, such as images, sounds and so on.

There are a large variety of **formats and structures** for information objects themselves, and for the descriptions we create of them and the topics they cover. HTML is one structure for those items, and for descriptions as well, every database has its own often unique structure, we have MARC for some—but not all—records about books, and then there's just straight text like in a word processing document which has no structure or metadata whatsoever.

Then there are the various **sources and types** of information resources. Here's an edited list of the kinds of resources my university's library has:

> Catalogs
> Datasets
> Dictionaries
> Directories
> Digital Collections
> Electronic Books
> Electronic Journals
> Electronic Newspapers
> Electronic Texts
> Encyclopedias
> Image Collections
> Maps
> Reference Tools
> Research Databases
> Resources by Subject
> Search Engines
> Search for Electronic Resources
> Software
> Summit Catalog
> UW Libraries Catalog

Each of these types of resource has its own idiosyncrasies, history, search methods, and so on, and within many there could be dozens, hundreds, even thousands of individual resources with their own searching methods and structures and interfaces and then to the untold number of actual facts, articles, books, images, and so on that are collected here. It's staggering—and no wonder people love Google, that makes it look so simple.

Just as icing on the cake, it's worth mentioning that while the things themselves present challenges to the searcher, keep in mind that most people (a) don't know what they really want, (b) don't know what's available to help them to find it, and (c) are very poor at knowing or deciding

when to stop a search. Stopping when you found something is easy, but what about when you don't? When will additional effort be fruitless? When should you stop a search, when there's in fact nothing to be found? Or even more perversely, when should you stop it when the point of the search is to demonstrate that what you're looking for *doesn't exist?* (Think patent searching.)

This bewildering array of complexities is among the reasons experienced reference librarians are awesome characters; I'll stand one up against search engines any day for tackling information needs beyond the facile.

1.4 A Philosophy of Service

For a very long time now, there's been discussion in the reference world about philosophy of service, sometimes referred to as levels of service. It boils down to whether it's best to just find what people want and give it to them, or to try instead to help them to be better searchers and consumers of information so they can do more on their own in the future. Much has been written and discussed on this point, especially in textbooks of reference. So now I guess it's my turn.

Whatever works.

Pretty disappointing for a philosophy, I know. It's pragmatic, to be sure, as well as realistic, in my mind. I would love to think that we could play a significant instructional role in our professional work and there are obviously places where that's possible. In schools and academic settings, of course, especially when we're lucky enough to work with faculty on curricular development, planning assignments and lessons, and so on. In a public library environment, working with new members of the community and the young, and in all settings with people who are genuinely interested in the process of searching for information, though they are pretty few and far between, enabling those who do to be more effective on their own.

But—and this is a big but—these opportunities represent a small minority at best. Most people just won't sit still for it, and you run the risk of turning them off or alienating them. As my father used to say, this is like trying to teach a pig to sing...it won't work and you'll just annoy the pig.

So I'm decidedly *not* saying here that you shouldn't bother in trying to play an instructional role. I'm saying choose your moments. Be a little sly. Show searching tricks and explain what you're doing as best you can as you go along. (Email is a great environment for this, it takes quite a while to type it all out but then the recipient has the full text of your explanation.) As you look at candidate resources, talk through what you like and don't like about them. Involve people in the process by asking questions and watching their responses.

Don't expect miracles, though, and don't beat yourself up if these efforts fall flat or aren't as fruitful and you might hope.

On the other hand, one of the most important things we can do *as professionals* is to offer advice and guidance and help. People crave this, especially in the complicated and dynamic information environment we're in, and we all turn to professionals for help when confounded. What do you expect from a doctor, or an attorney or an architect? Options, yes, but also advice and assistance in choosing from among those options. That's what we do with information stuff.

Helping people to help themselves as much as they're willing to accept is probably about as much as we can meaningfully hope for, at least at present. This can be surprisingly fulfilling, in the appropriate situation.

After all of this, I want to reinforce something I said at the beginning. Reference work happened for a set of reasons. People were having difficulty finding information and their new local library responded by offering help. That's all very fine and wonderful; today, though, we face different challenges. This is not the information-impoverished 1870's; in fact most people are overwhelmed with the amount of information, choices, channels, and sources they can get at. (The unlucky ones have the opposite problem; our services need to address them as well.)

Libraries and reference services can continue to be important to those information needs— but only if people know about them, value them, and use them. If not, if people make other choices and turn to other mechanisms, then library services will be of diminished importance and likely receive diminished support.

Reference isn't inevitable. If people prefer other means of getting information and help, then perhaps reference has done it's job and we can move on to other professional functions and opportunities. I don't think we're quite there yet; I'm going to suggest a number of ways here that we and our institutions can work to help people in all kinds of familiar and novel ways. This is something to bear in mind, however, as we go on.