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Against the Grain

"Linking Publishers, Vendors and Librarians"

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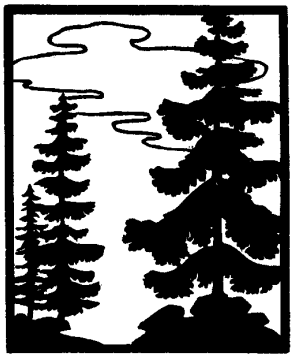
Sustainability in Collection Development: Seeing the Forest and the Trees



by **Karen Christensen** (CEO, Berkshire Publishing; Phone: 413-528-0206)
<karen@berkshirepublishing.com>

One of the things that makes academic publishing such a pleasure is that we create new ways for people to get information from the world's experts, and new ways for those experts to reach a wider audience. I myself became an expert on environmental living, and a "green" author with books published in many languages, because as a young mother in London I asked so many questions about my baby's food, water, air, and future.

Today, I continue to ask questions and have the privilege of working with hundreds of experts on all aspects of environmental sustainability. I'm dazzled by the range of analysis that's being done. When it comes to understanding the impact of our everyday choices, however, we haven't come far enough. There's far more knowledge of specific issues than there was 20 years ago but not much more awareness of the big picture. We see the trees, but we still are not seeing the forest.

That expression has a concrete application when it comes to libraries and publishers. The "Building Sustainable Libraries Survey" we ran recently (see preliminary details on p.16) shows much emphasis on reducing paper use but little awareness of the impact of digital technologies. We seem still to be, quite literally, seeing only the trees. I wrote about this issue in ***Against the Grain*** last January, as well as in the **UKSG** *Serials* journal, and now present a group of articles in this "Sustainability" issue that will help readers see the forest — the bigger picture.

Our focus here is environmental sustainability, which means using resources and interacting with the natural world in ways that will not reduce what is available to future generations. **Merilyn Burke**, **University of South Florida**, provides a fine overview of collection development challenges, while **Tony Horava**, **University of Ottawa**, digs into how sustainability affects collection management. In "Getting There from Here," environmental historian **Michael Smith**, **Ithaca College**, also looks at travel and professional conferences in terms of social welfare, an aspect of sustainable development. **Maria Jankowska**, **UCLA**, well-known for her work in the library community, contributes an overview on "Practicing Sustainable Environmental Solutions."

A useful case study of how sustainability issues are being incorporated into many programs and disciplines has been contributed by **Roxanne Spencer** of **Western Kentucky University**, and we include a summary of results from the survey that was circulated to all contributors and contacts for *Berkshire Encyclopedia of Sustainability*, to **Berkshire's** library contacts, and via ***Against the Grain's*** e-newsletter. Statistican **Justin Miller**, a doc-

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If Rumors Were Horses

Whew! This fall/winter has been a whirlwind! First was the **30th Charleston Conference** that went very well (except for the rain, only the second time in 30 years!), then the christening of my granddaughter (9 months), and then Thanksgiving and Christmas! What's next. Oh yes, 2011, coming up!

Let's see. Big news that **Congressional Information Service (CIS)** and **University Publications of America (UPA)** have been acquired by **ProQuest** from **LexisNexis** just after Thanksgiving. **CIS** and **UPA** editorial staff members will join **ProQuest** and will continue to be based in their Bethesda (MD) offices. Product names will remain the same, but will begin to include the **ProQuest** brand in 2011. Customers can find answers to their questions about the transition from **LexisNexis** to **ProQuest** at *www.proquest.com/go/CISUPAinfo*.

www.against-the-grain.com/

Plus, it was great to hook up with the sexy **Simon Beale** of **ProQuest** during the **Charleston Conference Gala Reception** on Thursday night!

And just heard from the incredibly hard-working **Beth Bernhardt** who says that her daughter **Anna** is engaged! **James** proposed to **Anna** Monday night a few weeks ago! I guess **Beth** is already shopping for her mother-of-the-bride trousseau! (or am I out of date?)

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toral student at **Ball State University**, provided this first analysis. We also include a short version of the article "Ecological Footprint" by **Whitney Bauman**, **Florida International University**, published in the first volume of the *Berkshire Encyclopedia of Sustainability.* The authors provide many great links and resources for your exploration of the subject, and practice, of sustainability.

Because I've written about it in ***Against the Grain*** so recently (January 2010), I did not include a separate article on the challenges posed by digital publishing. But this may be the biggest issue facing librarians and publishers, and I will continue to provide information and recommended links at my blog (yes, indeed, online!). Here, though, I'd like to share a few thoughts.

I love trees and even had the idea of including an article on trees in world history — written by the **Cambridge University** botanist **Oliver Rackham** — in the new *Berkshire Encyclopedia of World History*. There's a reason we think so much about trees — beyond the fact that paper is the easiest thing to tackle in our workplaces.

Scientists call whales and elephants "charismatic megafauna." Trees are charismatic megaflora, and they represent for us the world of nature that we want our grandchildren to enjoy. Their size, age, and beauty elicit a sense of reverence. But most trees are not quite so precious, individually. The phrase "killing a tree" is overkill; trees are a renewable resource, and we need to see beyond them in order to do our jobs as providers of information, knowledge, and wisdom.

Our use of energy and water matters much more than wood pulp. In the eastern United States, mountaintop forests are often destroyed in order to get at coal to fuel power plants — and generate the electricity that powers eBook readers, so eBooks might in some cases kill more trees than print books. I'm committed to digital publishing and doing more of it all the time, so this sermon is one I'm preaching to myself, my staff, and to vendor and publishing partners (who include **Credo Reference**, **GVRL**, **EBSCO**), and others.

The impact of print publishing is almost entirely in the production of the paper itself and in the transport of the books. Publishers can reduce the paper impact by participating in the Green Print Initiative, but we also need to improve our supply chains. Books are heavy, yet they are sometimes shipped six to eight times before reaching the library.

Digital publishing is more complicated. Impact comes from data storage, data distribution, raw material extraction, e-waste disposal, and toxic clean-up. Legacy (i.e., old) software, hardware, and storage media are less efficient, but replacing them is not only costly but leads to the challenge of finding a reasonable way to recycle.

Changes lie ahead. Environmental product declarations will become standard, and even required. Life cycle analysis will lead to regulation of technology industries and data management services (including "cloud computing"). Equipment will be designed for remanufacture and to last longer. A three-year life cycle for a piece of equipment that contains toxic heavy metals is not going to be good enough — not to mention the fact that a smart phone is estimated to use the equivalent of 600 gallons of gasoline (this includes its manufacture, use, and disposal — its "life cycle").

And we will have to find better ways to manage our own data. In the old days, a single copy of a document would simply be filed. An important document might merit a carbon copy or two. Today, we let digital copies multiply in part because we feel nervous about ever retrieving anything because there is just so much data around. In spite of the environmental cost of this proliferation, there is a **Stanford** open-source backup project called **LOCKSS: Lots of Copies Keeps Stuff Safe**. But when hosting a mere 10MB of data takes a gallon equivalent of gasoline per annum (producing 2-1/2 kilos of carbon dioxide), we should be keeping copies to a minimum. Here's what my email signature says: "Please consider the environmental impact of printing, forwarding, & storing emails. Going paperless isn't necessarily green!"

Karen Christensen is a publisher and writer who specializes in sustainability, social networking, and China. She is the owner and CEO of **Berkshire Publishing Group**, which she cofounded in 1998. She was senior academic editor of the award-winning *Encyclopedia of Community* (Sage 2004) and is the author of popular environmental books translated into French, German, Chinese, Japanese, Korean, and Thai. She began her career in London, working at **Blackwell Science** and for **Faber & Faber** and the **T.S. Eliot Estate**. This range — from science to literature — characterizes her activities today. She is the author of *Home Ecology, Eco Living, The Green Home,* and *The Armchair Environmentalist*, about which **Lester Brown** wrote, "Filled with wisdom…[there is] more environmental advice in this crisp, tightly written volume than in anything I've seen to date." She divides her time between the Berkshires and New York City and is writing a book about the search for community entitled *A Smaller Circle* (*www.asmallercircle.com*).

Building Sustainable Libraries Preliminary Survey Results

by **Justin Miller, M.P.A.** (Doctoral Student, Adult, Higher & Community Education, Green Funding Specialist, Council on the Environment; Phone: 765-285-5085) <jmmiller5@bsu.edu>

Guest Editor's Note: *The "Building Sustainable Libraries Survey" gathers information on sustainability efforts at academic libraries across the United States. These preliminary results will be followed by a final report, in greater depth, released next year by* ***Berkshire Publishing Group*** *and* ***Against The Grain****. — **KC***

Over 1/4 (26.9%) of respondents have a sustainability-related degree or research center.

On average, over 1/2 (56.1%) have taken steps to green computer equipment purchasing and services, with the most popular being sharing printers (95.8%), recycling of equipment (87%), and examining cloud computing (71.4%).

As an area for improvement, on average, only 1/4 (23.7%) of institutions chose books based on sustainability criteria, and no institutions report asking suppliers about books sourcing or supply chain.

While over half (56%) of respondents favor electronic resources, fewer (40%) have data on the printing of these resources, and no institutions have inquired on the vendor holding an Environmental Product Declaration.

With the exception of scientific and economics/business journals, the majority of respondents feel that available resources on environmental sustainability are "satisfactory."

On average, almost 1/3 (30.8%) of respondents have implemented some sustainably positive physical changes, with natural lighting, LCD monitors, computer shut downs, and low-water landscaping being the most popular.

On average, almost 3/4 (72.6%) of respondents have implemented sustainably positive changes in terms of supplies, with paper recycling bins (100%), recycle-content paper supplies (96.2%) and the encouragement to reduce office supplies and paper (96.2%) being the most popular.

Over half of respondents belong to AASHE and/or are signatories of the ACUPCC. None of the respondents thought their institution had signed the **Talloires Declaration** (see pages 18 and 30).

THE TALLOIRES DECLARATION

We, the presidents, rectors, and vice chancellors of universities from all regions of the world are deeply concerned about the unprecedented scale and speed of environmental pollution and degradation, and the depletion of natural resources.

Local, regional, and global air and water pollution; accumulation and distribution of toxic wastes; destruction and depletion of forests, soil, and water; depletion of the ozone layer and emission of "green house" gases threaten the survival of humans and thousands of other living species, the integrity of the earth and its biodiversity, the security of nations, and the heritage of future generations. These environmental changes are caused by inequitable and unsustainable production and consumption patterns that aggravate poverty in many regions of the world.

We believe that urgent actions are needed to address these fundamental problems and reverse the trends. Stabilization of human population, adoption of environmentally sound industrial and agricultural technologies, reforestation, and ecological restoration are crucial elements in creating an equitable and sustainable future for all humankind in harmony with nature.

Universities have a major role in the education, research, policy formation, and information exchange necessary to make these goals possible. Thus, university leaders must initiate and support mobilization of internal and external resources so that their institutions respond to this urgent challenge.

We, therefore, agree to take the following actions:

1. Increase Awareness of Environmentally Sustainable Development. Use every opportunity to raise public, government, industry, foundation, and university awareness by openly addressing the urgent need to move toward an environmentally sustainable future.

2. Create an Institutional Culture of Sustainability. Encourage all universities to engage in education, research, policy formation, and information exchange on population, environment, and development to move toward global sustainability.

3. Educate for Environmentally Responsible Citizenship. Establish programs to produce expertise in environmental management, sustainable economic development, population, and related fields to ensure that all university graduates are environmentally literate and have the awareness and understanding to be ecologically responsible citizens.

4. Foster Environmental Literacy For All. Create programs to develop the capability of university faculty to teach environmental literacy to all undergraduate, graduate, and professional students.

5. Practice Institutional Ecology. Set an example of environmental responsibility by establishing institutional ecology policies and practices of resource conservation, recycling, waste reduction, and environmentally sound operations.

6. Involve All Stakeholders. Encourage involvement of government, foundations, and industry in supporting interdisciplinary research, education, policy formation, and information exchange in environmentally sustainable development. Expand work with community and nongovernmental organizations to assist in finding solutions to environmental problems.

7. Collaborate for Interdisciplinary Approaches. Convene university faculty and administrators with environmental practitioners to develop interdisciplinary approaches to curricula, research initiatives, operations, and outreach activities that support an environmentally sustainable future.

8. Enhance Capacity of Primary and Secondary Schools. Establish partnerships with primary and secondary schools to help develop the capacity for interdisciplinary teaching about population, environment, and sustainable development.

9. Broaden Service and Outreach Nationally and Internationally. Work with national and international organizations to promote a worldwide university effort toward a sustainable future.

10. Maintain the Movement. Establish a Secretariat and a steering committee to continue this momentum, and to inform and support each other's efforts in carrying out this declaration.

Collection Development and Sustainability at the University of South Florida

by **Merilyn Burke** (Reference Librarian, University of South Florida Tampa Library. 4202 E. Fowler Avenue, Lib 112E, University of South Florida. Tampa, FL 33620; Phone: 813-974-4561) <msburke@usf.edu>
http://guides.lib.usf.edu/profile.php?uid=15018

Sustainability, while relatively new as a collection development area, is not lacking in titles for selection. The **University of South Florida (USF)** recently created a new hybrid academic unit: the School of Global Sustainability. This is an interdisciplinary unit that is quickly becoming the norm not only on the **USF** campus but across the country. The concept of interdisciplinary studies can, and does, present a challenge to the collection development librarian.

In the case at the **University of South Florida**, and I am sure at other locations, the School of Global Sustainability has pulled faculty from the natural and social sciences, engineering, business, the humanities, the arts, education, and health. With this kind of mix, collection development can end up covering the LC range from A to Z. Global warming, environmental issues such as the recent oil spill in the Gulf of Mexico, greenhouse gases, and alternative energy sources have made these programs front and center for educational institutions. With these initiatives, plus the creation of an on-campus Office of Sustainability, the collection must support not only the curriculum but the projects that the sustainability office initiates.

In my collection development (CD) role, anthropology was already part of my assignment, and when the School of Global Sustainability was announced as a new program, I requested that sustainability be given to me as well. While this may appear to be unrelated at first blush, there are a number of anthropology faculty members assigned to this new program. As background, the anthropology department at my university is an applied anthropology department and has a diverse collection development profile; thus sustainability was not a stretch. In fact, I did not need to radically change my profile in our **WorldCat Selection** profile since I was covering a large range of material with anthropology.

The challenges in selecting materials for sustainability have to do with the diverse topics that are covered under the school's newest program. Since the program is a master's level program, materials must reflect the level of the students. Using tools like **WorldCat Selection** and **Gobi**, to which our library subscribes, is helpful in listing the level of the materials available through those services. In addition, I review *Choice* on a monthly basis, and yes, I go through the entire collection with a few exceptions because the reviews list the level of the materials, which aid in my selection process. Another useful tool is the Best of Reference published in the *Library Journal*, which is published yearly and covers a broad spectrum of topics. It is important to look at as many relevant subject areas as possible since sustainability is interdisciplinary, and to bypass an area might mean missing an important resource.

In addition to using these sources, I need to know what is being taught — this goes for all of my collection development subjects.

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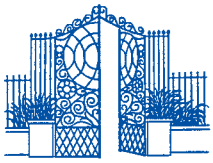

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Coll. Dev. and Sustainability at USF
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At the beginning of each semester, I go to the program's Website to see what current courses are being taught. For example, this semester, the Masters in Global Sustainability will include public health issues, green infrastructure for sustainable communities, economic and management issues that affect sustainability in developed and developing nations, and water-related issues. The diversity of topics can be a challenge, although the anthropology collection-development assignment has also covered a large portion of these topics in the past, so the addition of the new assignment has not been as difficult as it might have been. I work within the framework of the courses taught, relevancy to courses, and the needs and interests of both the faculty and the students since collection development cannot work well without the outreach of the CD librarian to his or her constituencies. In addition to the immediate needs, I look to the future: what will be next on the horizon for sustainability? In the case of sustainability, it means reaching past the library walls and keeping up with local, national, and world news, because it seems that the daily news can impact the direction of sustainability.

WorldCat Analysis as an Option

As the CD librarian for applied anthropology and now sustainability, I discovered that while traditional topics were covered quite well in the **WorldCat Analysis Program**, interdisciplinary topics did not fare well at all. When there is an interdisciplinary area with wide-ranging subject matter, it is difficult to almost impossible to assess the collection with this tool. This tool works better with specific subject areas; it only causes confusion with areas that cover a large range of topics like interdisciplinary subjects do. Sustainability is one of those subject areas that cover such a wide range of issues that I was able to select a few areas, but I was not able to get as good a grasp in **WorldCat Analysis** for comparison as I would have preferred. The environment may be covered, but when dealing with environment as a part of global health, the information is not sufficient enough.

So How Do I Measure, Compare, and Select?

One of my methods is to gather information concerning sustainability; this includes checking other libraries' holdings, including ones that have LibGuides for sustainability, checking such sources as *Choice* and **Google Scholar–Books** with a myriad of topics including sustainability, water resources, and other terms that are inherent in the field. I look at the courses being taught at my institution to see the direction of the program and to make sure I am aware of any new course being offered. And I communicate with my faculty because each one of them comes with a personal agenda of what they want to teach and what tools they consider important. Each faculty member who teaches a course has a goal in mind for his or her students. Sending that professor a choice of titles in his or her area allows me to see what they select. Their selections and their rejections help me develop a profile and purchase materials that are more appropriate for their classes.

It is important to remember that books are not the only materials that need to be purchased. In my LibGuide, I make sure that I list both paper and electronic journals; I include databases along with audio-visual materials and pertinent websites of interest. The LibGuide allows the library to let the faculty and students know what we have in that subject.

While the creation of a library guide does not appear to be a tool for selection, it can help in the process of evaluation and review of materials that have been selected. I try to involve the faculty and students in the specific programs to review the LibGuide, to send me titles that they feel are important — including media materials, book titles, journals and Websites. The inclusion of students and faculty can provide insight into the direction that the collection should be going. In addition, the creation of such a guide forces one to organize the concepts of sustainability and to identify the main principles that are the basis of sustainability as a subject area. The basic concepts that have to be considered include the welfare of society; the interdependence of human economies and natural ecosystems, with an emphasis of human impact upon these systems; and the availability of resources and their preservation and use — sustainable development and the transition to achieve sustainability.

While there is no one simple way to select materials for sustainability, there are tools that will help the collection development librarian make the appropriate choices. Tools such as *Choice*, *Library Journal*, **WorldCat Selection**, and the journals with book reviews that cover the topics involving sustainability and the environment are all useful in this multidisciplinary subject. In addition, involvement with the faculty — making sure their needs are met and the materials reflect the courses being offered — is critical. Review the literature, see what is out there, and keep current.

Merilyn Burke has worked as a Collection Development Librarian at **Syracuse University**, a Serials Librarian at the **University of Connecticut Health Sciences Library** in Farmington, Connecticut, and as an Access Services Librarian at the **University of South Florida**. Currently she is a Reference Librarian doing collection development for Sustainability, Anthropology, Africana Studies, and Religious Studies. In addition, she is responsible for copyright issues for the library.

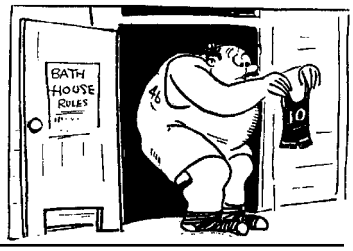
Resources

Choice: Current reviews for Academic Libraries

Library Journal: Best of 2009 Reference (yearly)

Resources for the School of Global Sustainability (my sustainability guide): *http://guides.lib.usf.edu/sustainability*.

Collection Management and Sustainability in the Digital Age: Chasing the Holy Grail



by **Tony Horava** (Associate University Librarian – Collections, University of Ottawa, School of Information Studies, Faculty of Arts, 200 Lees Avenue, Room B-153, Ottawa, ON, Canada K1N 6N5) <thorava@uottawa.ca> *http://www.sis.uottawa.ca/faculty/thorava.html*

How can collection management be sustainable in the turbulent digital era? The *Oxford English Dictionary (OED)* defines sustainability as "'Capable of being upheld or defended; maintainable' and 'Capable of being maintained at a certain rate or level.'"[1] The *Merriam-Webster Dictionary* refers to "capable of being sustained; of, relating to, or being a method of harvesting or using a resource so that the resource is not depleted or permanently damaged."[2]

The implication is that any human activity needs to be reassessed so as to maintain its viability into the future. It's readily apparent that the world of collection management is beset by many interrelated challenges that are bewildering in complexity and intoxicating in their potential. It's not merely a question of maintaining or enduring our current practices but actively justifying and transforming our raison d'être in light of a rapidly changing environment. Sustainability by means of reinvention is perhaps a more accurate approach. This involves a thorough understanding of our strategic role in the organizations that we support, and planning for the future. As **Jankowska** and **Marcum** assert, "Library sustainability must become a strategic consideration balancing the assumptions of continued growth and expansion."[3] Ultimately this can be seen as asserting our "value footprint" in our institutions, if you'll permit me to coin such a phrase. I think it brings together the need to frankly assess what we provide to our community and to frame this in terms of the impact we provide. This can be seen in the outcomes that are important, such as stellar research produced by faculty and a high level of educational accomplishment attained by students. But the difficult realization that we can't be all things to all people can lead us to better define our priorities. This can also sharpen the focus on the age-old dilemma of what constitutes a core collection. Providing alternative materials (either open access or available via document delivery / ILL or pay-per-view) is an approach that will become more and more important as we confront the budgetary and scholarly communication challenges of our day.

What length of time should we consider in regards to collection management and sustainability? Five years is too short; fifty years is almost unimaginable. Twenty years is probably a realistic marker, although this involves a lot of crystal-ball gazing into trends and circumstances. If we consider the exponential pace of change of the past ten years as a baseline, it seems that twenty years is the outer limit of valid analysis. If we follow **Walter Lewis**, who adopted this timeline in his thought-provoking piece[4] on the future of academic libraries, we'll be in good company.

Let's start with a few brushstrokes to sketch the landscape.

Space Wars

In order to repurpose space for learning environments, libraries have made strategic decisions to move little-used material or items with digital surrogates to off-site storage. This has ignited heated protests in many institutions from faculty who are upset over losing the ability to browse the entire collection in one campus location. Meanwhile, collection managers and other library administrators are under enormous pressure to transform their physical spaces in ways that permit greater collaboration and wider access to tools, technology, and expertise that enhances learning in a commons model.

Budget Pressures

The era of flat or declining budgets is likely to be with us for many years to come. The **ICOLC** (**International Coalition of Library Consortia**) Issues Statement on the Global Economic Crisis and Its Impact on Consortial Licenses has held up a mirror to the times we live in and concludes soberly that "Putting price first will help all parties, because budget pressures will drive decisions in a way never seen before."[5] All of us are facing this challenge, and it is the vendors who offer flexible, creative approaches to pricing, content options, and licensing that will survive and thrive in this environment. The next few years will reveal which vendors are up to these challenges. Working together to understand mutual interests and find innovative solutions has never been as important as it is today. Assessing the wide variety of user needs for scholarly resources, and examining cheaper or free alternatives, is leading to a sanguine evaluation of value for money.

Abundance of Resources

As more and more commercial vendors are developing new products and chasing a finite and shrinking budget pie, it will become clear that some resources don't have a market. The global research output has sharply ratcheted upward in recent years. The abundance paradigm leads inevitably to the conclusion that addressing niche needs with unique research tools will become increasingly important. Moreover, the customer base for many current products will diminish as well. Some of the explosive growth in scholarly information resources is in open access material, and here we have an opportunity to develop longer-term approaches that are sustainable and consistent with our values and to lessen our dependence on commercial products. The challenge will be to develop viable solutions that address publishing costs, institutional funding models, and the scholarly communication process across research disciplines in a systemic manner. One can agree with **Dan Hazen** that the consequence of commercialization is to "threaten the free flow of information that the academy requires."[6] How we will balance our investments in licensed resources with open access investments is a very large and complex question.

Profusion of Interdisciplinary Programs

All of us have seen the sprouting of programs at the crossroads of traditional disciplines, such as Globalization, Bioethics, Population Health, Environmental Studies, and Aboriginal Studies, to name but a few. (Also in this issue, see **Merilyn Burke's** "Collection Development and Sustainability at the University of South Florida" for more on this topic.) Collaborative teams within the university or across institutions are becoming the norm. This has required a rethinking of how program support is understood and collection investments are made. Scholarly resources that enhance knowledge and problem solving within such programs will become increasingly valued by the community. Creating synergies in these research areas will require a careful assessment of how we prioritize our budget allocation.

Performance Indicators

In this era of assessment and accountability for the use of public tax dollars, there is a much greater onus on the library to demonstrate value for money spent on collections. A sustainable collection will be one that can do this in a politically compelling manner. How to show return on investment in a meaningful and coherent way that respects the inherent differences in the disciplinary cultures, while recognizing the institution's strategic goals, is no easy feat. Usage statistics are important, but equally important will be the analysis of how the collection is used in the preparation of grant proposals and the productivity of researchers in relation to their peers elsewhere.

A smorgasbord of acquisition models — e-journals, eBooks, reference works, and primary scholarly content in digital form can be acquired through many channels; it can be paid as a single purchase or subscription or through various hybrid models that combine the two. The explosion of information resources and multiple acquisition options has led to infinitely greater complexity in decision making and has had a ripple effect on selection decisions and technical service workflows, as well as budget allocation procedures. This reality permeates our policies, procedures, and day-to-day challenges in acquisitions and collection development work.

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Core Values

It's impossible to address sustainability without considering our core values. Intellectual freedom, equity of access, trustworthiness, and stewardship are values that we hold close to the heart. They are woven in the fabric of our professional lives and organizational cultures. All of our collection management activities — selection, budgeting, space planning, weeding, and preservation — are underpinned by these principles. Our workflows and policies in an analog, print-based world were framed by these values over many generations. Do we still accept these values as integral to how we develop a rapidly expanding digital collection, how we acquire materials, and how we make them available? I think the answer is a definite *yes*. The question of how we apply these values, however, is no simple matter. As we grapple with short-term and long-term collection challenges, we can ask ourselves whether our individual and collective choices and actions are consistent with the above values or not. If yes, then we can feel reasonably confident that we are acting in the best interests of our community and profession. It may be that we need to emphasize some values over others, in the interests of practicality and incremental progress.

Digital Collections

There are many in our profession who believe that our collections will be largely digital in the not-too-distant future. As commercial and noncommercial digitization rapidly progresses, it is fairly certain that most document types — journals, newspapers, microforms, government publications, films/slides, maps, rare books, and theses — will be available primarily in digital form. This will be the default medium, and patrons will need to use other mechanisms, such as print-on-demand, to obtain a hard copy for their personal use. And what about books? This is where the complexity of platforms, business models, and patron preferences will lead to a mosaic of possibilities. In the humanities and social sciences in particular, the print book is still the medium of choice and enjoys great prestige and psychological attachment, regardless of the growing usage and acceptance of eBooks in these subject areas. Faculty promotion and tenure processes have been very reluctant to accept eBooks, and digital scholarship in general, as legitimate forms of scholarly output. And as long as there is sufficient demand, the publishers will continue to make print available alongside the eBook. In other research areas such as science, engineering, medicine, and management, however, the physical book as artifact and container of knowledge will be largely superseded by the digital format.

More than a decade after the Internet turned our assumptions of collection management upside down, the access/ownership dichotomy is still a challenge for us. Purchase is important from the perspective of enabling preservation options, whether locally or via third-party providers. We have accepted that access arrangements are integral to delivering scholarly information resources that are not available for purchase. These resources, however, are typically based on a lease or subscription payment. As the scale and scope of these resources grow — many of them highly interdisciplinary — how will we make decisions on what we can afford and why? User surveys, focus groups, product evaluation including usage, budget allocation formulas, and targeted funding are common methods used to prioritize resources. The right mix of methods will depend on what is perceived to be most effective for a given research discipline in the institutional context.

The inherent instability, mutability, and rebundling qualities of digital content are in the DNA of these scholarly objects. This is a fundamental break from the sense of stability and predictability that their physical analogs exhibited. Our collection, however defined, contains large swaths of material that can never be controlled and contained in the way that print items were. Born digital objects create another dimension of challenge, since comparison with predecessors for quality and impact isn't an option.

Kallinikos, **Aaltonen**, and **Marten** have articulated a general theory of digital objects that reflects upon our volatile environment:

> Digital objects are editable, interactive, open or reprogrammable and distributed. Rather than being simply the contingent outcome of design, these attributes derive from the constitutional texture of digital technologies, most notably the modular and granular make-up of digital objects and their numerical nature. Taken together the attributes of digital objects and the operations by which they are sustained mingle with social practices redefining the scope, the object of work and the modes of conduct underlying them.[7]

The modes of use, forms of collaboration, and remix of information are almost infinite in range today. Digital collection resources present possibilities for collaboration, recombination, analysis, and portability that were unthinkable not too long ago. What's most intriguing is the social interaction and personal behavior that underlie this shift. Our students and faculty expect more from a library's collection than ever before and will go elsewhere if the resources are wanting or not easily accessible. Seamless 24/7 digital availability, integration with a range of desktop applications and now mobile technologies, collaborative sharing of online research materials, and metasearch capabilities are the new normal. This in turn has a domino effect on search behavior and discovery expectations, information gathering, and workflow patterns as they relate to collection use. The library collection, on which huge sums are invested over time, competes with many external alternatives for patron attention.

The Ithaka Faculty Survey 2009 makes this uncomfortably clear: "As scholars have grown better able to reach needed materials directly online, the library has been increasingly disintermediated from research processes, as the previous section on shifting discovery practices illustrated. The library must evolve to meet these changing needs."[8] How our collection investment strategies evolve will depend, at least in part, on how we address this question. If we are to have more than a buying and delivery function, how do we meet those changing needs, and what unique value in the research process do we represent? If we want to avoid disintermediation, a more active partnership in the research and teaching process (such as embedding librarians in the faculty) is important. Developing workflow tools that support easier integration of scholarly resources into course materials is also a necessity.

What has also become clear in recent years is the gargantuan challenge of long-term digital preservation in a landscape of shifting formats, platforms, access methods, and business models. There are many well-developed initiatives that have taken root — such as **LOCKSS**, **Portico**, and **Hathi Trust** in the United States, and **Scholars Portal** in Canada — and one hopes that they will be sustainable beyond what we can imagine in our current set of assumptions. The scale of the problem is far better understood than a few years ago. As cultural memory institutions, we are struggling to develop cohesive, long-term options that are affordable, durable, and trustworthy. The challenges are described in the Trustworthy Repositories Audit and Certification: Criteria and Checklist developed by **ARL** (**Association of Research Libraries**) and **OCLC** (**Online Computer Library Center**):

> In determining trustworthiness, one must look at the entire system in which the digital information is managed, including the organization running the repository: its governance; organizational structure and staffing; policies and procedures; financial fitness and sustainability; the contracts, licenses, and liabilities under which it must operate; and trusted inheritors of data, as applicable. Additionally, the digital object management practices, technological infrastructure, and data security in place must be reasonable and adequate to fulfill the mission and commitments of the repository.[9]

This is no small task, especially in an era of fiscal restraint. Recent audits of **Portico** and **Hathi Trust** by **CRL** (**The Center for Research Libraries**) have revealed the challenges of meeting the breadth of requirements needed to be certified as a trusted and sustainable digital repository. This focus on digital preservation, important as it is, also raises questions about the complementary value and existence of print originals. **Gary Frost** asks the question, "Should we advocate for certification of print masters alongside certification of their screen simulations?"[10] This is an important question that raises a host of related issues: What process would such a certification involve, how would this complement existing structures for digital preservation, and what collaborations would be required? What happens when the digital item is supplemented with rich media (e.g., video,

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audio, data sets) that changes the content and requires new applications and access considerations? And what is the best format for our patrons and for durable access? How will we decide upon standards?

I'm not one of those who believe that print is about to wither away; it is too deeply rooted in our society and intellectual culture to quickly vanish, and there are many people who will still find the print book to be more convenient and usable than the digital counterpart, in spite of what the eBook reader industry wants us to believe. This is quite different from the journal world, where the transition to digital has been faster and more thoroughgoing than anyone would have expected a decade ago. But as more and more of the collection moves into the cloud, we find ourselves in a new era where partnerships, flexibility, and innovation become the hallmarks of success. We don't control the far-flung servers that house and deliver the streams of digital works that our patrons are using every hour of every day. We rely upon the many agreements we have crafted with vendors, publishers, and other libraries and cultural memory organizations for the reliable pipeline of access to these books, journals, databases, and reference works.

In the myriad of formal and informal publications, what do we collect for posterity and what do we support in a more temporary and short-term manner? More precisely, can we afford to maintain the traditional ownership model as the basis for collection management, or do we need to focus on access-based, user-targeted approaches that can accomplish our goals in a complementary manner? Patron-driven acquisition services and print-on-demand delivery have shown themselves to be more effective than many in the library community had expected. Large bureaucratic institutions like universities and colleges are typically risk averse and lack the nimbleness to respond quickly and creatively to new opportunities that arise in the digital information era. We need to cultivate a greater nimbleness and the luxury of being allowed to experiment and fail, and start again, if we want to hit upon the right opportunities that increase the usefulness and value of our collection strategies.

Here are a few more ideas that can hopefully lead us to a more sustainable approach to collection management.

Paying Only Once

We need to look carefully at where we are paying twice for the same work, whether it is a book, a journal, a report, or a dissertation. Can we become format agnostic and cut expenses where we find overlaps and duplication, particularly between aggregated collections and publisher-direct purchases? Can we make a commitment to a single format for books or journals, for example, in a given field?

Walking the Tightrope Between Competition and Collaboration

Libraries work together in consortial resource-sharing arrangements — for licensing digital resources, union catalogue records, and ILL arrangements, for example — but our parent institutions compete intensely with each other to attract and retain faculty, research grants, students, and public–private partnerships. Consortial collaboration has been very effective in enabling acquisition and cost-effective access for various scholarly information resources, but this doesn't mean that we have a level playing field across institutions or a complete consensus on how cost-share arrangements are handled. The great diversity of funding levels, curriculums, and research profiles across institutions in the same region is symptomatic of the tensions with which we live. Can we strike a healthy and honest balance between competition and collaboration?

Partnerships with Publishers and Vendors

In the evolving scholarly communications ecosystem, our relationships with partners outside of the library are becoming more and more critical to our success. They need us as much as we need them. In moving away from the polarizing rhetoric of "us" versus "them," we need to focus on where our interests overlap and where we can develop innovative and forward-looking models of collaboration that can enhance our delivery of scholarly resources to our community. Like us, the publishers and vendors are struggling to reinvent themselves in the crowded information landscape and the new technologies and business models that constantly buzz around us. Those who don't want to listen to our interests and concerns are less likely to receive our business. Adopting a principled stand on questions such as unfair pricing models is important for our credibility and for prudent fiscal management.

The collection as a whole is always political. The dynamics of political decision making leave their mark on every library collection budget; it is the delicate art of the possible amid many competing interests in the institution, all of which require financial commitment. How we navigate these challenges, and how we address the various environmental challenges I've sketched in this article, will determine how effectively we position ourselves to develop a sustainable approach to collection management. Sustainability is the holy Grail shimmering in the distance — if we ask ourselves the key questions we will at least be on the right road. This means an ongoing process of rethinking our practices and strategies. The perceived value footprint we bring to the evolving academic enterprise, in terms of being essential to teaching, research, and learning, will determine how successful we are.

Endnotes

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6. **Dan Hazen**, "Rethinking Research Library Collections." *LRTS*, *54*(2) April 2010, 120.

7. **Jannis Kallinikos**, **Aleksi Aaltonen**, and **Attila Marton**, "A Theory of Digital Objects" First Monday 15(6): 7 June 2010 *http://firstmonday.org/htbin/cgiwrap/bin/ojs/index.php/fm/article/view/3033/2564*.

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9. **Online Computer Library Center** and the **Center for Research Libraries**, "Trustworthy Repositories Audit and Certification: Criteria and Checklist" 2007. Retrieved August 11, 2010, from *http://www.crl.edu/sites/default/files/attachments/pages/trac_0.pdf*.

10. **Gary Frost**, "Strategic Future of Print Collections" Session handout at **ALA Annual**, Washington DC, June 26, 2010.

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Long time ago, **Celia** and I were talking about writing books and I gave her anecdotes from my husband's and my experiences. Can't wait to see this book! Will keep y'all posted. **Celia** wrote me on **Linkedin**. I have to tell y'all that I am retro! I prefer email to social networking sites. So if you want to make sure that I answer (probably) please use one of my emails – <kstrauch@comcast.net> (preferred unless it's broken), <katina.strauch@gmail.com> or <strauchk@cofc.edu>. THANKS!

Speaking of which, I was interested in the **Charleston Observatory Survey** of the use of social networking by researchers which the gracious times two **Ian Rowlands** and **Dave Nicholas** reported in Charleston. (quote: "Researchers use generic sources; they don't focus on the bells and whistles,") Watch for the final survey results that are currently under review and will be published shortly. As well, I found **John Sack**'s talk in Charleston equally enlightening. **John** reported on another survey of researchers at **Stanford**, quote: "For the end user or researcher, reading is an opportunity to get away from the computer." *http://www.katina.info/conference/video_2010_observatory.php*
http://www.katina.info/conference/video_2010_sack.php

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Getting There from Here: Changing the Ecological and Social Footprint of Our Professional Conferences

by **Michael Smith** (Environmental Historian, Ithaca College, 320 Muller Center, Ithaca, NY 14850) <mismith@ithaca.edu>
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What does it mean to lead a "sustainable" professional life? In many ways, this is more challenging than the personal transformations many of us are making to lighten our ecological footprint on the planet. As with other professions, in academia our work life is shaped by countless forces over which we have limited control, from the buildings in which we work (environmental) to the ways the institution chooses to remunerate the employees at the bottom of the pay scale (social) to the big budgetary decisions (economic). If your institution is like mine, in aggregate these forces do not yet add up to a sustainable workplace. So what can we do professionally to align a personal commitment to sustainability — a concept I'll define below — with our professional obligations? Conference travel is one of the professional expectations many of us face (and often welcome) where a personal intervention in the system can make a difference. And the stakes for making a difference are considerable.

We live in an age of profound contradictions when it comes to the human relationship with the physical system we call Earth (or Eaarth, as the environmentalist **Bill McKibben** argues we should now call our planet because we have so radically altered its original fabric). On the one hand human beings are demanding more than ever from that system. We have an insatiable demand for natural resources extracted from its crust, soils, waters, and other organisms. One need only have watched the tragedy of the Deepwater Horizon oil disaster in the Gulf of Mexico or read about the magnitude of the unfolding great extinction of other species to appreciate some of the costs of these demands. We tax this system further by asking it to accommodate the staggering amount of waste our extractive and consumptive activities produce. We don't know where to put our garbage anymore. We still don't have a way to "dispose" of nuclear waste, the most toxic substances humans have ever produced (though many insist that nuclear energy is the solution to our energy crisis). We have loaded the atmosphere with so much carbon dioxide and other greenhouse gases that we are approaching — if we have not already crossed — the threshold of irrevocable climate change. And finally, these dynamics have generated great wealth for a relative handful of the world's population but also produced great inequality.

On the other hand, most people — especially most of us in higher education — are painfully aware of these realities of the early twenty-first century and would like to be agents of the cultural transformation (or perhaps revolution is a better word) needed to reverse the trends described above. We don't want more oil spills, more extinctions, more plastic clogging our world, more suffering on the part of those who have not profited from the liberal economic model of the past two hundred years, many of whom live *far* more sustainable lives than we do. As the other articles in this issue of ***Against the Grain*** show, a movement is afoot in academia as well as in society more broadly to effect such a reversal.

Like the word *democracy*, "sustainability" has been invoked so often as a concept over the past few years that some people have trouble knowing what is meant by the word. For me, the definition promulgated by the 1987 U.N. World Commission on the Environment and Development still captures the essence of sustainability: "development that meets the needs of the present without compromising the ability of future generations to meet their own needs." I would amplify this a bit by adding that we should not compromise the ability of other species with which we share the planet to flourish. It is important here to note one other dimension of sustainability that is often confused: sustainability is NOT merely a synonym for environmentalism. Conserving natural resources for future generations is only one of the three components of sustainable culture, something I alluded to in the introduction to this essay. The other two equally important dimensions are the social and, yes, the economic.

In many ways, higher education has taken an important leadership role on the issue of sustainability, as other articles in this issue illustrate. Hundreds of college presidents have now signed the Talloires Declaration, committing their institutions to concrete actions for forging a sustainable future. Hundreds of campuses now have sustainability coordinators. Operations on countless campuses have become more sustainable, at least in terms of energy consumption and the economic bottom line — though not, unfortunately, in terms of social equity (as most underpaid staffers and adjuncts can attest). But when we attend conferences we still often go about our business as though no one had ever heard of climate change, the exploitation of service industry workers that is epidemic at most major hotel chains, or the terrible toll exacted on people and ecosystems by the industrial agriculture that provides most conference food.

There are countless ways many of us are attempting to become more sustainable in our personal and professional lives, and yet in terms of our overall ecological footprint (a way of calculating how many planets it would take to support an individual's lifestyle if everyone on Earth lived the way she/he did), conference travel can negate all of these efforts. We jet around the country or the world, leaving plumes of carbon dioxide emissions behind us, not to mention the greenhouse effect of the contrails that linger in the atmosphere. We often stay in sterile high-rise hotels that by their very nature make heavy demands on natural and social capital; the ubiquitous signs in the bathrooms urging us to be "sustainable" by reusing our towels are little more than greenwashing. Darting in and out of our consciousness are dozens of low-wage workers, often people of color, who are instrumental not only in the smooth functioning of the conference but in facilitating our consumption of natural resources. Ask one of these folks about their view of our conferences sometime; it is revealing.

Fortunately, all of us and our various professional societies and organizations can take some concrete steps to addressing these inconvenient truths about conference travel. The first is to determine whether *annual* national conferences are necessary in the first place. Given the role that national (and international) conferences play in building professional community, it is probably unrealistic to advocate for their elimination (though if even the least dramatic predictions of peak oil come to pass, we may not have a choice). But we can certainly move to biennial big conferences, with regional conferences accessible to members by ground transportation in the off years. Another option becoming more viable every year due to continual technological improvements is virtual conferencing. In this area, I suspect, librarians and information specialists are well ahead of traditional disciplines such as history.

Regardless of how often we hold our meetings, one of the most dramatic steps we could take would be to hold them at one of the many conference centers and hotels in every region of the United States that are committed to more sustainable kinds of consumption. Such a choice would in itself address some of the issues I raised. Most of these facilities are committed to paying a living wage. More local and organic food would be served at the

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conferences' lunches, dinners, and breaks. Most such centers are in the vanguard for waste reduction and recycling as well. Our organizations can also make the decision on principle to never again hold conferences in a city such as Las Vegas, Los Angeles, or Tucson. The very existence of these cities — as large urban centers at the least, and perhaps as places of permanent human settlement at all — defies ecological common sense at every turn. Conversely, we could reward communities that have implemented sprawl control and brownfield development initiatives with our conferences and the revenue that comes from them. The site selection for our conferences is, after all, a collective consumer choice. In 2000 the Organization of American Historians boycotted the Adam Marks Hotel in St. Louis for its annual meeting after evidence of widespread racial discrimination by the chain became public. The OAH then used their boycott and the publicity it generated as an opportunity for public education. Other organizations can make public statements about why and how they make sustainability-related decisions about conference sites.

I suspect — I hope — readers of this journal are sympathetic to the idea of reducing the ecological footprint of conferences. And I am quite certain there are dimensions to this issue I have not thought of. The topic might even merit a discussion at next year's meeting in Charleston (or anywhere else conferences are held, for that matter). In any event, the stakes are high. For in the long term — and intergenerational equity is at the core of sustainability — the kind of personal and professional existence many of us take for granted will not be possible without the revolution in values this essay has only begun to address.

Further Resources: Reading

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Hermann Daly, "Economics in a Full World," *Scientific American* (2005).

Derrick Jensen, "The World at Gunpoint," *Orion Magazine* (2009).

Michael Lemonick, "Top 10 Myths about Sustainability," *Scientific American* (2009).

Michael M'Gonigle, Planet U: Sustaining the World, Reinventing the University (2006).

Bill McKibben, *Eaarth: Making a Life on a Tough New Plane*t (2010).

Further Resources: Organizations and Websites

Association for the Advancement of Sustainability in Higher Education (AASHE) — *http://www.aashe.org/*

Second Nature: Education for Sustainability — *www.secondnature.org*

Talloires Network — http://www.tufts.edu/talloiresnetwork/

Terrapass (event footprint calculator) — *http://www.terrapass.com/event-carbon-calculator/*

Practicing Sustainable Environmental Solutions: A Call for Green Policy in Academic Libraries

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http://www.library.ucla.edu/facultynews/11215.cfm

In recent years, librarians have taken a more proactive role in "green" practices and sustainable environmental solutions both in public and academic libraries. In order to fully understand this change, a short historical background might explain the proactive interest by academic libraries in environmental sustainable operations.

The 1970s brought dynamic changes in the American environmental movement when **Congress** passed both the ***Clean Air Act*** and the ***Endangered Species Act***, DDT was banned, and the **Environmental Protection Agency** was created. On the first Earth Day in 1970, almost "ten million students from 2,000 colleges and 1,000 high schools participated in a wide variety of activities throughout the country."[1] Not only did students express their environmental concerns, but international environmental declarations also started making references to sustainability issues in higher education.[2] In 1990, the **University Leaders for a Sustainable Future (USLF)** signed the ***Talloires Declaration***, which stated "universities bear profound responsibility to increase the awareness, knowledge, technologies and tools to create an environmentally sustainable future."[3] (See the ***Talloires Declaration*** on p.18.) In 2000 the declaration was signed by leaders from more than 275 universities, thus challenging higher education to introduce sustainable development concepts into teaching and practice. Academic libraries, as part of the university community, supported universities by building environmental collections, providing public access to environmental information, and promoting environmental literacy that leads to practical, sustainable environmental solutions.

Environmental sustainability is an important part of the sustainable development concept that evolved from theory into practice in Rio de Janeiro after the **1992 United Nation Conference** on Environment and Development (Earth Summit). Sustainable development advocates a balance between economic growth, social equity, and ecology "that meets the needs of the present without compromising the ability of future generations to meet their own needs."[4] Libraries' operations had the basic characteristics of sustainable practices long before the concept of sustainability gained a wider acceptance. The very principles around which libraries are built align with those of human, social, environmental, and economic sustainability. Library operations have been characterized by frequent borrowing instead of constant buying of information materials, and by the sharing of resources rather than the unnecessary duplication for current and future users.

The evolving information and communication technologies, growing information needs of users, and growing operational costs of libraries have been calling for long-term economic, social, and environmental sustainable development planning. While libraries continue to thrive in meeting the information needs of their users, behind the scenes they struggle with ongoing costs of collections, equipments, supplies, buildings, and utilities (water, electricity, gas, heating, and cooling systems). Without an increased base of funding these growing costs and lack of sustainable strategies in libraries negatively impact major libraries' values as framed by the **International Federation of Library Associations and Institutions (IFLA)** in Glasgow in 2002. Their *Statement on Libraries and Sustainable Development*

> declares that all human beings have the fundamental right to an environment adequate for their health and well-being, acknowledges the importance of a commitment to sustainable development to meet the needs of the present without compromising the ability of the future, [and] asserts that library and information services promote sustainable development by ensuring freedom of access to information.[5]

Academic libraries are adding more environmentally responsible practices in day-to-day operations and services offered to the users while working on reducing environmental waste and shrinking their "carbon footprint." But in a time of budget austerity and growing concessions to social responsibility, is this enough?

Reducing Libraries' Carbon Footprints

In September 2008 *Bloomberg.com* reported that "energy costs for U.S. colleges and universities soared 14 percent in the 12 months."[6] With the growing popularity of

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electronic resources, the demand for energy consumption in libraries is also growing. For example, the library at the **Michigan State University (MSU)** — with 368 rooms and 457,300 square feet — is using 8,120 megawatt hours, which puts its building into the higher energy-consumption category among **MSU** buildings.[7]

According to the 2009–2010 Library Energy Conservation Benchmarks survey conducted by the **Primary Research Group (PRG)**, the mean annual rate of change in the overall energy consumption between 2008 and 2009 was 6.14 percent in public libraries and 1.6 percent in college libraries. Interestingly enough, only 4.55 percent of the surveyed public libraries audited their electricity bills in 2009, while the audit rate was 15 percent for college libraries.[8] This disparity may be partially explained by the fact that many college libraries located on university campuses do not pay for electricity themselves, but work closely with campus facility and sustainability offices. Sustainability offices were formed on campuses following the signing of the American College and University President's Climate Commitment (ACUPCC), and when colleges and universities joined the **Association for the Advancement of Sustainability in Higher Education (AASHE)**. Among many campuses the main **AASHE** program is Sustainability Tracking, Assessment & Rating System (STARS). It is a transparent, self-reporting standardized instrument allowing tracking and ranking progress toward sustainability at the campus level. Yet the STARS program does not include libraries as a separate entity in the nine selected areas on a campus (art/theater, cafeteria/dining, drains/sewers, grounds/vehicles, labs, medical areas, power plant, and waste management) that are subject to environmental regulations.[9]

The fact that libraries are not part of the STARS program is a curious lapse for measuring campus sustainability. Libraries and their buildings use significant quantities of energy, electricity, and water, as well as trees for paper. Although the **American Library Association (ALA)** has recently joined the action in reducing the use of paper, excessive paper use is still a large problem for libraries. According to the Green Press Initiative (GPI), "Each year, approximately 30 million trees are used to make books sold in the United States 1,153 times the number of trees in New York City's Central Park."[10]

Expanding the ecoconscious movement as well as the awareness of the growing library operational expenditure stimulated growth of conservation programs, green practices, and sustainable solutions in academic libraries. As the **PRG** survey showed, the most popular conservation programs among libraries were projects concentrated on decreasing energy spending, such as installing energy-efficient lighting. More than 68 percent of libraries installed high-efficiency light bulbs, 27 percent of college libraries introduced motion sensors, and 7 percent introduced atriums or skylights. Almost 16 percent of libraries planned to replace single-panel windows with double-panel windows and introduce better sealed windows. In further efforts to conserve energy, more than 60 percent of libraries are shutting down computers when the library is closed to the public. In an effort to lower power consumption, 65 percent of monitors operated in libraries are based on LCD technology.[11]

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Need for Green Policy in Academic Libraries

Although libraries are actively participating in reducing their environmental impact they still have not resolved the dispute about which format — print or electronic — is more environmentally friendly. As **Virginia Connell** and **Carl B. Ylvisaker** stated, "the problem of reducing a library's carbon footprint is perhaps the most complex and most contentious when it comes to the format of the collection."[12] The debate on print versus electronic started early, but it still is not fully resolved in regard to the financial burden on libraries and their carbon footprint. The popular opinions that paperless libraries could be cheaper and more environmentally friendly are not fully proven. With the growing amount of databases, electronic journals, eBooks, digital repositories, archives, digitally borne collections, and numeric and geospatial data, academic libraries serve users more as data centers, storage, and study places. **Deborah Puretz Grove** and **David Rosenberg** classify four data centers with different business models: Internet server farms (**Amazon**, **Google**, **Microsoft**, and **Yahoo**); collection services (**Savvis**, **Equinox**, **Switch & Data**); enterprise data centers (owned and operated by the corporation that uses it); and server closets (less than 465 square meters).[13] The infrastructure for data centers requires electricity for power and cooling, and according to an **EPA** report "data centers can be more than 40 times as energy intensive as conventional office buildings."[14]

In order to progress further in greening academic libraries, it is time to develop a framework consisting of principles, standards, and practices that would focus more on collections, resources, and services rather than on buildings. Creating a green library policy requires developing sustainability indicators that could be used to measure and assess more than recycling programs or a vendor's green practices. Libraries need hard data on how much energy and money goes to making and storing their print collection versus how much goes to creating and storing their electronic resources. Indicators measuring libraries as environmental consumers of computers, paper, water, electricity, energy, and ink must be developed or adopted from already existing university practices. Libraries have not crafted such indicators to track their progress toward reducing the social, economic, and environmental impacts of solid and hazardous waste and energy use.[15] Working closer with campus sustainability offices would help libraries develop indicators measuring their progress toward reducing their environmental (carbon), economic, and social footprints.

Conclusions

Using the Web and social networking tools, librarians have created green blogs, wikis, newsletters, and an open-access journal devoted to ecological issues. They share environmentally friendly practices, exchange ideas on sustainable environmental solutions, and participate in disseminating scholarly environmental information. The popularity of these resources is demonstrated by their impressive online access statistics, indicating the high level of interest in sustainable practices and new ideas on greening libraries.

But as **Katherine Dike** stated, many library services incorporate green practices, in particular recycling, in the absence of institution-wide green policies.[16] The creation of institutional green policy needs to be integrated into libraries' collection policies, services to the public, operation of the buildings, licenses with vendors and publishers, preservation and digitalization policies, and purchase of equipment and products. This is why an objective assessment of sustainable environmental practices is needed in order to concentrate on those practices that support broader goals of human, social, and economic library sustainability and promote the future sustainable growth of libraries.

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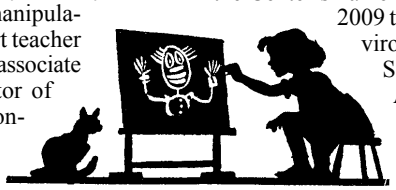
K-12 Environmental Education Resources

by **Roxanne Myers Spencer** (Associate Professor and Coordinator, Educational Resources Center, WKU Libraries, Western Kentucky University, 1906 College Heights Blvd. #31031, Bowling Green, KY 42101-1031) <roxanne.spencer@wku.edu> *http://www.wku.edu/library/whoswho/roxanne_test.htm*

Author's Note: *I would like to thank* ***Nancy Givens****, Sustainability Programs Development Coordinator;* ***Dr. Terry Wilson****, Director,* ***WKU*** *Center for Environmental Education & Sustainability;* ***Dr. Charles H. Smith****, Science librarian,* ***WKU*** *Libraries; and* ***Merilyn Burke*** *and* ***Susan Ariew****,* ***University of South Florida*** *Libraries, for assistance with this article. —* ***RS***

The Educational Resources Center (ERC), a curriculum and children's literature collection, is a campus branch of **Western Kentucky University (WKU)** Libraries. The ERC's collection contains children's and young adult books, teacher education titles, textbooks in seven K-12 subject areas, family friendly and instructional DVDs, and manipulatives and realia to support teacher education students. I am associate professor and coordinator of the ERC, and I am responsible for selecting education and children's literature materials.



Education for Sustainability (EfS) is now a core value in **Western Kentucky University's** Strategic Plan, and sustainability issues are being incorporated into many programs and disciplines. In this article, I discuss how I am building K-12 environmental education resources at the ERC. In the course of evolving conversations about building core collection materials for K-12 educators, I include some Education for Sustainability (EfS) resources across academic disciplines in higher education as well.

To become more familiar with environmental education resources, I have worked with teaching faculty, librarians, and staff at **WKU's** Center for Environmental Education and Sustainability (CEES). For example, we recently purchased many science and math activity titles from the **University of California Berkeley**, Lawrence Hall of Science, Great Explorations in Math and Science series, known as LHS GEMS, based on education faculty recommendations to support science education courses for **WKU's** School of Teacher Education programs. I have been fortunate to receive excellent suggestions from **Nancy Givens**, Sustainability Programs Development Coordinator at **WKU's** CEES, who recommended many relevant environmental education and sustainability journals (see below) for the main library collection. As funds allow, we request **Ms. Givens's** top-priority journals for **WKU** Libraries' print and online periodicals collection. The addition of Green File to our **EBSCOHost** modules has expanded our access to quality online environmental articles, and we recently requested an online subscription to *Green Teacher* magazine to support environmental education within the elementary and secondary teacher education programs.

Environmental Education at WKU

In the early 1980s, a Center for Environmental Education was organized at **WKU** to enhance collaboration between faculty in education and the sciences, while serving as a regional resource to schools, agencies, and other organizations in the university's service area. Since environmental education is, by its very nature, interdisciplinary, the Center's name was changed in summer 2009 to **WKU's** Center for Environmental Education and Sustainability (CEES). An Environmental Education Endorsement at the master's level has been offered since 2007. The twelve-credit-hour program meets the standards of the **North American Association for Environmental Education** (*www.naaee.org*), which also provides many useful online resources for K-12 and higher education that are worth bookmarking for library reference. The recent endorsement and higher profile of CEES was an impetus to add to the existing environmental education collection.

Environmental Education / Sustainabilty Conversations

In spring 2010, **Nancy Givens** contacted me about collection development in environmental education and sustainability to support **WKU's** growing commitment to sustainability across academic disciplines. The ERC already has a small collection of children's and teachers' resources to support the graduate Environmental Education Endorsement, but **Ms. Givens** was very interested in building a sustainability collection beyond the K-12 resources.

I was not very familiar with environmental education history, so I asked **Dr. Terry Wilson**, present director of CEES, to identify key ideas and turning, and he referred me to the words of **Roderick Nash**:

> The roots of environmental education lie in the same area and mentality as the beginnings of reaction against the university ideal [of compartmentalization of knowledge]. As early

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as 1891, **Wilbur Jackman's** *Nature Study for the Common Schools* launched a nature study movement which took students outdoors to explore an indivisible environment with an integrated academic approach. Outdoor education, as it was called by theorists such as **L. B. Sharp** and **Julian Smith** in the 1920s, has a very similar purpose. Nature study and outdoor education forced an appreciation of the multiplicity of factors that the classroom tended to isolate. Knowledge was integrated by an integrated environment (**T. Wilson**, personal correspondence, 31 August 2010).

The "dust bowl" mentality of the 1930s gave rise to conservation education. Its primary objective was to awaken Americans to environmental problems and the importance of conserving various natural resources. Because conservation education focused on problems which themselves were products of many interrelated factors, students exposed to such programs pursued a more integrated learning program (**Nash** 1976).

Dr. Wilson also pointed to an important view of where the field of environmental education has been heading:

> As the term environmental education became used more and more in the 1960s there was much debate as to its definition and its goals. Most environmental educators today would agree with the United Nation's definition, written by the late **Dr. Bill Stapp** (**University of Michigan**) [1969], which is: "Environmental education is aimed at producing a citizenry that is knowledgeable concerning the biophysical and socio-cultural environment and its associated problems, aware of how to help solve these problems, and motivated to work toward their solution." (**T. Wilson**, personal correspondence, 31 August 2010)

The CEES Website posts the commonly used conceptual model of the Four Pillars of Sustainability for Education for Sustainability (EfS). These are listed as Environmental Stewardship, Social Responsibility, and Economic Prosperity, and their intersection in Global Responsibility.

Collecting Environmental Issues Titles: WKU Libraries' Science Bibliographer

The very interdisciplinarity of sustainability issues can make it a challenge for libraries with specific subject bibliographers or a liaison librarian system representing different academic disciplines. For more insight into how titles in environmental issues specifically have been collected historically at **WKU** Libraries, I consulted **Dr. Charles H. Smith**, Science Librarian at **WKU** Libraries.

Dr. Smith has collected titles on environmental issues for **WKU** Libraries' science collection, largely by "the standard means of collection development, focusing on authors, publisher names, and value for dollar," and adds, "attention to hot-button subjects and novel approaches — bestsellers and subjects in the news — is worthwhile" (**C. H. Smith**, personal correspondence, 13 September 2010). He also scans the news for pertinent topics (oil spills, wind power, etc.); keeps an eye on public interest in the media, reference questions, amount of coverage on a topic already in the collection; and checks the library collection for current, relevant publications.

Book reviews serve a purpose, of course, but **Dr. Smith** suggests focusing more on how many reviews titles receive when considering library purchases, as in many cases, negative reviews on titles related to environmental issues reflect social or political biases. Knowing which publishers consistently offer well-researched, well-written, and well-produced titles is key to his selections for environmental issues. Recommended publishers include **Island Press** and their imprints; **National Academy of Sciences Press**; and major university presses, such as **Cambridge**, **Oxford**, **Yale**, **MIT**, **Princeton**, and **University of California**, for related and reasonably priced titles (**C. H. Smith**, personal correspondence, 13 September 2010).

Key EfS Authors and Resources

I asked **Dr. Wilson** and **Ms. Givens** to identify some key thinkers/authors in the field for future environmental educators:

- **Richard Louv**, author, *Last Child in the Woods*; *Preventing Nature Deficit Disorder*
- **Deborah Simmons**, **University of Northern Illinois** (retired)
- **Thomas Marcinkowski**, **Florida International University**
- **Richard Wilke**, **University of Wisconsin**, Stevens Point
- **Harold Hunderford**, **Southern Illinois University** (retired)
- **David W. Orr**, **Oberlin College**
- **Anthony Cortese**, president of **Second Nature**
- **Arjen Wals**, **Wageningen University**, the Netherlands
- **Peter Corcoran**, **Florida Gulf Coast University**
- **Jaime Cloud**, **Cloud Institute for Sustainability Education**

Ms. Givens also recommended that essential educational resources include **UNESCO's** teaching, training, and learning tools for the Decade of Education for Sustainable Development (DESD 2005–2014). She emphasizes that educators become familiar with the core content, competencies, and habits of mind associated with Education for Sustainability, which have been defined as core literacies for the twenty-first century. Resources for these literacies are available online. Selected recommended resources are listed below (**N. Givens**, personal correspondence, 18 August 2010).

Identifying K-12 Resources

I have combed recommended titles from our database subscriptions to **Horn Book Guide Online**; **WilsonWeb Core Collections:** Children's, Middle/Junior High, and Senior High; **Kirkus Reviews**; **Booklist**; **TeachingBooks.net**; and **Novelist K-8** for children's and young adult's fiction and nonfiction titles. To support environmental education titles for our professional development collection (teacher education and curriculum materials), I reviewed recent titles listed in **RCL Web, WorldCat**, and **Books in Print**.

I also gleaned useful information from the **University of South Florida** Libraries' LibGuides and other online resources on sustainability and environmental education. One of the most comprehensive recent bibliographies for these titles is **Mary Beth Applin's** "Building a Sustainability Collection: A Selected Bibliography," first published in *Reference Services Review* and reprinted in *Mississippi Libraries*. It is an invaluable resource and belongs in the collection development files of any librarian intent on building a solid core collection in sustainability topics. For recent children's literature titles, recommendations by **Lindsay Cesari** in "Going Green," published in *School Library Journal*, and reviews on environmental literature for children in *Book Links* and *Booklist*, are exceptional resources.

Although the ERC does not house periodicals, I include below a short list of related magazines and scholarly journals to round out print resources for environmental education collections. Space does not allow for a discussion here of related online teaching resources, but state and federal Websites with education pages have many excellent resources for K-12 educators.

All in all, this has been an enlightening introduction for me as an education librarian. It is heartening, as a child of the 1970s, to see such a strong resurgence of concern for the environment. The movement is alive and well with a rich variety of literature and resources for libraries on Education for Sustainability and Environmental Education issues — suitable for students of all ages.

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Ward, B. A., & **Day, D.** (2010, June). Classroom connections: Preserving the environment. *Booklist Book Links*. Retrieved from *http://www.booklistonline.com/ProductInfo.aspx?pid=4249141*.

Selected Recommended Resources for Librarians/Educators

Resources for College Libraries. RCLWeb. *www.rclweb.net/*

UNESCO. (1995-2010). Education for Sustainable Development Website. *www.unesco.org/en/esd/publications/*

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UNESCO. (2006). Teaching and learning for a sustainable future: *www.unesco.org/education/tlsf/*.

University of California Berkeley. Lawrence Hall of Science. Great Explorations in Math and Science. LHS GEMS: *www.lhsgems.org/*.

Western Kentucky University's Center for Environmental Education and Sustainability. *www.wku.edu/cees*

Core Titles in Environmental Education and Sustainability

Burchsted, S., & **Byrne, J. M.** (2002). Shaping our future facilitators guidebook. Shelburne, VT: Foundation for Our Future.

Colby, A., **Ehrlich, T.**, **Beaumont, E.**, **Stephens, J.** (2003). *Educating citizens: Preparing America's undergraduates for lives of moral and civic responsibility*. San Francisco: Jossey-Bass.

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Senge, P. M.; **Laur, J.**; **Schley, S.**; & **Smith, B.** (2008). *The necessary revolution: How individuals and organizations are working together to create a sustainable world*. New York: Doubleday.

Stone, M. K., and the Center for Ecoliteracy. (2009). *Smart by nature: Schooling for sustainability*. Berkeley, CA: Watershed Media.

Wheeler, K. A.; **Hulbert, S.**; **Schaefer, M.**; & **Wacey, C.** (1996). *Education for sustainability: An agenda for action*. Washington, DC: U.S. Government Printing Office.

Selected Periodicals

Green Teacher — www.greenteacher.com

Yes! — www.yesmagazine.org/

Journal of Education for Sustainable Development — jsd.sagepub.com/

Journal of Sustainability Education — www.journalofsustainabilityeducation.org/wordpress/

Children's Magazines with Environmental Content

National Geographic for Kids

Appleseeds

Click

Kids' Discover

Cricket

Muse

Ranger Rick

Dig

Odyssey

Journals

Environment, Development and Sustainability — www.springerlink.com/content/1387-585X

International Journal of Sustainable Development and Planning — journals.witpress.com/pages/jsus/default.asp

International Journal of Sustainable Development & World Ecology — www.tandf.co.uk/journals/titles/13504509.asp

International Journal of Sustainability in Higher Education — www.emeraldinsight.com/journals.htm?issn=1467-6370

The International Journal of Environmental, Cultural, Economic and Social Sustainability — onsustainability.com/journal/

Mother Pelican: PelicanWeb's Journal of Sustainability Development — pelicanweb.org/

Sustainability — www.mdpi.com/journal/sustainability

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As you might have gathered, many of the **videos** from the **30th Charleston Conference** plenaries are up for all to see!!! Go to *www.katina.info/conference*. Many of the powerpoints and presentations are also up at slideshare. I tell you what! The **Charleston Conference** (most notably my great staff!) has gotten their (not my) act together and they are almost out of control with all their innovations!

One of the great **Conference** videos stars the lovable **Athena Michael** playing you-know-who during the skit on Friday afternoon. Check it out. In her spare time, **Athena t**ells me that she and her daughter **Juliette** are participating in a local Greek bake sale. Mmm good! **Juliette** loves to bake. Next year she will be going to college and her number one choice is **Sweet Briar**, a beautiful school that has a subscription to ***ATG***!

I have to confess that I agree with **Professor Nardini** about **eBook** devices. I think eBook readers are great if you have too many books to carry, have a bad back, like gizmos, don't want to advertise what you are reading (did you read that Romance is experiencing an upsurge with eBooks?), have a good battery and/or access to electricity, and travel a lot. But, au fond, I do NOT think that the eBook will replace all print books. See my recent interview with **Jack McHugh**. *http://www.johnbmchugh.com/*

Oh – And be sure and read **Bob's** column, it's called **PRINT**, this issue, p.77.

But it was the holidays and I just couldn't help myself! I always buy books for presents. What else is there? And much as I love **Amazon** (my family must be keeping them in business!) there is no place like a real **bookstore**! So, I went to several and even bought a color **Nook** for my husband for Christmas (don't tell him). It is way cool! Problem is, though, as the astute **Michael Pelikan** points out in his column this time (see p.86), when you buy a book it is tied to the device so you don't really own the book. You own the book on that device. **Michael s**eems to have one of each (for his research, no doubt) – three generations of **Kindles**, a **Sony eReader**, an **iPad**, etc. **Michael** wishes for a personal unique identifier that would allow us to read the same book on

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Measuring Sustainability with Our Ecological Footprint

by **Whitney Bauman** (Florida International University)

The ecological footprint (discussed in terms of the library profession on page 28) is a measure of how much land and water area a human population (or individual) requires to produce the resources it consumes and to absorb its wastes on an annual basis. The result of this assessment — a simple quiz — provides the number of Earths that would be necessary to support a given lifestyle.

The concept of the "ecological footprint" (EF) was developed in 1996 by **Mathis Wackernagel** and **William Rees** and outlined in *Our Ecological Footprint*. It suggests that in order to tread lightly on the Earth, we must measure our true footprint, which includes energy and resource consumption. **Wackernagel** and Rees developed a measurement tool — a quiz, available at *http://www.myfootprint.org* — that calculates the ecological footprint of individual humans and organizations (such as businesses, communities, cities, and countries). At the end of the assessment, one is told how many Earths would be needed if everyone on the planet lived a certain way. The concept of the ecological footprint depends upon the theory of limited resources or a limited carrying capacity (the limit to how much human consumption of resources is possible without some sort of eco-systemic collapse) of the Earth. The measurement is based upon the acres of biologically productive area it would take to sustain a population that uses *X* amount of resources.

Though there has been some controversy over what "carrying capacity" is, it has aided in the development of methods for offsetting carbon emissions for activities such as flying and driving. Though there are environmental justice issues related to offsetting emissions, the tool is effective for use in many communities. (Carbon offsetting does not take into account the distribution of environmental ills: one power plant that does not use all of its pollution credits could sell its credits to another plant so that it could pollute more than its alloted credits. Some communities would then have to deal with higher amounts of pollution than others.)

The tool assumes a certain level of resource use, but the question remains whether or not that level of resource use is necessarily conducive to human and nonhuman progress and whether or not a specific level of resource use can or should be used for all 6-plus billion people on the planet. Does sustainability, according to the ecological footprint measure, smuggle in some normative assumptions about what "the good life" is that fails to take into account the diversity of peoples and environments on the planet?

On the one hand, the ecological footprint is a valuable yardstick for measuring the absurdity of the consumer lifestyle. On the other hand, the tool is rife with scientific and ethical lacunae. For example, there is no doubt that Vice President **Al Gore** has a huge footprint, given that he travels all over the world to deliver his message about global climate change. But is not this very message intended to change people's lives toward living in more sustainable ways? The EF does not take into account these complexities. As another example, would the very development of the EF by **Wackernagel** and **Rees** be within the "one planet" scenario of sustainability? Probably not, given that the idea and tool were developed over several conferences, and its very dissemination depends upon the energy necessary to run a computer with an Internet browser and connection. In a sense, the legacy of the EF still remains to be seen, but its message is clear: We must stop living as if there is more than the one planet upon which we live.

Adapted from the ***Berkshire Encyclopedia of Sustainability****, Volume 1.* ***(Berkshire*** *2010.)*

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different devices. I agree. How many numbers and passwords can a person remember? And how many times do we need to buy the same book regardless of how wonderful it is! Case in point – I want to show ***Ferdinand the Bull*** (one of my favorite children's books of all time) to grandson **Trifon**! But, alas, it is not yet on the **Nook**. So, paper it is!

Have y'all seen the second **Aptara eBook survey**? **Aptara** surveyed more than 600 trade, professional and educational publishers this summer. It was the second in a series of surveys designed to document the evolving impact of eBooks on publishing. Key findings: a) The greatest eBook production challenge is still eReader/content compatibility issues. Even with the near universal **EPUB** format standard, today's **fragmented eReader market** makes quality eBook production a moving target, requiring manual manipulation to retain consistent formatting across device-types. b) Publishers are strug-

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Something to Think About — Anything Goes!

Column Editor: **Mary E. (Tinker) Massey** (Serials Librarian, Embry-Riddle Aeronautical University, Jack R. Hunt Library) <masse36e@erau.edu>

No matter what things you choose to do at the Charleston Conference, it is always a winner. From year to year I have planned my activities carefully to be able to contact vendors, give presentations, hear others present, and take in a few special events. I also try to leave time to visit small shops in the city around Francis Marion Square. Most years I have been able-bodied and have sprinted from venue to venue in the various hotels where sessions are happening.

This year I was a little concerned because I had a fractured knee. Knowing the area fairly well, I tried to choose my paths to coincide with elevators and very few steps or uneven passages. It was an ADA adventure! Unless you have a power chair, there is no advantage to being disabled. The whole time is like a slow motion film where you are trying to catch up with the speeding train and looking for someone to run over you. Needless to say, I got to sessions too late for a seat, and chivalry is virtually dead, folks. I am now dancing through a myriad of email addresses to locate Powerpoints or other information to help me. We are all looking to fill the gaps in our information banks.

I did find that most of my conference life was built around stationary pauses, and people were able to find me better. Friends from earlier conferences spent good conversational time with me, and I had some nice discussions about cutting edge problems, as well as offering new ideas about special registration charges for retirees, talking with editors about changes in the writing processes and plans for future meetings. I was able to find more of the "First-Timers" and help them through a few logistics. That always pleases me. I learned a great deal about libraries that were unfamiliar to me, and that also filled my brain with new information. Each conference is very different from the others and is marked by very meaningful events. This year I renewed old acquaintances and found some new ones. It was exciting! The theme rang true for me — Anything Goes! How was your adventure? Something to think about?