In the past 5 years, the Open Access movement has emerged, defined itself, and grown rapidly. What is Open Access and what does it offer to Africanist archaeology?
In 2002, the Budapest Open Access Initiative – convened by George Soros’s Open Society Initiative – articulated the animating vision of Open Access: global communities of scholars, scientists, students and teachers among whom scientific knowledge flows freely and without barriers.
In this talk, I want to provide an overview of the Open Access Initiative and the developments in technology and copyright that have given it considerable momentum. If Open access succeeds, it will have a transformative effect on how we exchange information and interact with colleagues globally, and how we interact with information itself. The picture I propose to paint includes the breakdown of the current Center-periphery structure of knowledge dissemination rooted in North-dominated publication and intellectual property regimes. I will use the possibilities offered by web-based, open access publication of textbooks in African archaeology to illustrate this. It has been argued that digital information technology is potentially as radically transformational as the printing press was in the 15th century. Recalling that the printing press was directly implicated in the Protestant Reformation and the emergence of a new historical period we call "modernity", we may expect that the outcome of the digital transition we are currently in will be momentous, even though we cannot possibly predict what particular forms it will take.
Major sources of Open Access momentum

university communities

research libraries

alarmed by the soaring cost of academic journals, which threatens circulation and advancement of scholarly and scientific knowledge
Open Resource initiative developed by the Association of Research libraries
In early 2002, an ARL task force recommended that the Association promote "open access to quality information in support of learning and scholarship." A key component of this effort is educating members of the research and academic communities about open access and its potential. ARL encourages discussions among library staff, campus administrators, university counsel, faculty, and policymakers about open access and how its application in research institutions can provide a cost-effective way to disseminate and use information. What follows is a resource guide to assist and inform these discussions. It highlights the key points to consider in thinking about and discussing open access, gives examples of open access implementation, and provides sources for more information.

- Why is Access to Information Important?
- What Obstacles Limit Access?
- What is Open Access?
- Initiatives that Call for Open Access
- Open Access Implementation
- Standards that Enable Open Access
- Resources
Currently, the Web is very limited. The language used to create documents – HTML – is concerned mainly with the format of the material displayed – headings, tables, lists, font style, etc. and with the implementation of linking. Search engines such as Google that search HTML documents do it by word matching – there is no way for them to distinguish meaning, between the surname Cook, the verb cook, and the noun. They cannot, for example, identify documents that are articles about Ethiopian archaeology, because HTML has no identifying tags for type of document or subject. Using Google to search for Ethiopian archaeology nets us 276,000 hits, many of them tourism and book vendor sites. Surely, there is a full-text article or conference paper of interest to an archaeologist in there, but good luck finding it.

Expanded web and search capabilities that are just now emerging depend on the tagging of information about the information in a web site - Metadata.
Metadata

Literally, “data about data”

Library card catalogue - metadata system permitting us to locate resources

Digital metadata serve the same function
Software is being developed that encodes metadata about a document or file, or tags metadata within it. Search tools can scan these tags electronically, making it possible to identify and locate, for example, all digital articles written by a particular author, or about archaeological sites in a particular region. Increasingly powerful search tools will facilitate the identification and collection of Web content from many different sources. This emerging, Semantic web will be a much more powerful vehicle for sharing scientific knowledge than the current WWW.
Open access recognizes that copyright exists for the public good. Encouraging the advancement of knowledge while protecting the rights of authors and copyright owners.

Copyright can restrict the free flow of information when copyright holders are publishers who:
- Charge high license fees to libraries,
- Charge high one-time use/purchase fees to readers.

Open Access also enabled by new arrangements to protect content, making it safe to share.

Copyright exists for public good.

Can restrict free flow of information when copyright holder impose high fees.
Solution: New licensing arrangements such as Creative Commons that operate within current legal framework of copyright and permit authors to:

- own the original copyright in their works and specify uses that can be made under the license, whether it can be used in a commercial enterprise, such as a textbook or trade book, and whether attribution is required

- can take out a Creative Commons license on any work you make available on the Web
The Scholars Copyright Project of Creative Commons provides downloadable forms that you can attach to standard publishers copyright contracts specifying that you retain the right to post your published work on institutional or disciplinary servers, either as a pre-print, a post-print, or both.

Consider the many ways this open-access approach changes the traditional publishing regime:
Traditional pay-for-access publication

COPYRIGHT

↓

Author ----> Publisher ----> Readers

Revenues

Production slow
Reader input (peer-review) pre-publication only
Publication “freezes” text
Distribution limited to institution/individuals who can pay
Author does not control use of text after publication

The publisher as intermediary is obligatory; they take on most of the work and the copyright, and enjoy most of the revenues. Readers’ feedback and new information cannot alter text post-publication,
Obviously, this system permits maximum distribution in the North, where the most people able to pay for access live. For publications produced in the south, limited distribution often results in a negative feedback loop.

Adapted from Chan 2006  ARL Membership Meeting: The International Dimensions of Digital Science and Scholarship  Ottawa, Canada  May 17-19, 2006
Distribution and dissemination networks are likewise North-dominated, with little content trickling down to Africa

Open Access changes everything
Open access content may be self-published or published in e journals, with editorial boards and peer review. Distribution is online without subscription or fee.

Reader feedback and updating can be continuous

With obstacles to distribution, and access removed, the world of scholarly communication becomes flat, to use Tom Friedman’s metaphor and markedly more interactive.
Open access enables Peer-to-Peer sharing

... and new model of Knowledge Creation, Sharing, and Dissemination

New scholarly communities of authors and readers become possible, in which both N and S can be fully involved, dissolving the geography of center and periphery.

From Chan 2006  ARL Membership Meeting: The International Dimensions of Digital Science and Scholarship  Ottawa, Canada  May 17-19, 2006
OA publication

Open access

More authors
and other benefits

Circle of
accessibility

Increased visibility
Larger readership

Wider recognition
Increased citations

Adapted from Chan 2006

Open access journals - currently >1200 with editorial boards, peer review. Most in science. 12 in archaeology, none in African archaeology, although NA would be in the running if it were peer-reviewed.

2. Institutional repositories – digital repositories of intellectual products created by faculty, staff, students of an institution.

3. Disciplinary repositories – used by some academic disciplines – e.g., classics, chemistry, mathematics to facilitate sharing and storage of research materials.

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Dsparse repository developed at MIT, Dpaces software and metadata protocols becoming widely used
3. Disciplinary repositories – used by some academic disciplines – e.g., classics, chemistry, mathematics to facilitate sharing and storage of research materials. Common software such as Eprint, facilitates search and retrieval by users.

4. Self-archiving – depositing a digital document in a publicly accessible Website. Many of us have self-achived documents currently on the Web. The problem is that without appropriate metadata tags and search engines that read these tags, interested readers may not easily find these documents.
In the last few minutes, let's look at an open access product we haven't talked about yet: textbooks. If I can use the example of West Africa, where I have spent considerable time in several countries, I would note a common problem from grade school to grad school: too few books, too much outdated information. I talked with a 13-year old in Mali who was learning about Australopithecus in school and the notes he had taken could have come out of the mouth of Raymond Dart in the 1930's. In Guinea, university-level archaeology is taught almost exclusively by lecture and recitation – it is an almost purely oral enterprise because there are no books. There are also obstacles to knowledge flows from south to North: In countries such as Nigeria there is considerable local archaeological knowledge and expertise, but this information is frequently not effectively disseminated to other colleagues, both in Africa and beyond. Overall, it is a knowledge system that never succeeds in being the sum of its parts. There must be a better way...
Imagine what it would mean for pedagogy and archaeological knowledge if:

Everyone with expertise on some chunk of Africa's past wrote one or more several-page modules on the topics of their expertise, using the same powerful software.

They deposited their modules in a digital repository, retaining copyright, but allowing anyone else to use them non-commercially with proper attribution.

The modules were available free-of-charge to professors, teachers, students and anyone with an interest in Africa's past under a Creative Commons license.

Inputs from users and other authors assured updating, revision and quality control of modules, so that they always reflected the current state of knowledge.

The software permitted instructors to group any subset of modules into chapters and sequence them into a multi-authored textbook that could be presented in a variety of output formats, including webpages, e-books, and print.

If we could do that, we would come very close to achieving the Open Access model of knowledge creation, sharing, and dissemination:
Since 1999, The connexions project at Rice University has been working toward this very end by developing software that enables all of this. The goal is the creation and empowerment of global knowledge communities through collaboration on information modules and courses. The newest version of the software has just been rolled out, and it automates most of the metadata tagging that makes data sharing and reuse possible, so authoring modules, collaborating, and linking them is easy.
Connexion uses the metaphor of a dynamic knowledge factory
With the software tools and content commons CNX provides, the quality control assured by post-publication review, and open content licensing, Connexions believes that its goal to reach a critical mass on a global scale in the next decade is realistic.
Cnx is growing 12% a month. Could African archaeology possibly be among the future disciplinary communities using it? It offers a grassroots, community-driven approach to authoring, teaching and learning that is radically different than the current system. For anyone interested, Rice Connexions is open to you and the Connexions group would welcome your inquiries and participation.
In conclusion, the expanding capabilities of the WWW are in the process of making OA an increasingly powerful means of sharing, retrieving, and contributing to knowledge. Each one of us here already has the possibility of contributing to the development of OA resources, whether articles, papers, or texts. Many have already started down the path. My hope is that each of us here will contemplate the future of OA for our Africanist community and find ways to get involved.