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An Introduction to Ithaka

by Kevin Guthrie, President, Ithaka¹

Editor's note: Ithaka is a recently launched not-for-profit organization supported by the Mellon, Hewlett, and Niarchos Foundations, which aims to accelerate the development of sustainable initiatives that use new technologies to benefit higher education.

In an amazingly short period of time, electronic and networking technologies have had a dramatic impact on the academy, scholarly communication, and the manner in which knowledge is disseminated. Even if we were to discount technological innovations such as e-journals, e-books, "knowledge environments," or e-print servers, more pedestrian technologies like e-mail have fundamentally altered the ability of students and scholars to collaborate across time and distance. E-mail, electronic discussion lists, Web sites, and other communications platforms have offered opportunities for new and joint efforts of many different kinds to achieve results not even imaginable just a few years ago.

Yet even as these changes have had a substantial impact on many of the primary activities of scholars and students, the challenges of implementing the more profound changes in the system are far more significant and difficult to overcome. To illustrate, it is one thing to be able to search a database and find a useful article; it is quite another to create a knowledge environment that is a fundamental component of a scholar's or student's overall research, discovery, and teaching process. Such "second order" enhancements collide with inertial forces associated with more deeply ingrained institutional and individual processes, and require the development of new infrastructure. For example, in the area of scholarly communication, certain changes will be slow to move forward without progress on preservation solutions for electronic documents, massive digitization of core literature, new business models for information dissemination, and methods for handling intellectual property that are both responsible and efficient. In some respects, the higher education sector has changed dramatically in a very brief period; in others, it has changed very little. This is not at all surprising, since the transformative changes associated with information technologies have occurred over the course of less than a decade, while the internal processes in place at colleges, universities, and other educational institutions have been in the making for more than a century.

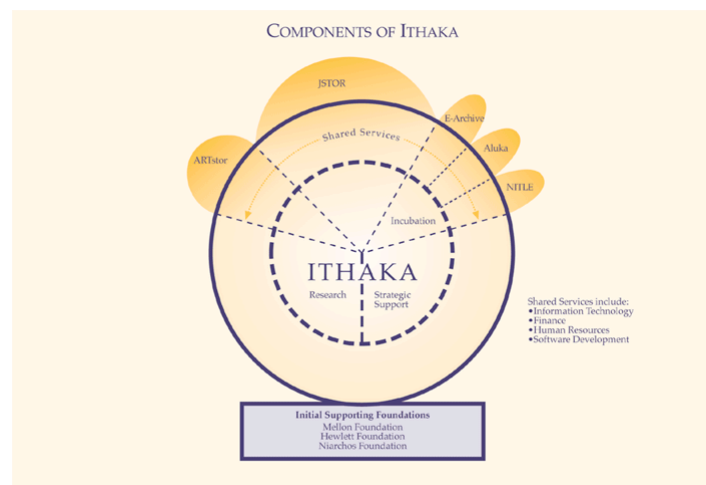
We are at a point when progress on the more profound developments outlined above is essential and perhaps even urgent. The actions and behaviors of scholars and students are in many cases evolving at rates faster than important components of the institutional culture and processes of their host institutions. Infrastructure needs to be developed or there could be undesirable results. One practical example is the challenge of electronic archiving. Scholars and students are increasingly relying on the electronic versions of journals and documents, and yet there is no systematic and reliable infrastructure in place to insure that today's electronic documents will be preserved and accessible in the future.²

While many of the changes wrought by new technologies are being handled internally within colleges and universities, technology sometimes allows, and in other cases forces, us to seek broader solutions. In the earliest days of JSTOR, for example, consideration was given to whether it made sense for a given college to digitize journals for its own local use.³ Instead, the development of the World Wide Web made a system-wide solution far more efficient than a series of locally developed initiatives. Moreover, a centralized approach provided a mechanism for a broad range of institutions to contribute to and support a new solution. For example, numerous smaller and less well-endowed institutions have participated in JSTOR, gaining access to a valuable resource while also helping support the long-term and ongoing maintenance of the digital archive. There are many potential applications for technology to higher education that will require, or benefit from, new approaches and creative new forms of collaboration.

In the commercial sector, when new forces such as these are introduced, change most often occurs through the actions of new entrants that take advantage of the combination of new opportunities and an evolving environment to establish and grow companies that utilize new ways of doing business. New entrants are supported by an industry of venture capital firms and investment banks motivated by the opportunity to generate profits. These institutions provide more than money. Motivated by a desire to maximize financial return for their portfolios, venture capitalists share their knowledge, skills, and resources with portfolio companies, replace management if necessary, make important connections between organizations with complementary activities, and generally provide strategic advice and even oversight when that is necessary. In the not-for-profit sector, and in higher education more specifically, there is a lack of comparable depth of human and financial resources focused on starting up and supporting sustainable, innovative, not-for-profit enterprises.

We believe there is a place for an organization with the operational experience, relationships, and resources that can partner with foundations to accelerate the development of promising not-for-profit projects and help them achieve long-term sustainability. In Ithaka, we are creating such an organization. Although a specific framework for selecting projects has not been established, Ithaka will pursue opportunities where there is a particular need for support that a foundation would not be well-positioned to provide. In some cases, support might be provided in the form of physical and technological infrastructure, in others, it might be provided through a combination of business discipline, experience, and contacts, while in others it may just be provided in the form of a not-for-profit organizational home during a start-up period. The common theme will be that the project delivers content or infrastructure that is important to scholarship and learning in the digital age, that there is reason to hope that the projects are of broad enough potential value to attract sufficient resources to be sustainable for the longer term, and that they welcome the experience and resources that Ithaka can provide.

Ithaka has established for itself three primary areas of activity: strategic support, research, and shared services. In building these organizational groups we have focused exclusively thus far on developing the services for a set of closely affiliated and incubated organizations. In addition to JSTOR and ARTstor, which are independent, affiliated organizations, Ithaka is presently working with three newer organizations, E-Archive, Aluka, and the National Institute for Technology and Liberal Education (NITLE).⁴ Although we have not yet leveraged our experience with these organizations to those outside of this "family" of enterprises, we are confident that many of these services will have appeal and that we will be able to deliver some of them successfully to other organizations.



Strategic Support

Providing assistance in strategic areas that support the affiliated organizations is at the very heart of Ithaka's mission. The objective of this function is to help incubated entities and affiliates develop and execute sustainable business plans by drawing on the collective expertise of internal staff and of our extended network. For example, Ithaka's president, general counsel, vice president for finance, and other staff meet regularly with the incubated organizations to discuss both strategic and operational issues, and often they can share valuable previous experience or help to make useful connections between the incubated entities and other relevant projects or organizations. The finance and strategic planning staff within Ithaka support this effort by providing advice in developing sustainable business models and financial plans. In addition, Ithaka helps the incubated organizations tap into a network of experienced leaders from the higher education, philanthropic, technology, and business sectors, who can provide invaluable introductions and guidance, sometimes at the board level.

Research

Ithaka's research group aims to address specific needs for information and analysis for Ithaka, its incubating entities and affiliates, and others to whom Ithaka may provide strategic support. Since the unit's inception, it has worked on a number of projects in cooperation with specific affiliates and outside collaborators. Many research projects may also have relevance to other efforts in the higher education and scholarly communication communities, and findings are therefore shared as broadly as possible. In some cases, it may make sense to partner with outside parties to pursue specific research projects, and we look forward to working with others as opportunities arise. Two research projects have been completed and shared extensively during 2004, one focused on the economics of libraries⁵

transition to electronic periodicals and the other a survey of faculty members. More on these projects can be found in the accompanying [sidebar](#).

Even as we work to distribute the findings from the completed studies, we are beginning to work on several more major projects. In conjunction with E-Archive and an outside consultant, we have already begun to study the changes that are affecting the economics of scholarly journal publishers and publishing due to the transition to the electronic format. And, during the remainder of 2004, we are planning to launch a number of further projects, including an extensive transaction log analysis of JSTOR that will provide the most detailed look yet at how this resource is used, and a project to conduct an assessment of the institutional impact of ARTstor's image-hosting pilot project.

Shared Services

An important way in which Ithaka seeks to support the growth of initiatives that share its overarching mission is by providing a set of resources and services to affiliated organizations and incubated entities. The objective is to take advantage of economies of scale and other synergies among these organizations to provide high-quality services at lower costs, allowing affiliates to focus on their core mission-related activities. Ithaka provides services in the areas of finance, information technology, and human resources. In addition, we have launched an initiative to develop shared software that can be used by many of our affiliates.

The Shared Software Development team, a part of shared services, has undertaken the complex task of coordinating and contributing to the development of a common software platform that will allow robust interoperability, while reducing costs for software development and maintenance for the affiliates. This effort will be carried out by a combination of staff working directly for the affiliates and staff working directly for Ithaka. The goal is to leverage the accumulated skill and resources of a larger group to develop premium-quality software that can be used and re-used across the affiliates. The Shared Software Development group intends to license software or use open-source software whenever possible, in addition to writing its own software.

Incubating Entities

Ithaka aims to stimulate and guide the development of promising projects, some involving newly created organizations, some involving existing entities. The incubating entities described below--E-Archive, Aluka, and NITLE--are the first to whom Ithaka has provided strategic support, research, and shared services, tailored to their needs. Ithaka intends to provide these projects with the resources and support considered necessary to help them grow into sustainable and innovative enterprises.

E-Archive

E-Archive is developing the infrastructure, relationships, and business model necessary to shape an acceptable electronic archiving solution for academia. The academic and publishing communities have moved into the 21st century with ever-increasing reliance on digital content, but the infrastructure for preserving this content has not been created. Consequently, establishing a production-level archiving system is a matter of increasing urgency. In recognition of the importance of this problem, JSTOR received a grant from the Andrew W. Mellon Foundation to launch a self-sustaining operating unit dedicated to creating this infrastructure. This initiative, which is presently known informally as "E-Archive," is now being incubated within Ithaka. The mission of E-Archive is to preserve scholarly literature published in electronic form and to ensure that these materials remain accessible to future scholars, researchers, and students. A critical aspect of this undertaking is devising a fair way to share the costs and to generate the resources necessary to ensure long-term access to the literature. In pursuing this mission, E-Archive has adopted a system-wide perspective, taking into account the sometimes conflicting needs of libraries, publishers, and scholars. E-Archive's objective is to grow into an organization capable of fulfilling this mission.

Aluka

Aluka's mission is to build and support a sustainable, online database of scholarly resources from developing regions of the world, beginning in Africa, with content that is important for research and teaching both in the countries of the region and in the worldwide scholarly community. The word *aluka* is based on the Zulu word "to weave," reflecting Aluka's mission of digitally aggregating scholarly content from around the world. Additionally, in the languages of northern Namibia, the word has a complementary meaning of "to return" or "to repatriate," again reflecting the idea that through modern technology dispersed materials can be made accessible in their place of origin. Aluka will assemble high-quality digital content from selected developing regions, organized as individual clusters of related collections, each of which will be built around a common theme. The content will be significant and valuable because it is about the region--as opposed to being simply from the region, or for the region. This does not imply, however, that all materials will be located within the region; indeed, one of the great benefits of Aluka will be the possibility of aggregating important content about a particular region that has been scattered to other parts of the world. Unlike JSTOR, Aluka will not consist only of journal literature, but will build a database that includes important primary sources--mainly text-based but also including selected multimedia materials, such as images and audio recordings.

NITLE

NITLE has more recently been added to the group of entities to which Ithaka provides strategic support. NITLE engages with liberal arts colleges to help them make the best use of new technologies for both academic and administrative purposes. Working from a network of centers around the country, NITLE's staff provides various services, including training opportunities, structured collaborations, and curriculum development support. In addition to the existing services that NITLE offers, it is expected that there will be important collaborative opportunities among NITLE and the other Ithaka-affiliated projects, allowing for a more effective relationship with liberal arts colleges. NITLE's regional model has made it possible for faculty, staff, and administrators to meet colleagues from nearby institutions more regularly, helping to build networks and collaborations beyond those on which NITLE focuses.

E-Archive, Aluka, NITLE are the first three Ithaka incubating entities. In the future, we expect to provide strategic support to a growing group of organizations and initiatives, in an effort to bolster the development of sustainable applications of technology for academia.

Conclusion

Ithaka is a new kind of organization that seeks to help academia take best advantage of emerging technologies. We look forward to working with partners in the higher education community to help strengthen existing organizations and to spur the development of new not-for-profit entities. We hope that we can help foundations leverage their existing grant-making investments to better serve academia.

We very much believe that there is a role for an organization such as Ithaka, but we are mindful that this enterprise is not without risk. For example, some of our incubating entities will try to develop a business model and may well not succeed. But we believe, along with the poem from which we take our name,² that the lessons we learn along the course of our journey are themselves valuable, and the rewards of our ventures, when they are successful, will make the risks of the journey well worthwhile.

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The Nonsubscription Side of Periodicals: Changes in Library Operations and Costs between Print and Electronic Formats

A study by Roger C. Schonfeld, Donald W. King, Ann Okerson, Eileen Gifford Fenton (Washington, DC: Council on Library and Information Resources, 2004), <http://www.clir.org/pubs/abstract/pub127abst.html>.

Many academic and research libraries are in the midst of what may ultimately be a major transition for various parts of their collections--a shift from print to electronic format. Libraries that had long subscribed only to print versions of journals are, in increasing numbers, licensing electronic versions to replace the print. What effects will this transition have on library operations and on nonsubscription expenditures? To answer this question, the authors collected data on staff activities and costs from 11 U.S. academic libraries. They then performed a life-cycle analysis to study the longer-term cost implications of the transition. Their projections suggest that many libraries may have the opportunity to avoid immediate costs and long-term financial commitments of hundreds of thousands of dollars.

In addition to long-term cost modeling, the authors also carefully considered the short-term challenges of managing the transition from print to electronic format. In particular, during the transition period itself, total costs may be driven up substantially as expenditures for the electronic format rise well before print format costs decline commensurately. This partial transition scenario is one in which many libraries now find themselves.

Library collections and operations stand to change significantly as a result of the transition. Notably different activities are required to manage and maintain an electronic collection. The unresolved issue of responsibility for archiving stands out as particularly important, given that the authors found significant expenditures for print archiving but little parallel electronic expenditures. If archiving is to be achieved for electronic periodicals, it must be paid for. While it is unclear whether libraries alone will be able to fund archiving, the cost advantages found in this study may constitute the most likely source of library funding for this purpose and may therefore present an opportunity for the library community to shape the archiving solutions that eventually emerge.

Survey of Faculty Attitudes and Perspectives on Electronic Resources 2003

During the fall of 2003, Ithaka commissioned a large survey of faculty at colleges and universities in the U.S. to learn about their habits and preferences related to electronic research and teaching resources. More than 44,000 surveys were distributed, and 7,400 faculty from numerous academic disciplines responded. The study was designed to permit breakdowns by various criteria, including discipline and size of academic institution, as well as comparison with baseline findings from a similar survey commissioned by JSTOR in 2000.

Some of the findings that have proved to be of greatest interest include perceptions of electronic resources, perceptions of libraries and specific library functions, disciplinary variations in research preferences, attitudes toward archiving of both print and electronic resources, and attitudes toward journal publishing business models. Several articles describing the findings are in preparation. For an early version of some of the findings, please see Kevin Guthrie and Roger C. Schonfeld, "What Do Faculty Think of Electronic Resources? Findings from the 2003 Academic Research Resources Study," presented at the Coalition for Networked Information Task Force Meeting, Alexandria, VA, April 16, 2004, http://www.cni.org/tfms/2004a.spring/presentations/CNI_Guthrie_Ithaka_Faculty.ppt.

Footnotes

1. Thanks to Rebecca Griffiths and Roger C. Schonfeld for their assistance in the preparation of this paper, [back to text](#)
2. See, for example, the recent findings in Mary M. Case, "A Snapshot in Time: ARL Libraries and Electronic Journal Resources," *ARL Bimonthly Report*, no. 235 (August 2004): 1-10, <http://www.arl.org/news/235/snapshot.html>, [back to text](#)
3. Roger C. Schonfeld, *JSTOR: A History* (Princeton: Princeton University Press, 2003), 11-12, [back to text](#)

4. More information about JSTOR and ARTstor may be found at <http://www.jstor.org/> and <http://www.artstor.org/>, respectively. For information about the incubating entities, please see <http://www.ithaka.org/>, [back to text](#).
5. Constantine P. Cavafy, "Ithaka," translated by Edmund Keeley and Philip Sherrard, in *C.P. Cavafy Selected Poems* (Princeton, NJ: Princeton University Press, 1992). Reproduced at <http://www.ithaka.org/poem.htm>, [back to text](#)

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