On a recent wintry Saturday in East Lansing, Michigan, nearly one hundred scholars and administrators gathered in Michigan State University’s Radiology Building Auditorium for a day-long conference entitled “Strategic Visioning for Cyberinfrastructure, Computing, and Information.” The purpose of the conference was to begin a dialogue about the university’s future relationship to information technology (IT) and to strategize efficient ways of incorporating IT into research and graduate and undergraduate education.

President Lou Anna Simon, Provost John Hudzik, Dr. Ian Gray, Vice Provost David Gift and others sponsored the conference. Dr. Wayne Dyksen, Professor of Computer Science and Engineering, and Dr. Mark Kornbluh, Professor and Chair of History and Director of MATRIX, were the principle organizers. While many attendees came from the IT-based disciplines such Computer Science, Telecommunications, and Physics, also in attendance were deans, professors, business people, and graduate students from colleges ranging from Agriculture and Natural Resources to Education and Arts and Letters.

The organizers’ stated intention for organizing the conference was threefold: first, “to organize a broad, inclusive group of stakeholders from across the University”; second, “to begin the task of casting a unified and holistic vision for computing and information at MSU for the 21st century”; third, “to identify specific next steps for realizing such a vision.”

Dr. William A. Wulf set the substantive tone of the conference two days earlier in a lecture entitled “Opportunities and Challenges for Universities from Information Technology.” Dr. Wulf, President of the National Academy of Engineering and AT&T Professor of Computer Science at the University of Virginia, speculated on the way that ongoing technological developments will transform the main activity of universities, namely the production and dissemination of information. “It is reasonable to conjecture,” Dr. Wulf said, “that further changes in the technology of information processing might affect how universities function. In fact, that has clearly already happened to some degree. Will more occur? How much? What kind?”

Dr. Wulf’s lecture emphasized four points: first, the importance of universities to a healthy society for what they deliver “in education, scholarship, security, prosperity, and health”; second, IT’s centrality to “almost every aspect” of university life; third, the fact that “IT will become exponentially cheaper, more powerful, for as far as we can see into the future”; fourth, the recognition that “it is naïve to assume that change won’t occur.” Wulf concluded that the problem of “cyberinfrastructure” is the problem of “the technology that will be, not of what is.” He challenged faculty and administration to conceptualize university education and research from the point of view of the future. In scholarship, communication, education, and risk-taking, Wulf emphasized the quantum changes taking place in IT and its quantitative and qualitative impact on universities. Wulf predicted that “the demand for higher education is not the least bit in doubt” but that he could not foresee “how it will look.”

On Saturday, guest speakers picked up Dr. Wulf’s double theme of technological innovation and productivity, on the one hand, and the institutional uncertainty that IT can cause, on the other. Speaking on the subject of “Cyberinfrastructure and Epistemic Infrastructure,” Dr. John King, Dean at the School of Information at the University of Michigan, suggested, for example, that “the haphazard introduction of information into societies can sometimes have subversive effects on the status quo.” As an illustration of such subversion, King offered the historical example of the intersection between Gutenberg’s invention of moveable print and the decentralizing religious movement begun with Martin Luther’s 95 theses. The latter would not have been possible without the former, but the former was not explicitly invented with Catholic reform in mind. King’s point was that IT has always influenced historical and institutional development in unforeseeable ways. He repeatedly stressed the way that “deep tacit knowledge impossible to design” eventually finds its way into the institutional and historical consciousness of society, transforming it from the inside-out.

While Dr. King focused on how networks of knowledge underwrite, often unconsciously, institutional attempts to come to grips with IT and its implications, Clifford Lynch, Executive Director for the Coalition of Networked Information, underscored the fact that policy concerns do not go away in the recognition that cyberinfrastructure exists. For Lynch, universities must decide how to, in his words, implement systems of “preservation, stewardship, and curation” adequate to the challenges of IT today. These systems must meet the demands of the “massive set of changes” afoot in scholarly practice.

Dr. Mark Kornbluh, Chair of History at MSU and co-founder of MATRIX, echoed this sentiment, describing the “digital revolution” as “a fundamental paradigm shift” with respect to the nature and accessibility of historical data. Kornbluh likened the shift to the image of Tocqueville recording his observations of America with a camera instead of ink and paper: the quantity and quality of data available today as a result of IT is incomparable with what went before. Leaps in IT challenge disciplines such as history to re-imagine themselves beyond the traditional confines. This is particularly true
Kornbluh asked, “How do we get there?” How do MSU and universities nationwide deal with the immense structural and disciplinary challenges that IT presents? “Infrastructure,” Kornbluh said, “pipes and irons, digital repositories for long-term preservation and access, new tools for analysis, new environments for analysis and publication, new disciplines.” Kornbluh concluded that “disruptive technology opens doors to new players,” that “resources are important, but so is creativity.” He said that as a result of IT’s exponential growth, “all aspects of university life will be transformed,” and that the choice for universities is to “pursue options or lag behind.”

Two panel sessions, represented by “stakeholders” from academic and corporate backgrounds, followed the individual presenters. Many topics were touched upon during these discussions. For example, Dr. Karen Klomparens, Dean of the Graduate School, emphasized the need for universities to protect graduate students from the misuse of IT and to carefully consider the implications of IT on the responsible conduct of research. Klomparens also stressed that serious stewardship in any discipline in an IT-age must reflect the cultural composition of the larger society. Charles Salmon, Acting Dean of Communication Arts and Sciences, strongly suggested that on the question of IT universities must decide whether to “Lead, follow, or get the hell out of the way!” Dr. Mark Sullivan from the MSU’s Department of Music speculated on the possibilities of IT for musical composition and “computer-assisted performance programs.” Sullivan also emphasized the need for more interdisciplinary work, work that might even appear strange or foreign to traditional disciplinary paradigms. All panel participants appeared to be in agreement that academic life in general is currently experiencing unprecedented challenges to traditional modes of research and policy-making.

Dr. Dykesen opened and closed the conference by drawing attention to the value of communication in an IT world. In a context where cyberinfrastructure is constantly forcing stakeholders to question the reality of the context itself, in the viability of traditional forms of disciplinarity, for example, communication and creativity take on a heightened profile. The influence of IT will continue, in Dykesen’s words, to be “persistent, pervasive, and profound” on the nature and scope of university life. The “Strategic Visioning” conference represented a significant event in MSU’s ongoing effort to deal responsibly with this fact.

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