Editor's Note

In the summer of 2024, Clifford Lynch announced his retirement as executive director of the Coalition for Networked Information (CNI) after 28 years at its helm. CNI quietly launched a project to create this Festschrift to document and honor his legacy. Authors began contributing articles in early 2025, with a planned publication date of July 2025. Since the final membership meeting of Cliff's tenure was April 7–8 in Milwaukee, the plan was to surprise him, surrounded by colleagues and friends, with a presentation of the table of contents of this special issue. However, just two weeks prior to the meeting, Cliff's health worsened; he was told about the Festschrift and received project details and articles. Though unable to attend in person, he participated in the CNI membership meeting via Zoom and also virtually joined his retirement reception, which included readings of excerpts from each article in this volume. Sadly, on April 10, 2025, Clifford Lynch passed away. Festschrift contributors wrote their articles prior to his passing, and we have chosen not to alter their original language.

Introduction: The Many Facets of Clifford Lynch

Joan K. Lippincott

Clifford Lynch (Cliff) has been a pioneer in the library and information technology worlds. His keen skills of observation and prescient ability to identify emerging technology issues affecting higher education are legendary. His impact has been profound through his work on high performance networking and the MELVYL online catalog in the University of California system and as executive director of the Coalition for Networked Information (CNI), a joint program of the Association of Research Libraries (ARL) and EDUCAUSE.

Cliff's thought leadership, encyclopedic knowledge, and integrative outlook have made him a sought-after conference speaker. While he can delve into the most technical issues in great detail, he also can communicate those complex issues to a broad audience in terms they can understand. He is particularly well-known among professional colleagues for his talks at the end of conferences, eloquently and cogently summarizing the salient issues that emerged from days of meetings.

Cliff has also been a highly valued member of committees convened by the National Science Foundation (NSF), Library of Congress, National Library of Medicine, and the National Academies, where he served as cochair of their Board on Research Data and Information (BRDI). He is a past president of the American Society for Information Science, a recipient of the society's Award of Merit, and a fellow of the American Association for the Advancement of Science (AAAS), the Association for Computing Machinery (ACM), and the National Information Standards Organization (NISO).

While many individuals are recognized for their influence and achievements in one specific area, Cliff's ideas and impact have been felt broadly in such fields as scholarly communication, digital publishing, repositories, data stewardship, intellectual property, information policy, digital preservation, privacy, security, authentication and authorization, interoperability, high-performance computing, and artificial intelligence (AI). This special issue of *portal* attempts to provide insight into the many facets of Cliff's expertise.

The Festschrift

In late summer of 2024, Cliff announced that he would retire at the end of June 2025 as executive director of CNI. Many voices immediately noted that this would be the end of an era, since Cliff has served as the leader of CNI since 1997. In early fall of 2024, Diane Goldenberg-Hart, assistant executive director of CNI, conceived the idea of producing a Festschrift honoring Cliff. She arranged for the Festschrift to be published as a special issue of the journal *portal*, and she recruited me to serve as guest editor of the issue.

As guest editor, I worked with Diane to compile a list of potential authors for this issue. Our chief difficulty was to reduce the list to a manageable size for a one-volume work. A key objective for the selection of potential authors was to represent the many facets of Cliff's expertise, influence, and leadership. These include his work exploring the development of many forms of digital content for scholarship such as online journals and monographs, complex objects such as archaeological reconstructions, multimedia, archives, special collections, and quantitative and qualitative data.

Cliff's writings and presentations on digital content have explored technical issues for accessing and representing media, economic issues such as licensing and costs of data stewardship, intellectual property policy models, and reader privacy. His technical work includes articles and, in some cases, active participation in the development of new protocols and standards for the Internet environment, authentication and authorization tools, interoperability, and online catalogs. This deep understanding of technical issues gives him an invaluable ability to analyze the impact of technology on policy, whether at the global, national, or institutional level. Most recently, this has been evident in CNI's work related to machine learning and AI.

Cliff has been instrumental in forging collaborations between and among librarians, technologists, publishers, museum professionals, archivists, university research officers, and others. His interest in preservation extends not only to infrastructure for the stewardship of core materials for academe but also to personal digital archiving and to mechanisms such as the Keepers Registry, which tracks responsibility for archiving content. Overall, much of Cliff's and CNI's work has focused on the infrastructure needed for scholarly information in the digital environment, whether technical architectures and standards, economic models, new roles for information and technology professionals, or global, national, and institutional policies concerning such issues as user privacy.

The articles in this collection describe and explore Cliff's overall impact on developments in the digital content arena, information policy, technological infrastructure, and stewardship and preservation of a wide variety of media. In his role as director of CNI, he has assisted the membership and a global audience to better understand current developments, envision the future, develop good practice, and take part, at multiple levels, in information and technology policy decisions that impact research and learning.

Leading the Coalition for Networked Information

The Framework of ARL and EDUCAUSE

From its inception, CNI was a joint program of one library organization, ARL, and two information technology (IT) organizations for higher education, Educom and

CAUSE. The two IT organizations merged to form EDUCAUSE in 1998, shortly after Cliff took the helm at CNI. These organizations provide the oversight and governance structure for CNI, but not its funding. While ARL has the fiduciary and organizational responsibility for CNI, the coalition is fully self-supporting through membership dues. A steering committee provides advice and guidance on program and membership issues.

Cliff's regular reports to the ARL board have apprised its members of key issues in technology and policy and often have provided insights into national and international committees and task forces, where he was frequently the sole voice providing library perspectives. He participates as an invited guest at many ARL committee meetings and actively collaborates with ARL staff on a variety of initiatives, particularly in the areas of scholarly communication and policy. In addition, CNI has cosponsored many of the forums held in conjunction with ARL's fall membership meetings. Cliff also has contributed many important articles to ARL publications, described in the following sections.

Among the collaborative efforts between CNI and ARL is an ongoing project on AI scenarios.[1] ARL and CNI partnered to develop materials that can be used on campuses to examine their own environments and to create strategies for planning for AI within their institutions. The work will continue with an ARL/CNI researcher in residence on AI, appointed in early 2025.[2] In another example, ARL, CNI, and EDUCAUSE developed an initiative during the COVID-19 pandemic to advance research libraries' impact in a world shaped by new technologies.[3]

Cliff also helped build international partnerships. He introduced EDUCAUSE and ARL executives and member leaders to the leadership of Jisc (formerly the Joint Information Services Committee) in the United Kingdom (UK), which was the agency responsible for the UK-wide networking and digital library programs for universities. CNI co-organized conferences with Jisc, held every other year in the UK, bringing together those leaders along with individuals doing important research in networking and digital libraries.[4]

Cliff has served as a bridge and translator between library and IT communities. Over the course of many years, Cliff has participated in EDUCAUSE's formulations of input into federal networking policy, and he was recognized for this work with the EDUCAUSE Leadership in Public Policy and Practice Award in 2005. In addition, in 2016, he received the Leadership Award, EDUCAUSE's highest recognition for individual achievement. Cliff presented an annual update on CNI's program at the EDUCAUSE conference for many years in addition to topical presentations at EDUCAUSE annual conferences.

Cliff worked with EDUCAUSE to set up podcast interviews with selected presenters at CNI meetings. Interviewees were selected to discuss topics of particular interest to the EDUCAUSE community, such as empowering the use of open-source software for research, the Year of Open Science, blockchain, and AI. Cliff himself was interviewed several times.[5]

Publications, Programs, and Activities

Cliff devised a new way of communicating CNI's initiatives and priorities when he took the helm, developing an annual program plan that was divided into these themes: developing and managing networked information content; transforming organizations,

professions, and individuals; building technology, standards, and infrastructure; and policy and consultative activities. Most of the work described in this section echoes one or more of those themes, whether in Cliff's writings or in CNI's meetings and other activities.

Many of Cliff's influential articles were published in ARL and EDUCAUSE publications, and only a small number will be called out here. His 2003 ARL article on institutional repositories as essential infrastructure framed the conversation on that topic for many years and was reprinted in this journal and translated into French.[6] His article on net neutrality illuminated an important policy and technology issue for a library audience.[7] In the many articles authored by Cliff in *EDUCAUSE Review*, he covered topics that bridged library and IT interests such as authentication and authorization, managing the cultural record, the institutional challenges of cyberinfrastructure and e-research, and digital scholarship.[8]

In addition to the articles in ARL and EDUCAUSE publications, Cliff contributed influential pieces to other venues. His groundbreaking article on stewardship in the age of algorithms examines, in an exploratory and pragmatic way, how archivists and others can document for future generations the algorithms used in various information systems and capture their impact on the information environment of the time. This paper demonstrates Cliff's expansive thinking into regions that others had not yet researched and his keen interest in documentation of the cultural record.[9]

Cliff's wide-ranging paper on reading analytics focuses on how commercial and government entities, among others, collect data about what people are reading in the digital environment and examines the privacy implications of those actions. For individuals interested in Cliff's more scholarly and intensive writing, this is a good example of the way in which he approaches complex topics.[10]

Membership and Events

Twice a year, CNI's member representatives convene for a conference featuring plenary speakers and breakout sessions referred to as project briefings. Cliff established a pattern of giving the opening plenary session of the fall membership meeting, highlighting a set of issues intended to provide a strategic view of the near future. Many CNI member representatives have commented through the years that this session has been a highlight of their attendance at CNI meetings as Cliff provides his unique perspectives on issues that may not have been previously recognized as important for their research and education institutions. The other conference sessions highlight speakers on emerging topics and early reports on new projects in the networked information world, such as a panel on the Google Books project in 2005 and one on the American Council of Learned Societies (ACLS) Commission on Fostering and Sustaining Diverse Digital Scholarship in 2024.[11]

The project briefings at each meeting are carefully chosen to illustrate work in the areas of CNI's program themes. They highlight promising initiatives at member institutions and beyond, often at a stage after project leaders have started an initiative but final results are not yet achieved, providing a mechanism for lively input and exchange in the sessions. The briefings often launch new partnerships and collaborations. Overall, CNI provides its participants with a strategic view of the near future, assisting them in developing plans and priorities for their own institutions.

Another important set of gatherings are the Executive Roundtables, created as a mechanism to bring together teams of campus library and IT leaders to discuss relevant current issues. Initially scheduled in conjunction with the in-person membership meetings, they were moved to separate virtual events during the pandemic and have continued in that format. Topics have included moving content to the cloud, the research enterprise, strategies for preserving institutional and researcher email, open educational resources, supporting digital humanities, institutional repositories, privacy in the age of analytics, and funders, compliance, and access to research results. Frequently, institutional representatives are encouraged to include in their team an individual from another relevant unit in their institution, such the research office or library publishing unit. Reports from these roundtables provide institutions with insight into both the topic at hand and into the various ways that universities are strategizing and developing responses to the issue.[12]

Over the years, specialized meetings, some by invitation and some by open registration, have been held or cosponsored by CNI. Topics have included the management of scholarly identity, security and privacy, digital scholarship, and designing libraries for the twenty-first century.

While CNI encourages collaboration between library and IT units as a central part of its program, Cliff also sought collaborations with organizations involved in scholarly publishing, museum curation, and research. In some cases, this resulted in jointly sponsored meetings such as the University Press and Library Summit sponsored by the Association of American University Presses (AAUP), ARL, and CNI and hosted by Temple University in 2016.[13]

Cliff made many campus visits over the years, to give talks and to consult on issues of importance to the institution. He also meets informally with colleagues when he travels around the United States and abroad. He is always eager to catch up with individuals whose projects and initiatives he is following and to have informal conversations that might advance their initiatives and inform his own understanding.

Cliff shares the knowledge he gathers from his interactions with colleagues around the world and from his extensive reading through the email list known as CNI-ANNOUNCE. The list remains active as of this writing. It carries news of CNI's activities and links to useful reports by a wide variety of authors, government agencies, and institutions on issues ranging from e-science to privacy to AI. People often comment that they follow the email list closely because it contains so many useful references that they do not see otherwise.

Under Cliff's leadership, the CNI website has been a model for its commitment to providing a full, accessible archive of materials from the earliest years to the present. This level of effort is unusual, even for organizations in the library field. It reflects Cliff's belief that CNI, as an organization founded by library and IT organizations, should be a responsible steward of its own materials, whether articles for publication or membership meeting programs and session descriptions.

Working with Cliff

I began working at CNI a few months after its creation in 1990. In 1996, the premature death of founding Executive Director Paul Evan Peters was a shock to the entire CNI community. Many wondered if Paul's magnetic presence and ability to bring many parties together to develop the initial program of the coalition could be successfully replaced. Those concerns were quickly dispelled when Cliff was selected by ARL, Educom, and CAUSE in 1997 to be CNI's second executive director. He had been heavily involved in CNI, was a leader of CNI's Working Group on Architecture and Standards and was also a close friend of Paul Peters.[14]

At the time of Paul's death, I reported directly to the executive director, supervised the CNI staff, and provided leadership for some of CNI's programmatic initiatives. I realized quickly upon Cliff's arrival that his style was different from Paul's and that his programmatic interests were different from mine. I told him I would understand if I was not the right match for him in the position I held as associate director. He heard me out but did not comment immediately. Some months later, when we were discussing organizational issues, he told me that he realized that we complemented each other's skills and interests very well and that he hoped I would stay on.

From that time on, we would sometimes note to each other a particular instance of that complementarity. This is one of the elements that made him so successful in collaborating with people in other professional roles: valuing the skills and perspectives of others who have strengths different from his own. It is also a characteristic of someone with an open and generous mind. We worked together until my retirement at the end of 2019.

While Clifford traveled frequently and extensively, he was a hands-on administrator of CNI. We worked together on establishing programmatic directions, choosing meeting session topics, discussing membership issues, and reviewing and monitoring finances of the organization. He was never too busy to discuss concerns that needed to be addressed quickly. As many of the authors in this issue have noted, he is also a very modest and kind person.

While this introduction outlines many facets of Cliff's work, what it cannot fully convey is the depth of Cliff's knowledge in each of these areas. It was continually astonishing to me to talk with him one-on-one or to listen to his annual plenary talks at a CNI membership meeting and to realize how deeply conversant he was with almost any topic at hand. He is a voracious reader and devours a broad range of publications. In addition, when he was speaking at conferences, he also faithfully attended the other sessions and participated in specialized meetings, absorbing huge quantities of technical and nuanced information. People marveled at Cliff's ability to give talks from minimal notes and often assumed that he was speaking largely off the cuff. My observations led me to believe that those brief notes distilled the main points he would make after deep thought, analysis, and preparation. He mapped out his presentations in detail in his head and used his notes only as a reminder of key points. The articles in this special issue provide the reader with the insights of many individuals into Cliff's deep understanding and his broad impact in the realm of networked information.

Appreciations

As guest editor of this issue, there are many people I would like to thank, first and foremost the wonderful authors who contributed articles to this Festschrift. Their outpouring of admiration, appreciation, fellowship, and regard for Cliff is apparent in the articles in this collection. Each author worked hard to situate their own work and the developments in the networked world to their relationship with Cliff. Often, their involvement with him and with CNI was decades long.

I would especially like to thank Diane Goldenberg-Hart, assistant executive director of CNI, for her conception of this Festschrift as a fitting tribute to Cliff at his retirement. She put into place the framework for this project, identified and negotiated with a suitable journal and publisher, and ensured that the resulting volume would be open access. She tapped the key personnel who put this issue together, including myself; Nancy Maron, president of BlueSky to BluePrint, who was capably in charge of production; and Paige Pope, CNI communications coordinator, who willingly stepped in whenever needed. Ellysa Stern Cahoy, editor of the journal *portal*, graciously allowed us to use it as a venue for the publication of this special issue, and we appreciate her support and encouragement. Sara Dreyfuss, *portal*'s copy editor, also provided her services for this special issue. William Breichner, journals publisher at Johns Hopkins University Press, offered important guidance and flexibility for this special issue.

Reading through the articles for this special issue, I learned some new things about Cliff and was delighted by some of the personal reminiscences the authors recounted. I was not surprised that the articles revealed the many facets of Clifford Lynch, and I hope that readers come away with an appreciation of Cliff's broad and deep talents and of the great influence this singular character has had on the networked information world.

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Notes

1. "ARL/CNI Joint Task Force on Scenario Planning for Artificial Intelligence & Machine Learning Futures," Coalition for Networked Information, June 27, 2024, https://www.cni.org/events/cni-workshops/arl-cni-joint-task-force-on-scenario-planning-for-artificial-intelligence-machine-learning-futures.
2. Clifford Lynch, "Natalie Meyers Appointed ARL/CNI Researcher in Residence for AI," Coalition for Networked Information, January 29, 2025, https://www.cni.org/news/natalie-meyers-appointed-arl-cni-researcher-in-residence-for-ai.
3. Mary Lee Kennedy, "ARL, CNI, EDUCAUSE Form Strategic Partnership to Advance Research Libraries' Impact in a World Shaped by New Technologies," Association of Research Libraries, August 16, 2019, https://www.arl.org/news/arl-cni-educause-form-strategic-partnership-to-advance-research-libraries-impact-in-a-world-shaped-by-new-technologies/.
4. Reports were issued for most of the meetings and are available at: https://www.cni.org/?s=jisc.
5. A full list of the EDUCAUSE/CNI podcast recordings is available at: https://www.cni.org/resources/video-podcasts.

6. Clifford A. Lynch, "Institutional Repositories: Essential Infrastructure for Scholarship in the Digital Age," *ARL Bimonthly Report* 226 (February 2003): 1–7. Reprinted in *portal: Libraries and the Academy* 3, 2 (2003): 327–36. Trans. into French by Simone Jerome as "Les dépôts de documents institutionnels: une infrastructure éventuelle pour l'enseignement à l'ère numérique," *Cahiers de la documentation/Bladen voor de documentatie* 57, 4 (December 2003): 135–43.

7. Clifford A. Lynch, "Practical Consequences of the Elimination of Net Neutrality for the Research & Education Community: A Speculation," *Research Library Issues* 293 (2018): 6–10, https://publications.arl.org/10sk2gs/.

8. For example, see: https://er.educause.edu/articles/2018/10/managing-the-cultural-record-in-the-information-warfare-era; https://er.educause.edu/articles/2016/12/report-on-the-2016-cni-authentication-and-authorization-survey; https://er.educause.edu/articles/2014/5/the-digital-scholarship-disconnect; https://er.educause.edu/articles/2008/10/the-institutional-challenges-of-cyberinfrastructure-and-eresearch; https://er.educause.edu/articles/2008/1/repatriation-reconstruction-and-cultural-diplomacy-in-the-digital-world.

9. Clifford Lynch, "Stewardship in the 'Age of Algorithms,'" *First Monday* 22, 12 (2017), https://doi.org/10.5210/fm.v22i12.8097.

10. Clifford Lynch, "The Rise of Reading Analytics and the Emerging Calculus of Reader Privacy in the Digital World," *First Monday* 22, 4 (2017), https://doi.org/10.5210/fm.v22i4.7414.

11. Reginald Carr, David Ferriero, Dale Flecker, Clifford Lynch, Catherine Tierney, and John Price Wilkin, "Research Libraries and the Google Digitization Initiative," panel discussion at the Coalition for Networked Information Spring 2005 Membership Meeting, Washington, DC, April 4, 2005; Marisa Parham and James Shulman, "Report and Recommendations of the American Council of Learned Societies Commission on Fostering and Sustaining Diverse Digital Scholarship," presentation at the Coalition for Networked Information Fall 2024 Membership Meeting, Washington, DC, December 9, 2024.

12. See an archive of all Coalition for Networked Information Executive Roundtable Reports at: https://www.cni.org/tag/executive-roundtable-report.

13. Rikk Mulligan, "University Press and Library Summit to Be Hosted by Temple University with AAUP, ARL, CNI," Association of Research Libraries, February 29, 2016, https://www.arl.org/news/university-press-and-library-summit-to-be-hosted-by-temple-university-with-aaup-arl-cni/.

14. Joan K. Lippincott, "Coalition for Networked Information," in *Encyclopedia of Library and Information Science*, 3rd ed., ed. Marcia J. Bates and Mary Niles Maack (Boca Raton, FL: CRC Press, 2010), https://www.cni.org/wp-content/uploads/2011/07/elis.cni_.08.web_.pdf; Richard P. West, "The Coalition for Networked Information and the Rewards of Risk Taking," *portal: Libraries and the Academy* 9, 3 (July 2009), 317–25, https://doi.org/10.1353/pla.0.0061.