This past year has been an exciting one for the history of computer networks. A host of new books, including Benjamin Peter’s recent history of OGAS, the failed Soviet cybernetic competitor to the Arpanet, Shane Greenstein’s economic and business history of the commercial Internet, and Nicole Starosielski’s remarkable account of the vast undersea network that lies at the heart of the global Internet infrastructure, have opened up the field to new questions, topics, and approaches.\textsuperscript{1} The result has been a welcome reminder that, although facts do not change, our understanding and interpretation of history is constantly under development.

In this issue of the Annals, we provide our own contribution to the ongoing historiographical evolution of the history of computer networks. In his account of “Two Early Interactive Computer Network Experiments,” Associate Editor-in-Chief David Hemmendinger uncovers two early and previously undocumented computer networks that predated the Arpanet by as much as a half-decade. The first, which connected users at the Stanford Research Institute (SRI) with a host at the System Development Corporation (SDC), was among other things a proof of concept of Douglas Englebart’s approach to augmenting human intellect via the use of interactive, online systems. The SRI-SDC went into operation in late 1963 and was used to access records in a bibliographic database. The second network Hemmendinger describes let researchers at the Lincoln Laboratory remotely use computing resources at SDC. It went into operation in 1967. As Hemmendinger rightly reminds us, it is often misleading (and pointless) to focus overmuch on “firsts” in the history of computing, but his careful analysis of these early “experiments”—which involved such influential computer pioneers as J.C.R. Licklider, Ivan Sutherland, and Robert Taylor—provides us with unique insights into the processes of technological development. By pushing backward our understanding of the technological and social history of computer networking, Hemmendinger suggests just how much of this crucial history has yet to be uncovered, documented, and interpreted.

In the second of their two-part series on visual representations of the Arpanet,\textsuperscript{2} Bradley Fidler and Marie Currie explore the ways in which these representations are anything but straightforward depictions of the physical or spatial “reality” of the network: rather, like all maps, they are human creations that conceal as much as they reveal. The “solid, straightforward lines” of the early Arpanet maps emphasize an idealized network in which all nodes were equal. The reality of the Arpanet, according to Fidler and Currie, was much less stable and homogeneous, with certain nodes and links much more trafficked and much more influential in the long-term development of the network than others. In their close and critical reading of these celebrated documents, Fidler and Currie provide not only new insights into this history, but a model for historiographical analysis.

One of the constant dangers in recounting the history of computer networking, even more than in the history of computing generally, is the proliferation of acronyms, both technical (TCP/IP, OSI) and organizational (ARPA, IPTO, and dare I say it, IEEE). In our final two articles, participant-historians John Day and Craig Partridge masterfully demonstrate just how important it is that we unpack these intimidating sets of initials to reveal the people, practices, and politics that lie behind them. In his study of the conflict between the INWG (Internet Working Group) and PTTs (Post, Telegraphy, and Telephony, a blanket term used to describe the various national telecommunications monopolies), Day situates what might otherwise seem like a prosaic debate about networking standards within the context of a contentious battle between two very different visions of how (and why) networks ought to be constructed. The development of standards within the INWG was anything but dull bureaucratic maneuvering, Day reminds us, but rather “a war of competition disguised as a rational technical argument among experts.” As with Hemmendinger’s article on networking “experiments,” what is revealed in this history are valuable insights into the complex mechanisms by which scientific and technological knowledge gets created.

Where Day describes a conflict between competing organizations (academic researchers and telecommunications firms), Craig Partridge explores the tensions within a community. In this case, between the IAB (Internet Activities Board) and IETF (Internet Engineering Task Force). Arguing against the conventional interpretation of the interaction of these groups in terms of the “revolution” of the IETF against the IAB, Partridge suggests that what really occurred was a restructuring within an existing institutional architecture. Such restructurings are not an unusual response to the challenges of governance in rapidly evolving technological systems. And as both of these last two articles clearly demonstrate, ongoing governance is as central to the history of
computer network as are experiments, “firsts,” and other forms of innovation.

As we approach the 50th anniversary of the invention of the Arpanet, we can expect a proliferation of media coverage of this momentous historical development. Some of this coverage will be thoughtful and reflective, some of it sensational and misleading. Our readers can expect the Annals to engage fully with this public conversation, while at the same time providing its own brand of rigorous, well-documented, and novel historical contributions to the history and historiography of computer networking.

References and Notes

Nathan Ensmenger is the editor in chief of IEEE Annals and an associate professor in the School of Informatics and Computing at Indiana University. Contact him at nensmeng@indiana.edu.

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