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Historical Perspectives on Technology and Society

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Historical Perspectives on Technology and Society: Overview of this Issue of STS NEXUS

Barbara Molony

Silicon Valley is a unique place in a unique moment of time. To say that it exists within history seems obvious; what might be less apparent is that Silicon Valley also has come to define both the practice and the subject of history. History and the exciting technologies born and bred in Silicon Valley are intimately linked. These ties were highlighted in a remarkable series of events and presentations sponsored by the Center for Science, Technology, and Society (CSTS) in October 2001. This issue of *STS NEXUS* captures the insights of those presentations.

History is both the foundation for the present and future as well as the study of that foundation. History defines and preserves the significance of nations and the legacies of cultures. Our identities as societies are tied to our artifacts and to our interpretation of the cultural record they embody. But history is more than about objects; it is also about the people whose choices affect the options we as a society have in the present and future. When brilliant minds began to cluster in Silicon Valley a half century ago, they created not only the engine of productivity that commands our attention in the here and now, but they also intertwined the fate of this Valley with Clio, history's fabled muse.

What could Silicon Valley have to do with history? Silicon Valley is dynamic discovery, development, and marketing. It enthusiastically embraces the future, perhaps so much so that cautious voices have begun to express concern about the obsolescence of storage technologies that carry our present culture much as paper documents and Rosetta stones preserved and honored our ancestors' cultures.

The articles in this issue of the *STS NEXUS* emphatically claim that technology very much matters to history and history to technology. And Silicon Valley, the technology story of the last half-century, has affected history in ways that have just begun to be perceived. Stuart Leslie's article introduces the issue by connecting the booming scholarly field of the history of technology to the tremendous implications of Silicon Valley technology for the practice of history and for what will become its content. Leslie is the Secretary of the Society for the History of Technology (SHOT), which held its last annual conference in the heart of Silicon Valley. Leslie skillfully weaves the trends in the history of technology with the

About the Author

Barbara Molony

The Editor of this issue of *STS NEXUS* is Barbara Molony, Professor of History at Santa Clara University, where she joined the faculty in 1981. Since then, she has been the co-Director of the International Business Program (1982-1988) and the Women's Studies Program (1996-present). Her first book, *Technology and Investment in the Prewar Japanese Chemical Industry* (Harvard, 1990), examined the social and economic implications of technology development in Japan's historical context. Her more recent publications have addressed, among other topics, gender and the structure of the workplace and gender-based employment legislation. Her technological "claim to fame" is that her Ph.D. dissertation (in History and East Asian Languages, 1982) was alleged to be among the first Ph.D. dissertations submitted to Harvard University to be

scholarship presented at the SHOT Conference and with the deeper meanings of Silicon Valley technologies. Leslie argues that our notion of what counts as "history" is challenged by technology as history itself becomes a networked system; at the same time, those networks promise to democratize history by gathering data on websites compiled by a wide range of individuals. Leslie also discusses the crucial linkages of information with the structure of the traditional nation-state, the dynamics of gender and technology, and the historical transformation of the environment through technology.

Paul Ceruzzi of the Smithsonian Institution, and moderator of a stellar panel of Silicon Valley founders, contributes the second article. The CSTS sponsored panel opened the SHOT Conference and highlighted the impact of choices made by presenters Doug Engelbart, Gordon Moore, and Regis McKenna in driving the engine of Silicon Valley. These three Silicon Valley pioneers came from other parts of the country, forming, with others, a cluster of knowledge, skills, and the determination to create technology that could lead to human progress. Santa Clara University business school professor Terri Griffith's article discusses a key question posed by the conversation among this distinguished panel. Was location important, and if so, why did creative minds congregate here to change the course of history?

Santa Clara University history professor Steven Gelber's article on Haynes Johnson's latest book, *The Best of Times: America in the Clinton Years*, also draws insights from Johnson's Santa Clara University colloquium introducing his book. Gelber's review comments on the book's "replay" of the historical role of Silicon Valley in its heyday in the 1990s. Johnson and Gelber note that technology, particularly the Internet, helped to define the 1990s, thus facilitating Clio's date with technology. Was this the best of times, or were there lost opportunities?

As part of the October 2001 events Thomas P. Hughes, one of the founders of the field of the history of technology, was joined by his son, Lucian, an entrepreneur in information technology, for a fascinating discussion about parallels between the "high tech" inventor-entrepreneurs of the Edisonian era and their counterparts in Silicon Valley today. Their paired articles focus on the ways in which thinkers with brilliant ideas commercialize their inventions. Thomas Hughes posits several stages in the complex system of invention and innovation, and finds that as far as Edison and Silicon Valley are concerned, there is "nothing new under the sun." Luke Hughes generally agrees with these stages, but adds an essential modification for contemporary Silicon Valley innovations. While Thomas shows that what he calls "reverse salients" (unanticipated problems that prevent the smooth implementation of new technologies) usually lead to more inventions to overcome those problems, Luke notes that investors are also often intrigued by new technologies and inspired to take off in new directions even in the absence of technological reverse salients.

Is Silicon Valley different? Is it a special place? Will it continue to be one? How have history and technology mutually informed each other? If, as Thomas Hughes writes, historians can "project patterns taken from...analogies (between past and present) to envision future scenarios," we face an exciting future indeed.

written at a computer keyboard rather than on an electric typewriter.

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» Nothing New Under the Sun? Perhaps not, but all that Sunlight has Created a Flourishing System



