Preface to the Paperback Edition

Since its publication in 1985, reviewers of *Technology's Storytellers*, while favorable in the main, have raised two critical questions that warrant further comment. Langdon Winner concluded his very generous review by challenging me to go beyond the analysis of *Technology and Culture*'s first two decades, with its concentration on historiographical interpretation. Noting that the study originated in my observation of "the powerful and often destructive effects that the coming of modern technics has had on the American Indians," Winner calls on me to "confront the social, political, and spiritual challenges posed by the presence of technology in our world" (*Science*, February 14, 1986). Arthur Molella, on the other hand, suggests that I am so wedded to my definition of the contextual method that I see its growing dominance in the field as the "promised land," a methodological parousia so perfect that "there will be no need to refine further our perceptions of the meaning of technology and history" (*Annals of Science* 44 (1987): 531).

To begin with Molella, I would note that the contextualism I propose represents an open-ended methodological principle, not a tidy recipe. Indeed, technological determinism's simplistic reductionism constitutes its primary historiographical flaw. The study of technological context precludes neat definition precisely because that context includes the whole tangled array of the human condition. By trying at the end of the book to articulate a model that calls attention to this complexity, I sought to encourage scholarly exploration of the technology-culture relationship along as many lines as possible. *Storytellers*, therefore, represents an early step in a process of historiographical discourse that must, in principle, evolve. My personal starting point on the Pine Ridge, both intellectual and affective, leads me to hope that *Storytellers* will

influence that evolution in two ways. I hope that my critique of the ideology of autonomous progress will help lay that closed-system reductionism to rest.[1] I hope, too, that including the "Impact Constituency" as an essential dimension of technological context will foster more serious attention to the ways in which successful technologies oppress even as they bless.

Langdon Winner's challenge to "confront the social, political, and spiritual challenges posed by the presence of technology in our world" addresses this second hope but also calls attention to one of the most difficult aspects of the contextual method. Contextual studies of technology have ordinarily been limited to the question of origins; they study technologies as *social products*, asking which factors in the originating society most influenced the designers and how the resulting technology reflects their vested interests and world view. Winner asks whether historians can address the influence of technology as a *social force*. How does a technology, once it becomes successful within its host culture, affect the social patterns, the values, life-style, and world view of that society?

The question seems to defy historical analysis. How can one demonstrate, for example, that the cultural biases found in the U.S. automotive system *caused* this or that social consequence? Automobiles operate within the same ambience as electric light and power systems, chemical research and production units, and a host of other technical traditions, to say nothing of the political, economic, and artistic forces that shape a culture. How can we address the social consequences of specific technologies while avoiding naive oversimplification?

Despite its difficulty, the question will not go away. Dominant technologies have ideologically specific styles that structure our lives and our imaginations, sometimes in unprecedented ways. To ignore those shaping forces for fear of drawing unverifiable conclusions, or to limit studies of technological influence to narrowly defined, quantified impact studies, exiles historians from the discussion of technological policy.

My attempt to resolve the problem appears in a recent series of short studies that integrate technological origins with social consequences. Rather than claim completely defined causal conclusions, however, I have tried to articulate helpful questions about the social consequences of technical bias. How, for example, have the electronic media, with their bias toward speed-of-light transmission of information, transformed public discourse and

the ancient arts of storytelling and heralding the news? How has the nation's commitment to standardized systems and our addictive relationship to electric lighting contributed to the last two decades' rise in anxiety about binding adult commitments? Can we identify a relationship between the world view of industrial capitalism and the gender-related question of the separate spheres?[2]

These relationships and others like them cannot, perhaps, be defined so tightly as to sustain causal demonstration. Nevertheless, a thorough technological contextualism requires an effort to articulate them and, by that labor, to call attention to questions with which citizens of the late twentieth century, including historians, must wrestle. It consoles me to observe that in the years since *Storytellers* appeared, such questions have added an exciting new dimension to SHOT's annual meetings and the pages of *Technology and Culture*. So significant are these developments in the contextual history of technology that an updating of this overview of the field will be warranted before long. For the field in general, and for this observer of the field in particular, this is welcome news indeed.

Notes

1. *Storytellers* does not represent my last word on progress talk or my proposed contextual model. For further development of both questions see my "The Perils of Progress Talk: Some Historical Considerations," in Steven Goldman, ed., *Science, Technology and Social Progress* (Bethlehem, Pa.: Lehigh University Press, 1989), and "The Politics of Successful Technologies," in Steven Cutcliffe and Robert Post, eds., *In Context: History and the History of Technology—Essays in Honor of Melvin Kranzberg* (Bethlehem, Pa.: Lehigh University Press, 1988).

2. On these three topics see my "Moving at the Speed of Light: The Influence of Communications Technologies on Modern American Culture," paper for the Conference on Religious Telecommunications, The University of Dayton, September 1988 (in press); "Commitment, Community and United States Technological Style," in Joe Holt, ed., *Beyond Alienation: The Person in Christian Perspective* (New York: Fordham University Press, in press); and "Advent for Capitalists: Grief, Joy and Gender in Contemporary Society," The Tenth Nash Lecture, Campion College, Regina, Canada, 1987.

Acknowledgments

Reading a book's acknowledgments is tedious if one is unfamiliar with the human richness embodied in what is essentially a list of names. For me, however, naming friends and colleagues who have supported the research and writing endeavor is a simple, essential vehicle for articulating a whole history of affection and gratitude. The temptation is to write another book to capture the variety and depth of those relationships that have deepened during the labors leading to the finished work. It is with a sense of the poverty of this format that I name my names and express my thanks.

It is impossible to estimate how much this study owes to the Oglala Lakota (Sioux) of Pine Ridge, South Dakota. Through their welcome over many years, the Lakota taught me to reverence the beauty of a non-Western people. Living on Pine Ridge also raised the question of Western Technology's impact on a small and delicate culture, the question that led me to the research presented here. My dissertation director, Thomas Parke Hughes, has followed my thinking processes from the outset with care, critique, and durable interest. Merritt Roe Smith has read the entire manuscript and suggested revisions with the care that only friendship can offer. Murray G. Murphey, my academic adviser during doctoral studies at the University of Pennsylvania, offered challenge and understanding at many critical points. Robert E. Kohler proved to be a thoughtful reader. Melvin Kranzberg, editor of *Technology and Culture*, allowed me full access to the journal files, read the first complete manuscript in critical and helpful fashion, and gave me a great deal of other help and encouragement. I. B. Holley and Father Robert Kearns, S.J., also read the manuscript and offered many helpful suggestions for revision. Leo Marx and Evelyn Fox Keller advised me in the final stages of the work. Arnold Thackray provided helpful bibliographical suggestions. Many of my colleagues in the history of technology have cooperated by participating in interviews or re-