

PREFACE

Must human beings submit to the harsh logic of machinery, or can technology be redesigned to better serve its creators? This is the question on which the future of industrial civilization depends. It is not primarily a technical question but concerns a fundamental issue in social philosophy: the neutrality of technology and the related theory of technological determinism. If technology is neutral, then its immense and often disturbing social and environmental impacts are accidental side effects of progress. Much current debate polarizes around the question of whether these side effects outweigh the benefits. The advocates of further progress claim "reason" as their ally while the adversaries defend "humanity" and "nature" against machines and mechanistic social organizations. The stage is set for a struggle for and against technology.

The *Critical Theory of Technology* rejects this alternative and argues that the real issue is not technology or progress per se but the variety of possible technologies and paths of progress among which we must choose. Modern technology is no more neutral than medieval cathedrals or the Great Wall of China; it embodies the values of a particular industrial civilization, especially those of elites that rest their claims to hegemony on technical mastery. We must articulate and judge these values in a cultural critique of technology. By so doing, we can begin to grasp the outlines of another possible industrial civilization based on other values. This project requires a different sort of thinking from the dominant technological rationality, a critical rationality capable of reflecting on the larger context of technology. I address these issues from several different angles in the chapters that follow.

The Introduction defines critical theory of technology and situates it in relation to other approaches to technology. Part I argues that for all its insight Marx's critique of industrialism lacks a plausible strategy of change. The historical experience of communism shows that states are not the primary agents of radical technological transformation, as Marx believed. Part II addresses the alternative in a discussion of the relationship of human initiative to technical systems, both in general and specifically in the field of computers. Since modern hegemonies are increasingly organized around technology, this relationship is central to the exercise of political power. Part III considers the larger cultural

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context of technological change. Too often technology and culture are reified and opposed to each other in arguments about the "trade-offs" between efficiency and substantive goals such as participation or environmental compatibility. A better understanding of the relation of technology and culture dissolves these apparent contradictions. The Conclusion develops this argument further through a discussion of technology's democratic potentialities. Although suppressed today, these potentialities may become the basis for a society that reconciles wider freedoms with more meaningful forms of material well-being.

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