
Forces of Production

ALSO BY DAVID F. NOBLE

America by Design

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Instruments of labor not only supply a standard of the degree of development which human labor has attained, but they are also indicators of the social conditions Forces of Production under which Forces of Production that labor is carried on.

Karl Marx,
Capital, I

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Preface

This is not a book about American technology but about American society. Forces of Production The focus here is upon things but the real concern is with people, with the social relations which bind and divide them, with the shared dreams and delusions which inspire and blind them. For this is the substrate from which all of our technology emerges, the power and promise which give it shape and meaning. For some reason, this seemingly self-evident truth has been lost to modern Americans, who have come to believe instead that their technology shapes them rather than the other way around. Our culture objectifies technology and sets it apart and above human affairs. Here technology has come to be viewed as an autonomous process, having a life of its own which proceeds automatically, and almost naturally, along a singular path. Supposedly self-defining and independent of social power and purpose, technology appears to be an external force impinging upon society, as it were, from outside, determining events Forces of Production to which people must forever adjust.

In a society such as ours, which long ago abandoned social purpose to the automatic mechanism of the market, and attributed to things a supremacy over people ("things are in the saddle, and ride mankind," wrote Emerson), technology has readily assumed its fantastic appearance as the subject of the story. And, as such, it has served at once as convenient

scapegoat and universal panacea—a deterministic device of our own making with which to disarm critics, divert attention, depoliticize debate, and dismiss discussion of the fundamental antagonisms and Forces of Production inequities that continue to haunt America.

Confronted with the unexpected and unaccepted unravelling Forces of Production of their short-lived empire, Americans are now clinging to their epic myths of national identity and destiny, hoping for yet another revival. And central to these myths is a collective fantasy of technological transcendence. Whatever the question, Forces of Production technology has typically been the ever-ready American answer, identified at once as the cause of the nation's problems and the surest solution to them. Technology has been feared as a threat to pastoral innocence and extolled as the core of republican virtue. It Forces of Production has been assailed as the harbinger of unemployment and social disintegration, and touted as the creator of jobs and the key to prosperity and social stability. It has been condemned as the cause of environmental decay, yet heralded as the only guarantor of ecological integrity. It has been denounced as the handmaiden of exploitation and tyranny, and championed as the vehicle of emancipation and greater democracy. It has been targeted as the silent cause of war, and acclaimed as the preserver of peace. And it has been reviled as Forces of Production the modern enslaver of mankind, and worshipped as the supreme expression of mankind's freedom and power.

The United States emerged from World War II the most powerful and prosperous nation on earth, with other industrial nations prostrate before it and the world's resources at its disposal. Today, that unrivalled hegemony Forces of Production is being challenged politically and economically and, as they see their dreams and dominance slip into decline, Americans are once again responding with an appeal to technology for deliverance. Initially, the revitalization of this religion—which has assumed the proportions of Forces of Production a major cultural offensive—has been largely rhetorical. Thus, the idea of progress has been reinvented as “innovation,” industrialization has been resurrected as “reindustrialization,” and technology itself has been born again as “high technology.” But this rhetorical escalation does little to define the dilemma or move beyond it. Instead, and perhaps by design, the new slogans merely keep Americans' fantasies alive, give expression to people's desperation, and provide further escape from serious reflection about the underlying contradictions of society. And the increasing centrality of technology in both the domestic and world economies makes it all Forces of Production the more difficult to question the latest shibboleths, and all the more urgent. The cultural fetishization of technology, in short, which focuses attention upon fashion and forecast, Forces of Production on what is forever changing—presumably with technology in command—has allowed Americans to ignore and forget what is not changing—the basic relations of domination that continue to shape society and technology alike.

I do not intend here to try to account for the ideological inheritance of technological determinism—an impoverished version of the Enlightenment notion of progress—except to note that it has long served as a Forces of Production central legitimating prop for capitalism, lending to domination the sanction of destiny. Fostered over the years Forces of Production by promoters, pundits, and professionals, the habit of thought has been reinforced as well by historians, who have been caught up by it too, have routinely ratified the claims of promoters, and have found in such determinism an easy way of explaining history. The pervasiveness of the ideology reflects not only the fixations of machine-based commodity production or the

estrangement of alienated labor but everyone's desire for a simplified life. Technological determinism offers a simple explanation for things—especially troublesome things—and holds out the prospect of automatic and inevitable solutions. Ratifying the status quo as necessary at this stage of development, technological determinism absolves people of responsibility to change it and weds them instead to the technological projections of those in command. Thus, if this ideology simplifies life, it also diminishes life, fostering compulsion and fatalism, on the one hand, and an extravagant, futuristic, faith in false promises, on the other.

The aim here is to shatter such habits of thought, which allow us to avoid thought, in order better to understand both American technology and the society that has given issue to it. Forces of Production The focus upon technology thus has little to do with any particular interest in technology itself or in its history, for that matter, beyond the simple recognition of the importance of technological development in human history. Rather, this inquiry into Forces of Production the evolution of automatically controlled machine tools is an attempt to demystify technological development and thereby to challenge and transcend the obsessions and fantasies that artificially delimit our imagination and freedom of action. Hence, the aim is not merely to put technology in perspective, but to put it aside, in order to make way for reflection and revolution.

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