

Introduction

In the last century and a half, western societies have undergone what could be called a revolution in technological systems of control. The origins of that revolution, according to James Beniger (1986: 6), can be traced to a number of problems – in effect “crises” of control – generated by the tremendous expansion of industrial production since the middle of the nineteenth century. In general, these problems had to do with devising more efficient means of extracting and processing raw materials, transporting goods, and searching for new consumer markets. In the West, the dominant response to such recurring crises of industrialization has been increasing bureaucratic control of information. For Max Weber (1958), writing in the early part of the twentieth century, the success, and apparent permanence, of this solution were consequences of its technical superiority. Bureaucratic organization was, all things considered, the most effective means devised to coordinate the rapid development of productive forces in emerging mass societies.

Bureaucracies, for Weber, worked by rationally directing flows of authority and communication. Administrative offices were separated and ranked according to precise criteria, allowing decisions to be made in a routine and predictable manner. The precision operation of the bureaucratic “machine,” Weber knew well, however, came with a high price: it concentrated the material means of administrative power in the hands of those at the top of the bureaucratic hierarchy. Even more, it subjected individuals at all levels of the administrative structure to the imperatives of the machine itself. Inefficiencies in the control of production in effect were exchanged for submission to what today we would call the technologies of bureaucratic surveillance – information gathering and storage systems (accounting, recording, and filing mechanisms) and the various devices for encoding and decoding that information (impersonal,

2 The simulation of surveillance

standardized rules governing its access, use, and dissemination). As crises of production mounted in industrializing societies, the control of information, through the continuous perfection of the instruments of supervision, monitoring, and disclosure, became the rational, and by implication, best response to growth in the size and complexity of administrative tasks in industrial societies.

Since World War II, computerization has vastly magnified the surveillance dimensions of the control revolution. Dormant as an idea since the 1830s, when Charles Babbage originally formulated the basic principles of an “analytical engine” (having experimented with inventing a primitive calculating machine ten years earlier), the first significant development of computer technology came in response to military needs arising out of the speed and destructiveness of modern warfare in the twentieth century. The earliest successful applications derived from the necessity of more quickly and accurately calculating artillery ranges and trajectories, as well as the need of devising better, more secure ways of coding and transmitting military messages in an age of wireless communications. The advantages in speed, convenience, and secrecy of informed calculation and encryption were obvious, and beyond these first uses it didn’t take long to recognize the possibilities of computerized control in other fields. Again, however, there were costs. In the early 1970s, the sociologist James Rule (1973) could already discern the potentially devastating impacts of bureaucratically organized computer surveillance technologies on personal liberty and privacy. At the beginning of the 1980s, David Burnham (1983) warned of the imminent rise of what he termed the “computer state,” government and private corporations gathering, storing, and sharing massive amounts of information on individuals, an Orwellian vision of a not-so-distant future of interconnected databases jammed with details about virtually every aspect of human affairs. Today, that future perhaps seems closer than ever. Computer technology is now commonplace across the entire spectrum of social institutions, from the office and the factory, to schools, hospitals, and the home, and by all indications the trend of diffusing and intensifying informational control by digital means, a half-century old, shows absolutely no sign of abating.

Contemporary discussions of informed forms of control have tended for the most part to remain within the historical framework of problems defined by the computerization–surveillance–bureaucracy nexus. Digital technologies, we are told, mark the emergence of “surveillance societies,” or they evolve entirely new and usually more menacing forms of surveillance, characterized by greater speed and less public visibility of

data-gathering processes, greater intrusion into the personal lives of individuals, and less power of individuals to resist institutional demands for ever larger quantities of information about them. Missing from those discussions, or at least not immediately related to the issues they raise, has been the consideration of another, perhaps more significant, development in information technologies over the past several decades. That, in a word, is simulation, which provisionally can be defined as a *means of verisimilitude* (Der Derian 1990), ways of replacing “actual” with “virtual” processes, or the electronic signs/images of objects and events for their “real” counterparts. In this book, the emerging technologies of virtual reality will provide perhaps some of the clearest examples of contemporary applications of simulation, where one simply straps on the latest head and body gear and plugs in a program to be transported in cyberspace to whatever location and time (fictional or otherwise) one desires. In general, however, I will use simulation as a broad cover term for what actually is quite a diverse multiplicity of procedures and techniques. Beyond virtual reality, they have come to include the modeling of complex physical, biological, and social processes, gaming, profiling, cybernetics, miniaturization, tele-presencing, cloning, and stealth technology, to name just a few.

Some of the first applications of computerized simulation technologies were once again in the military. Early in the development of computers, military planners recognized their strategic importance as aids in preparing for combat operations and began researching ways to perfect the communications interface between humans and information systems in order to exert greater control over the growing uncertainties of modern conflict. During World War II, behavioral models of human learning and task management – reinforcement, operant conditioning – began to be applied to the problem of training soldiers to carry out their missions more effectively on the battlefield. After the war, the emerging fields of systems research and cybernetics joined forces with cognitive and educational psychology to develop instructional mechanisms to train for future wars (training films, mock combat exercises, flight simulation, battlefield decision and management systems) (Noble 1989: 17). In the 1970s and 1980s, tremendous resources were poured into secret agencies like the Defense Advanced Research Projects Agency (DARPA) to conduct basic research and develop the potential of fantastic simulation technologies like artificial intelligence, war-gaming software, robotic and stealth weaponry, and pharmaceutically enhanced fighting forces. All this was just the beginning. Over the last two decades, computerized simulation has increasingly been utilized as a research tool to model processes that,

4 The simulation of surveillance

for a host of different reasons, cannot be studied directly (because of expense, safety, complexity, distance, or the simple fact that they have not yet occurred). Today, the interest in and development of these tools have expanded exponentially. They have become routinely employed in medicine (where computerized “experts” are used to assist physicians in making complex medical diagnoses), in mathematics and the natural sciences (in such areas as chaos and catastrophe research), and in the social sciences (social gaming, forecasting, rational planning, public policy, international relations). Engineers use simulations to project design flaws and tolerances, ecologists to model environments (ecosystems), educators as pedagogical tools, and meteorologists to predict the weather. In one of its most recent developments, the new field of nano-science studies ways to miniaturize machines that can be used in areas as diverse as the creation of synthetic molecules to cancer therapy to the production of electronic circuits. Corporations increasingly base investment decisions on market simulations, while the production of simulation technology has itself become a big business, in areas such as the manufacture of video games (the most popular of which often still retain their original military references) and computer software. The list goes on.

In this book, I will explore some of the relations between surveillance and simulation technologies, and their significance for issues of control in postindustrial or, as I prefer to call them, “telematic” societies at the end of the twentieth century. Those relations, I discovered early on, are exceedingly complex, and I should warn the reader that what follows in this book only addresses in a preliminary way technical connections that today are in an almost mind-bending state of flux and development. Despite that complexity, the argument I develop here reduces to a fairly simple observation: technologies of simulation are forms of *hypersurveillance control*, where the prefix “hyper” implies not simply an intensification of surveillance, but the effort to push surveillance technologies to their absolute limit. That limit is an imaginary line beyond which control operates, so to speak, in “advance” of itself and where surveillance – a technology of exposure and recording – evolves into a technology of *pre-exposure* and *pre-recording*, a technical operation in which all control functions are reduced to modulations of preset codes. This book, in that sense, deals with ideas that from another perspective would properly be said to belong to science fiction. And that is exactly my intention. Simulation technology, from the perspective I adopt here, is part of what I will call the *imaginary* of surveillance control – a fantastic dream of seeing everything capable of being seen, recording every fact capable of being recorded, and accomplishing these things, whenever and wherever

Cambridge University Press

978-0-521-55561-6 - The Simulation of Surveillance: Hypercontrol in Telematic Societies

William Bogard

Excerpt

[More information](#)

possible, prior to the event itself. One of the tasks of this book is to think through how that imaginary circulates as an *effective* mechanism in the technical evolution of control in postindustrial societies. There is nothing novel in this idea. For better or worse, in the popular culture of science and technology today, and for some time now (particularly in the United States), the call to arms has been “if we can imagine it, we can build it.” In that sense, the best label for the technologies of simulation I will be reviewing here is precisely imaginary machines. For this trip into the imaginary of control, I will rely heavily on the work of poststructuralist or postmodernist discourse as it developed in the philosophical-historical studies of Michel Foucault in the 1970s and the philosophical-literary writings of Jean Baudrillard in the 1980s – Foucault for his important reflections on discipline and its relation to political strategies of observation and visibility (surveillance), Baudrillard for his seminal work on orders of simulation and simulacra. In examining the evolving links between surveillance and simulation technologies, I am thus indirectly exploring both some of the conceptual continuities and, more often, the inherent tensions between these authors. I make no claim, however, of in any way having resolved those tensions in this book, or even, for that matter, of really having begun at all to address them in anything approaching a systematic or consistent way. Rather, I only note in passing how provocative and useful they have been to me in attempting to develop a framework for thinking about a few of the many paradoxes and contradictions of the contemporary “control revolution,” and how those in turn derive from the ever more apparent – and increasingly ominous – convergence of surveillance and simulation technologies in telematic societies.

I want to thank the following people for all their thoughtful comments, criticisms, and help in preparing different sections of the manuscript: Philip Turetzky, Steven Seidman, Mark Poster, Stephen Pfohl, Naomi Abrahams, Timothy Kaufman-Osborn, Jan Mejer, Douglas Kellner, Tim Rouse, Catherine Max, Suzanne Unger, Kim Jordan, Shannon Callister, and all the students in the course in Technology and Society I teach at Whitman College, many of whom have grown up with these technologies and have developed an almost intuitive feel for dealing with the difficult conceptual issues I often struggle with in the following chapters. Finally, I also want to thank Whitman College itself for providing me with the time and support I needed to finish the project.

1

A social science fiction

Michel Foucault once said that he didn't know where his books would end when he began them and that his writing was a way to change his thinking about a problem, to bring himself to think differently about it. For that reason, he said, none of his books really developed a theory, at least in any conventional sense. They were more like fictions, or "experiments" in self-transformation, "experience-books" whose very writing would change the terms of thought (Foucault 1991: 27–33). This book is a kind of experience-book, both in its evolution and in terms of examining the fictional elements of its subject. It began with an idea to write a political history of surveillance, of its development and practice as a means of discipline in modern societies, taking Foucault's work on the prison, *Discipline and Punish* (1979), as its starting point. It ended up being a "social science fiction" of its *simulation*, a trip through hyper-surveillance societies, part factual and part imaginary, an account of an uncomfortably close future where a technics of supervision is wedded to an emerging technics of virtualization. I emphasize the conjunction of *social science* and *science fiction*.¹ Throughout this book, fictions of science and technology are woven into accounts of social relations that today are increasingly structured around oppressive methods of cybernetic or telematic control, what Donna Haraway (1985) has called an "informatics of domination."² What began as a study of the informatics of domination from the perspective of contemporary surveillance technologies became, over the course of writing, a fantasy of absolute, perfect control in virtual systems where, at the push of a button, anything – image, object, event – can be simulated, and thus made instantly visible, knowable, and manipulable. What started as an attempt to understand surveillance as a disciplinary strategy in information societies, how its methods had adapted to the contemporary revolution in communications

and computer technology, wound up depicting a fictive geography of cyborgs, clones, body doubles, and screens – a “biotelematic scene” on the order of *Blade Runner* meets *Dead Ringers*. In that fantastic and melancholy scene, which our own societies today seem so intensely anxious to approximate, nothing escapes the totalizing apparatus of surveillance, because everything, including the surveillor – *especially* the surveillor – is a simulation.

A social science fiction is like a future history. It is not “true,” nor is it exactly a prediction. Instead, it chronicles how a fantastic machine might recount *its* past, a past that haunts *our own* technological present and, like some displaced recollection, precedes it. It is a history written in another dimension and another direction, not from a human point of view, but from that of a futuristic technology that traces its genealogy back through the ages to the technical systems of our own time. In his book, *War in the Age of Intelligent Machines*, Eduard de Landa (1991: 2–3) records the evolution of military machines from the standpoint of an intelligent robot that is itself the amazing projection of the self-organizing capacities of those machines:

If we disregard for a moment the fact that robotic intelligence will probably not follow the anthropomorphic line of development prepared for it by science fiction, we may without much difficulty imagine a future generation of killer robots dedicated to understanding their historical origins. We may even imagine specialized “robot-historians” committed to tracing the various technological lineages that gave rise to their species. And we could further imagine that such a robot historian would write a different kind of history than would its human counterpart. While a human historian might try to understand the way people assembled clockworks, motors, and other physical contraptions, a robot historian would likely place a stronger emphasis on the way these machines affected human evolution.

For de Landa, the robot-historian is the sci-fi counterpart of the robotic soldiers that exist today in crude forms to assist human soldiers in battlefield operations, logistics, and surveillance – the command–control–communications webs, war-game hardware, and artificial intelligence systems that organize the modern, electronic space of war. The robot-historian does not provide us, at least not in the conventional sense, with a “social” history of war and military technology – its focus is not the inventors, the great strategists, or the material struggle of social classes; instead, it chronicles its own history, in which human beings act as mere facilitators of its development, organic extensions of itself, like so many ants who carry out its plan. The robot-historian, we might say, has a virtual existence, as a machinic or cyborgian figure whose presence informs

8 The simulation of surveillance

the evolution of military society from its very beginning, in the first techno-human “assemblages” for exerting control over the turbulent forces of war – the hand and the stick, horse and rider, arm and shield. It is an abstract machine, a “singularity” or “strange attractor” where all the chaotic, swirling intensities of war – strategies, tactics, movements, blockages – converge in a coherent and universal military apparatus. The robot-historian, for de Landa, is the future of war only in a very specific sense, viz., as a future already indicated in the earliest design and uses of military weaponry, in the ancient strategic coordination of machinic forces and bodies. It is a figure in which the fictional superimposes itself on and is effective within its own past and, by extension, within the real and present order of things.

A social science fiction, then, aims to describe the social or institutional “effects” of an imaginary technology, not in a causal sense, but in the way a simulacrum is woven into the current technical practices of a society, as the virtual form of their development. In terms of the technologies of surveillance, our focus here, this amounts to a description of how their future development is “signaled” within a crude but already existing structure of organic and machinic connections. These connections, in turn, indicate points of contact or rupture with prior forms of surveillance, as virtual systems of all sorts today – digital communications, tele-presencing, profiling, gaming, genetic modeling – begin to reconfigure many of the control functions of older disciplinary mechanisms (e.g., as cybernetic control replaces direct supervision, virtual environments substitute for real distributions of space and time, bio-electronic sensors for practices of enclosure or confinement).

It is my intention here to supplement, not simply critique, conventional analyses of surveillance. Surveillance is a social technology of power – supervising, monitoring, and recording, its most common methods, are simply ways to control persons and their behavior – and we can certainly describe its uses, causes, and effects in relatively straightforward, sociological terms. This, in fact, has been the dominant approach to the study of surveillance in recent years, i.e., to understand its central role in the maintenance and reproduction of social order. Such analyses are certainly useful. But surveillance is also a fantasy of power, one whose meaning in postindustrial societies, we shall see, extends far beyond the simple idea of supervising or regulating individuals and social relations, to the creation of virtual forms of control within virtual societies, where supervision in fact may no longer be precisely a “social” operation at all, but an imaginary projection of codes, models, and cybernetic assemblages which, in the end, generate only the delusion of sociality. To

Cambridge University Press

978-0-521-55561-6 - The Simulation of Surveillance: Hypercontrol in Telematic Societies

William Bogard

Excerpt

[More information](#)

A social science fiction 9

understand what the technology of surveillance is and the effects it aims for today, increasingly we have to appreciate the fantasy that drives it, and that, in a word, is simulation. Simulation, in its most generic sense, is the “point” where the imaginary and the real coincide, specifically, where the gap between virtual control and actual control disappears. Any language that describes it must be paradoxically both fictive and objective. It is, in the language of this book, a form of *hypercontrol* – one of its technical aims is to push the disciplinary functions of surveillance to their imaginary limit. To understand the *simulation* of surveillance is to understand the fictive and unbounded possibilities of discipline within a telematic society. (“Tele”: from the Greek for “distant.” Telematic societies are societies that aim to solve the problem of perceptual control at a distance through technologies for cutting the time of transmission of information to zero.)

A great deal that has been written in the last few years about surveillance has emphasized how information technology has altered the ways in which social control is exercised in postindustrial societies. We hear, for example, about the rise of “surveillance societies,” the “new surveillance,” and the extension of the surveillance capabilities of the state made possible by modern electronics and communications technology (Lyon 1994; G. Marx 1988; Dandeker 1990; Burnham 1983; Cohen 1985; Rule 1973). The merit of all of this work – and it has a great deal of merit – is that it recognizes the sweeping changes that have occurred in the nature and organization of surveillance practices in recent years, that they have become, in large measure, more detailed but less verifiable, more diffuse and transinstitutional, invading almost all aspects of everyday life, transforming our roles as citizens, consumers, and workers, our sense of privacy and the ways we view issues of risk concerning health, sexuality, and the body. The problem is that none of this work relates these changes in the nature and scope of control in an explicit way to simulation. It is simulation, however, that is the key to explaining the direction that surveillance societies are taking today, a movement that is more about the perfection and totalization of existing surveillance technologies than some kind of radical break in their historical development. This is not a book, then, written from the frame of something new about surveillance, which in relation to observational or recording technologies has always been about control and discipline, but from the perspective of its ancient complicity with technologies for the construction of virtual worlds, of how its forms of control are refined and intensified in a system geared to the frenzied, instantaneous production of images.

Simulation and the virtualization of society

Baudrillard (1983b: 5) defines simulation generally in contrast to dissimulation, as a form of feigning or deception, but then immediately adds the following qualifications:

To dissimulate is to feign not to have what one has. To simulate is to feign what one hasn't. One implies a presence, the other an absence. But the matter is more complicated, since to simulate is not simply to feign: "Someone who feigns an illness can simply go to bed and make believe he is ill. Someone [sic] who simulates an illness produces in himself some of the symptoms." Thus, feigning or dissimulating leaves the reality principle intact: the difference is always clear, it is only masked; whereas simulation threatens the difference between "true" and "false," between "real" and "imaginary."

In *The Logic of Sense*, Gilles Deleuze (1990: 263), in an analysis of simulacra and their meaning in ancient philosophy, also notes that simulation is connected to the idea of masking, but in a special sense that contrasts it to the mere production of appearances or illusions:

Simulation designates the power of producing an *effect*. But this is not intended only in a causal sense, since causality would remain completely hypothetical or indeterminate without the intervention of other meanings. It is intended rather in the sense of a "sign" issued from a process of signalization; it is in the sense of a "costume," or rather a mask, expressing a process of disguising, where [however], behind each mask, there is yet another . . .

Simulation, then, undermines the conventional order of representation, the relation of a signifier to what it signifies, the image to its object. Behind the image, there is only another image. Yet this self-enclosed and self-referring system of images somehow produces effects through a "process of signalization." Baudrillard characterizes this process in terms of the "reproduction of the real" by means of codes or models, in the same way that computerized images are a function of their program. Simulation, that is, aims for the production of a "reality effect," while at the same time concealing the absence of the real, or better, the *redundancy* of the real as a possible signified or referential ground for its image. The use of the term "real" here involves considerable slippage, because its very definition becomes just one more effect of a process of coding, i.e., the real now operates as a reference or signified only *within* the general order of simulation. For Baudrillard, "the very definition of the real has become: *that of which it is possible to give an equivalent reproduction . . .* The real is not only what can be reproduced, *but that which is always already reproduced.* The hyperreal . . . which is entirely in