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Corporate War-Rooms: The Computer and "Total Systems" in Business, 1959-1968

The role of the United States military in the creation of computer technology has been well documented - from the creation of ENIAC to the development of the Internet by DARPA. More recently, the computer's construction as a icon of control and rationality during the Cold War has been documented powerfully in Paul Edwards' The Closed World: Computers and the Politics of Discourse in Cold War America. But so far little attention has been paid to the spread of these military conceptions of information, systems and control into the world of corporate administration. My paper grounds Edwards' grand connections between political culture and technology in this specific social setting.

The mystique and excitement of large scale military technology held great appeal in the somewhat drab world of administration. Computing and administration specialists often invoked the "blue-sky" triumphs of space travel and the atomic bomb as evidence that failure of imagination was the only constraint upon modern technology. They suggested that the radically modern production technologies of the "age of nucleonics, electronics and jet propulsion" could be controlled only by managers willing to move beyond the age of "horse-and-buggy" and "seat of the pants" management. The military-derived techniques of operations research, PERT project control and game theory would turn management into a science.

But despite the computer's glamour, its early uses in business administration (from 1953 onward) were fundamentally conservative. They represented the continuation of a long tradition of mechanization and systematization - encompassing not just punched card machines but forms, bookkeeping machines and carbon paper. By the late 1950s this began to change - in theory at least. In the suddenly fashionable, RAND Corporation language of systems theory, managers could control the firm as a "total system" rather than "sub-optimizing" the performance of its component parts. These ideas spread particularly among Systems and Procedures specialists, Frederick Taylor's heirs in systematic corporate administration. The "systems men", as they called themselves, were keen to associate themselves with this new and powerful claim to universal expertise. The "totally integrated management information system", an idea promoted by the Navy in 1959, soon became the accepted form in which the computer could realize its "true potential" in business. This system would encompass all information needs of all managers, at all levels and in all parts of the firm.

This bold dream of total control was explicitly military in its origins. "Real-time, on-line", a rallying cry of the period, was illustrated with reference to the ground-breaking SAGE air-defense network. The computer was rhetorically reconstructed as a panopticon, in which corporate executives could minutely observe the actions of their divisional subordinates and so re-centralize control. Enthusiasts promised that executives would gather in a "war room", to interrogate projected displays of the progress of their business and feed new strategies into the machines. Despite technological impracticability these visions remained almost ubiquitous in the field into the late 1960s, leading directly to technologies such as the database.

Only by situating these ideas within the broader frame of cold war science and technology can we understand them. But I argue against the idea that this "discourse" is an explanation in its own right. Rather, cold war culture serves primarily as a resource upon which different social groups within the corporation drew selectively to further their more parochial objectives. In this case, computer manufacturers and consultants saw a chance to move their products and services beyond the administrative niche of "data processing" and into the greener pastures of "information" and management. Meanwhile, the "systems men" saw a chance to establish their own jurisdiction over computing while retaining a claim to status as "management architects" rather than mere technicians. While cold war provided a stage, scenery and some props, the drama acted out there was an older one. Like Taylor (and an intervening cohort of "Scientific Office Managers"), the systems men sought to use new and ostensibly scientific approaches to turn technical skill into the core of managerial empires.