March 26th: IT, Administration, and Institutional Change
Case Précis for "Command and Control in Cyberspace"
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Case Summary: "Command and Control in Cyberspace" examines the influence of networked computing on the decision-making processes and organizational practices of a highly structured, bureaucratic institution—the US Army's Ninth Infantry Division. In this particular case, Fountain describes the Ninth Infantry Division's use and testing of the Maneuver Control System (MSC2), an automated battlefield management system enabling various members of the Division's chain of command to more effectively plan and manage military objectives. In addition to exploring some of the benefits and drawbacks of MSC2, the case "illuminates the struggle of organizational decision makers and actors to integrate the capabilities of a new information technology with their existing organizational and institutional arrangements" (189). While this struggle is, in large part, the focus of Fountain's book, "Command and Control" helps elucidate the challenges that organizations and institutions do, and will continue to face, as information technology becomes an integral part of operational frameworks.

Connection to Week's Readings
While "Command and Control" focuses largely on the "unanticipated consequences" of implementing information technologies in organizational and institutional structures, the case's discussion of hierarchies, user perceptions, and the settings of technology implementation builds upon many of the theoretical foundations constructed in the first part Fountain's work. It provides an especially unique perspective on the operational and organizational rules of bureaucratic structure (chapter four), an intimate glance of the power of coordination generated by interorganizational networks (chapter five), and, perhaps, most important, it sheds light on the interconnected nature of users, information technology and organizational / institutional arrangements by describing many of the fundamental points of the technology enactment framework: individuals and organizations tend not maximize the full capability of information systems, they tend to use technology in ways that reinforce already existing practices, and their use and implementation of technology is highly influenced by existing "cognitive, cultural, structural, and political" factors.

Strengths and Weaknesses of Networked Computing in Bureaucracies
Strengths
Some of the strengths of the MSC2 system enacted by the Ninth division include: The ability of commanders and other decision makers to access reliable data at geographically dispersed locations; the cheap and accurate replication and dissemination of information, which allows for greater decentralization of knowledge and the provision of real-time battlefield data to lower-ranking officers (183)

Weaknesses
Even if ICTs have the ability to flatten command hierarchies, longstanding bureaucratic organizations like the US Army rely on the stability of entrenched internal power structures. In this case, higher-level officers often had established methods of management, which caused them to be suspicious of a technology's potential to increase efficiency and accuracy within current operational procedures. Furthermore, subordinate officers may not have the necessary level of technological expertise to fully understand the technologies and, in using it, be able to effectively recommend beneficial courses of action (180).
- Even if high-level commanders wanted to keep on top of the latest technology, the sheer volume of information can be overwhelming. We see an overflow of increasingly complex and seemingly nonessential information, so much so that commanders develop a "distance" from routine information processing (188).
- Adoption on new technologies can be difficult on the ground. Staff officers used technologies to automate and reproduce already institutionalized arrangements—they were resistant to use applications that would perturb existing routines. Word processing and email were used heavily, but more efficient practices that caused a great work interrupt were not, e.g. transmitting info by computer rather than radio. Finally, organizational memory can be hampered by automation if proper documentation and person-to-person learning does not take place.