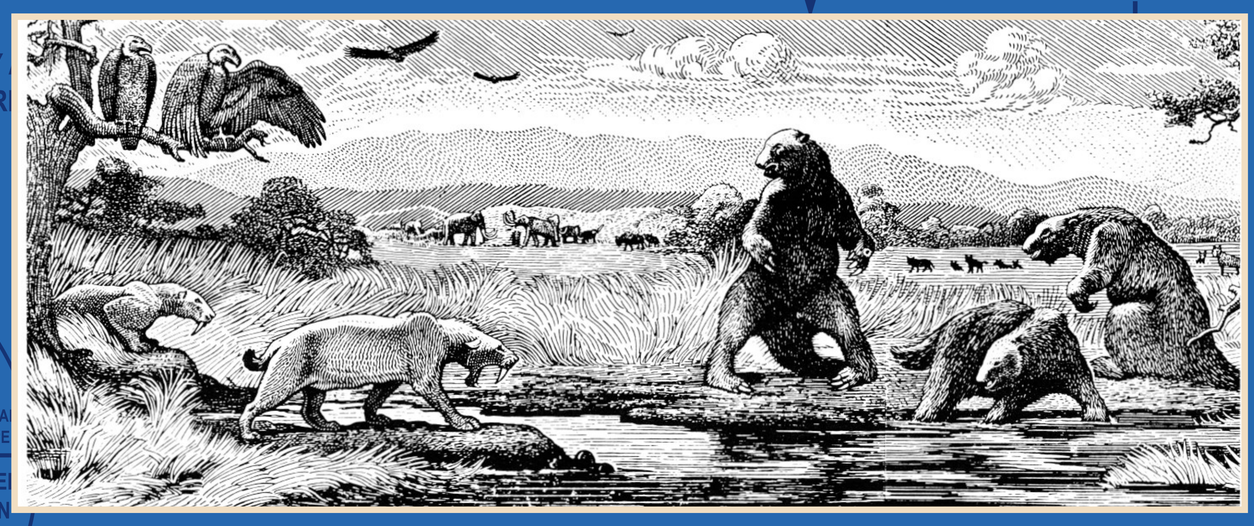
Managerial culture

The managerial culture views software development as a production-like process and believes that the keys to a successful software project are a suitable development process and a team structure. It favors specification, planning and organization over skills of individual programmers.

The managerial search for a development process that yields reliable software with predictable budgets started in the 1950s and continues to the present day.

The Waterfall methodology (1970s), which proceeds in a sequence of stages, was soon replaced with iterative processes (1980s), where analysis and design are refined after an initial prototype is built. The need for a rapid response to changing requirements in the era of the internet led to Agile methodologies (2000s), which focus on collaboration, adaptability and communication.



Fred Brooks managed the development of the IBM System/360, and reflected on the experience in The Mythical Man-Month (1975):

"No scene from prehistory is quite so vivid as that of the mortal struggles of great beasts in tar pits... dinosaurs, mammoths, and saberteeth tigers struggling against the grip of the tar."

"Large-system programming has over the past decade been such a tar pit, and many great and powerful beasts have thrashed violently in it. Most have emerged with working systems—few have met goals, schedules, and budgets..."

Semi-Automatic Ground Environment (SAGE) was a radar-based air defense system of unprecedented complexity built in the late 1950s.

The project team quickly grew from 20 to 2000 programmers at a time when the total number of skilled programmers in the United States was 200.

The development plan was structured into nine stages including specification, coding and testing.