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6.033 Computer System Engineering
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Preparation for Recitation 2

Read the following sections from the Simon paper (*The Architecture of Complexity*):

- Introduction through page 471.
You may skip the sections on "Problem Solving as Natural Selection" and "The Sources of Selectivity" on pages 472 and 473.
- Read from "On Empires and Empire Building" (page 473) to "Conclusion: The Evolutionary Explanation of Hierarchy" (page 473)
The section titled "Nearly Decomposable Systems" (end of page 473 to beginning of 477) is optional.
- Skim from "The Description of Complexity" to the end of the paper, trying to discover Simon's point, without necessarily reading every paragraph in detail. Skimming to find the main ideas (and deciding when skimming is appropriate) is a talent worth acquiring! You will find it useful in other 6.033 papers and more generally in reading professional literature.

At first read, this paper appears to have very little to do with computer systems. As you are reading it, try to figure out why it was assigned. It may help to notice that it was written in 1962 and to know that Herbert Simon is one of the founding figures in artificial intelligence, a winner of the Turing Award, a recipient of the Nobel Prize in Economics, and a co-founder of the School of Computer Science at Carnegie Mellon University. Simon contends that hierarchy is a principal organizing force in social, biological, and physical systems.

To prepare for recitation on Thursday, write down and be prepared to discuss three examples of hierarchies that you have encountered in computer systems or networks.