

## Reading Questions

"Technology in a Dangerous World" one day after Class #4

Questions we will discuss regarding "Missile Accuracy" by MacKenzie NOTE: Some pages are missing at the end. If I can't get them up on the web tonight, I'll hand them out in class tomorrow. Be sure to print out a copy of this article to facilitate class discussion of it tomorrow. What is the underlying premise of this paper? (Note how MacKenzie uses "signposting" in this article to guide you through his main points.) What is a reverse salient and a critical problem, and how are they connected? What does MacKenzie mean by the "micro" and the "macro"? What does he mean when he says that system-builders are always trying to mold the environment to facilitate the growth of the system? What are examples of these concepts that are discussed in this article? What are the implications of this article for engineering education? What is heterogenous engineering? Yesterday we talked about how different organizations (e.g. police and fire departments) have different cultures, expectations, training, and priorities. What are some of the different organizations involved in missile development and how do they differ in goals and priorities? How is the concept of a reverse salient related to organizational goals? In this story, what advantages did MIT have as an organization? Are you familiar with the concept of "paradigm" and "normal science"? (They come from Thomas Kuhn's landmark book *The Structure of Scientific Revolutions*.) How might they apply to technology? Looking back on the events of the last year: List some of the major existing systems of technology in the developed world, and then try to identify some of the "reverse salients" that make them potentially dangerous systems (in each case, you need to define what you mean by danger). Identify some critical problems in making those systems less dangerous. Would MIT have a role in addressing those critical problems? Would it have an organizational advantage in addressing them? Extra credit: Using unclassified information, find out what is happening at the Draper Lab these days.

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