

Response 9 – *Inventing Accuracy*
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In *Inventing Accuracy*, Donald MacKenzie makes the social construction of technology such a viable explanation of the phenomenon of "technological progress" that it becomes difficult to imagine that technology was ever thought of as an independent force not subject to the political, social and otherwise human vagaries that clearly affected the development of missile guidance. It is easily one of the most compelling and thoroughly researched books I've ever read. I would classify it with Cronon as being at the top of the list of the books we've read this semester, particularly in the sense that MacKenzie has forever complicated what exactly "accuracy" means and how one might go about achieving it, much as Cronon has complicated the separation between the so-called "natural" world and the human-built one. MacKenzie's notion of social constructivism is not an oversimplified, catch-all solution to the question of how guided missile accuracy changed over time in the United States – embedded within it is a great deal of nuance that recognizes the significance and contributions of a wide array of actors, and the often multiple positions they were made to inhabit simultaneously (for example, General Bernard Schriever was subject to both military and political scrutiny in his capacity as the head of the Air Force's Atlas program). It also demonstrates that "deterrence" was a much broader concept within the U.S. military that simply preventing a war with the Soviet Union. Technology became, among other things, the means through which the rivalry among the different branches of the military was expressed, and as he states in his concluding chapter, "The typical day-to-day concern is not Armageddon, or even the Russians, but getting the job done, preserving one's autonomy and good reputation,

negotiating the next contract, minimizing pressures on the budget, keeping the others off one's turf, and so on." (404)

But MacKenzie also demonstrates that this was a two-way relationship: the advancements in accuracy also changed the political and diplomatic dynamics between the United States and the Soviet Union, and helped to determine what sort of posture – counterforce or deterrent – nuclear non-superpowers such as China and France might adopt. Clearly this is a complex relationship where technological along with political and social forces are acting upon one another rather than a single force dominating the rest. MacKenzie even hints at cultural forces at work in his chapter on Soviet guidance technology, suggesting that there are a number of potential explanations for why the Soviets pursued guidance in the fashion they did that are not limited to economic, technical or scientific constraints. Their priorities, he speculates, may have been different from those of the United States.

Now that you know I thought the book was cool, and since you all read it and don't need my crude summary of MacKenzie's argument, I'll try to end with a question: to me, one of the most interesting aspects of this story is how decisions were made regarding what *could* be accomplished with guidance, versus what *should* be accomplished with guidance. In discussing the possibilities for a stellar/inertial guidance system, one of the experts is quoted as saying that he felt that "I could provide it, so I should provide it." A superior of his disagrees that this is necessarily the right approach, which I find very interesting: how do you know if it is the *right* choice to pursue a technology you believe you can build? It would seem that policy makers and those distributing money to research institutions are often faced with similar decisions that go

beyond merely asking if it is a *viable* technology (i.e. it could be sold). In the context of determining what the outcome of a technological development project might be, how does one assess the "rightness" against the "possibility" of a new technology? And what are the criteria for rightness? It is easy to assume that technologies are developed because they are possible, and putting artificial barriers up against the advancement of a certain technology seems counterintuitive to the whole idea of progress – yet MacKenzie demonstrates that, at times, it can be more advantageous to do just that. I'm curious how this idea has been or could be explored elsewhere, perhaps in more mundane quarters. Is it always an issue of economics, or "maintaining turf"? How do decision-makers weigh the social costs of developing or not developing a "sweet" technology? What can the greater nuclear arms development practice in the United States tell us about this sort of decision-making?