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MS 168: Cybernetics and Cybercultures

Military Exploitation of Cybernetic Play

“I have not the slightest doubt that the present detective-mindedness of the lords of scientific administration is one of the chief reasons for the barrenness of so much present scientific work” (189).

This is Nobert Wiener in 1950 slamming the current approach to industrial science, which is primarily organized for military goals, in chapter 11 of his book *The Human Use of Human Beings*, because scientists treated science too seriously—treating nature as an enemy rather than a teammate. He called present scientific work ‘barren’ because the network of knowledge scientists created, expanded, and maintained was sparse and shallow—not dense and rich. Why was that?

A robust argument, and one I choose to extend here, emerges unprovoked when you look out and start to imagine the environment scientific discovery was composed of: seas of homogenous white men conducting ‘detective-minded’ military research. In these waters, continuing with Wiener, “when almost every ruling force [...] asks the scientist for conformity rather than openness of mind, it is easy to understand how science has already suffered, and what further debasements and frustrations of science are to be expected in the future” (190). It is no surprise that in these seas, the spurts that move U.S. scientists to new lands of technological

discovery came from non-conformist angles: the first computers were women and the first computer was invented by a gay man (Alan Turing).

Now, I return to the motivating question of this essay: Why does Wiener condemn current methods of '50s scientific discovery? In the same chapter, "Language, Confusion, and Jam," he traces a detective-minded scientist's approach to scientific discovery to how John von Neumann, notable military mathematician, constructed his player agent in his subject of game theory. Players in games of this construction are adversarial to each other: each player operates under the assumption that the other will 'do its worst'. But, as Wiener argues, scientists engaged in discovery do not communicate to *confound* each other's message, rather they communicate to *clarify* which von Neumann's game theoretic models of behavior would classify as a 'naive' strategy. This is why Wiener asserts, "to be an effective scientist, he must be naive, and even deliberately naive" (189). Quickly, I want to stress Wiener's use of pronouns he/him for scientists, and direct the reader to the above paragraph for more insight. Wiener offers clear evidence that engaging with the world honestly will lead to greater clarification of nature's laws and bring technological development in its wake.

One of the metalogues of Gregory Bateson's *Steps to an Ecology of Mind* titled "About Games and Being Serious" tries to clarify the relationship between communication and games away from von Neumann's ideas. The back-and-forth between Father and Daughter reconciles the idea of a muddle—which is similar to a jam—and its value to science. At this point, both von Neumann as well as Father and Daughter agree on the fundamentals of communication as game, but F and D fall squarely on Wiener's side of the argument because Father chooses to play the game of talk with his daughter honestly, electing not to 'cheat' in their conversations. In the

following section, Father makes a clear distinction from von Neumann's adversarial method of play:

D: But is it a game, Daddy? Do you play against me?

F: No. I think of it as you and I playing together against the building blocks—the ideas. Sometimes competing a bit—but competing as to who can get the next idea into place. And sometimes we attack each other's bit of building, or I will try to defend my built-up ideas from your criticism. But always in the end we are working together to build the ideas up so that they will stand (29).

Father refers to this process—the struggle to build the blocks of ideas into place, through muddle, jam, incoherence—as play, like how cats and dogs play, referencing the innate primitive process animals engage in to learn.

Wiener's call to action was responded to quickly. Claude Shannon, the father of the Information Age, quickly followed Wiener's call to play and pioneered the foundations of information theory with his fantastically famous paper *Mathematical Theory of Communication*. Shannon haunted the halls of Bell Labs during this time, making monumental leaps in fields even Wiener himself could not keep up with. Jimmy Soni, author of a Claude Shannon biography *A Mind at Play*, wrote in article "A Man in a Hurry: Claude Shannon's New York Years" stating that Shannon "addressed problems differently from the way most people did, and the way most of his colleagues did," pointing to a methodological difference between him and the scientists of his time. Shannon made great strides taking the position of play towards his work, a cybernetic

approach that allowed him to formalize fundamental concepts in cryptography, compression, and communication.

It's important to remember that this method of play, was employed by military cyberneticists to create military technology that caused death and destruction. But play has existed before this twisted purpose as well. It is up to us to play with science for good as well—not just for missiles.

Works Cited

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