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The Meaning of Robots

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It feels like ages since the days when automakers and other Japanese manufacturers pioneered the massive production-line use of robots and flooded the world with their products. The explanation in Japan at the time was the following: Western society places humankind as rulers atop all creation; thus, it cannot accept robots as coequals in the workplace. By contrast, we Japanese see the world as a place that we share with the non-human, so we can coexist with robots in harmony in the workplace. It is common for the minders of the robots to give them names, often after their favorite pop singers, and commentators saw this as indicative of the Japanese relationship with robots. So the story went.

I was reminded of this because I recently chanced to learn that these thoughts are still quite commonly shared among people doing work on robots. For example, I have heard an argument that focused on Isaac Asimov's [Three Laws of Robotics](#) to claim that robots existed solely to serve humankind in Western eyes while Astro Boy, the Japanese manga and anime robot, was built to replace the creator's dead son and went to school like any human child, indicating that Japan was a society where humans and robots could exist side by side. In a more sobering vein, one expert contrasts the considerable American progress in the development of drones and other robotic weapon systems and the Japanese focus

on developing robots for social services, claiming that this difference has emotional and cultural roots.

But did the perspective on robots differ that much in the first place? The world of Astro Boy is vested with its own 13-article [Robot Act](#), whose first article proclaims that "Robots have been created to make humans happy." Article 11 states that "[all] robots are free and have the right to live freely as equals"—with the all-important caveat "only insofar as it serves the purpose". Moreover, this is immediately followed by the draconian proclamation: "Any [robot] that leaves its country and acts without permission from the Ministry

of Robots shall be punished by indefinite suspension of energy replenishment or disassembly.” All in all, the Robot Act was harsher than Asimov’s Three Laws. Now there is an inherent contradiction between this robot’s personhood and its legal and social status, giving rise to much of the drama in the Astro Boy series. However, the question of the humanity of artificial beings has been repeatedly taken up in Western science fiction. Asimov himself has exploited this motif brilliantly in his robot series, including the Nebula and Hugo Award winner *The Bicentennial Man*. Besides, those robots in the real world auto factories, not much more than glorified numerically controlled machines, were merely agile machines with no self-awareness, unlike Astro Boy. The West is no stranger to anthropomorphizing machines either. The B-29 that dropped the atom bomb on Hiroshima was named Enola Gay after the captain’s mother, while the bomb itself was christened Little Boy.

There is also an easy explanation for the difference between respective focus of research and development. The United States is by far the largest weapons producer, owner, and exporter of the world. Moreover, it does not have an aging demographics like Japan, and welcomes a steady stream of sturdy manpower in the form of immigration each year. Japan does have a defense budget befitting a major power, but it is not even close to the United States in that respect, or China for that matter, while exports had been severely restricted under the Three Principles on Arms Exports. Moreover, even as aging progresses to unprecedented heights, there is no sign that it will throw open its doors to immigrants. It is no wonder, then, that the Japanese R&D budget and the interest of robotics scientists and engineers turn to social services.

What of it, you say? Different cultures, different mindsets, different national policies—whatever the explanation, don’t they come to the same thing? Till now, perhaps. But there have been changes in the treatment of arms under Japan’s national security policy. The Abe administration has eased the near-blanket ban, renaming it the “Three Principles on Transfer of Defense Equipment.” Looking at Japanese robotics, the technology being developed for a cyborg-type robot appears to be applicable to military powered suits. The Fukushima Daiichi disaster drove home the importance of robots for emergencies that could be used under extreme conditions—requirements similar to battlefield situations.

The national security establishment and defense industry in the United States must be interested in these and other Japanese robotic technologies. Over time, proposals for joint R&D and production should be forthcoming. The day cannot be far away that Japanese scientists and engineer engaged in the development of robots will have to rethink what it means to “make humans happy.” When they do, the outcome could very well turn on the question of whether they follow their emotional and cultural bearings, or allow policy decisions beyond their reach to dictate their choices.