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Russia and China's "Enhanced Human Operations" Terrify the Pentagon

"We're going to have to have a big, big decision on whether we're comfortable going that way."



Getty

By Eric Tegler Dec 16, 2015



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U.S. adversaries are already working on [something America is reluctant to](#): Enhanced Human Operations (EHO).

EHOs entail modifying the body and the brain itself, creating what some have called "super soldiers." At a press conference laying the Defense Department's future research and development strategy on Monday, Deputy Defense Secretary Bob Work warned that America would soon lose its military competitive advantage if it does not pursue technologies such employing artificial intelligence.

"Now our adversaries, quite frankly, are pursuing enhanced human operations, and it scares the crap out of us," Work said.

Altering human beings from the inside to more effectively fight in combat presents ethical dilemmas for American scientists and military planners. Work says those ethical concerns typically don't apply to authoritarian governments like Russia's or China's, but their lack of hesitation in developing EHOs may force America's hand.

"We're going to have to have a big, big decision on whether we're comfortable going that way," Work admits.

What sort of enhancement are we talking about? As yet, the Pentagon has not been specific, but we can infer several likely human mods from previous work done by DARPA, and our own imagination.

"NOW OUR ADVERSARIES, QUITE FRANKLY, ARE PURSUING ENHANCED HUMAN OPERATIONS, AND IT SCARES THE CRAP OUT OF US."

Exoskeletons

As early as 1985, retired four-star Army General Paul F. Gorman sketched out a "SuperTroop" exoskeleton for DARPA that would protect soldiers from chemical, biological, electromagnetic, and ballistic threats, including direct fire from a .50-caliber bullet. Audio, visual, and haptic (touch) sensors were part of the design.



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More recently, the Navy has explored the use of exoskeletons for lifting heavy loads and enhancing shipboard firefighting/damage control operations. In 2013, DARPA partnered with U.S. Special Operations Command on a light exoskeleton suit called TALOS (Tactical Assault Light Operator Suit). Every time the discussion comes up, someone mentions *Iron Man*.

Drugs and Vaccines

You could argue that humans have already been boosted, at least primitively. ISIS and other terrorist organizations have an extensive history of handing their fighters hallucinogens and other drugs to bolster their savagery.



Robert Work

DOD

Apparently DARPA's Defense Sciences Office (DSO) investigated a mind-altering pain vaccine. Once injected into a soldier who had been shot, the vaccine would theoretically reduce the pain from inflammation and swelling. After 30 seconds of agony, the soldier would feel no pain for 30 days. As long as the bleeding was contained the soldier could keep fighting.

The government's research into halting the bleeding yielded another program that involved injecting millions of microscopic magnets into a person, which could later be brought together into a single area to stop bleeding with the wave of a wand.

DARPA has also studied whales and dolphins—mammals that don't need to sleep in long chunks like humans do—as inspiration for creating a soldier who requires little to no sleep for a week or more. Whales and dolphins independently control the left and right lobes of their brains, keeping one alert while the other sleeps. It's not known if DARPA scientists made any progress with human lobe control, but they did explore powerful anti-sleep drugs like Modafinil.

AFTER 30 SECONDS OF AGONY, THE SOLDIER WOULD

FEEL NO PAIN FOR 30 DAYS.

Brain Implants

Enhancing soldiers' endurance isn't limited to exoskeletons. Under a program called the Brain-Machine Interface, DSO investigated how brain implants improve cognitive ability. Scientists sought to implant a computer chip in a rat's brain to see if they could remotely control the animal's movements. If success could be replicated in humans, it might eventually lead to remote guidance or control of a human being on the battlefield. Seriously. The program also explored the possibility of enabling soldiers to communicate with each other by thought alone.

Enhanced Human Operations would also theoretically include psychological or cognitive programming. Again, it could be argued that humans have long been psychologically programmed for war, from Nazi soldiers to Al Qaeda terrorists. But brain implants that trigger specific thought patterns or even instructions might be in the cards. So too might be extending the human being as an information, surveillance, and reconnaissance node by infusing the body with a variety of sensors and communications relays.

The possibilities for EHOs may be limited only by our imagination—and how much our own creations scare the crap out of us.

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