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Technology convergence could prevent war, futurist says

By Chuck Paone, 66th Air Base Wing Public Affairs / Published August 10, 2009

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HANSCOM AIR FORCE BASE, Mass. (AFNS) -- The convergence of "exponentially advancing technologies" will form a "super-intelligence" so formidable that it could avert war, according to one of the world's leading futurists.

Dr. James Canton, CEO and chairman of the Institute for Global Futures, a San Francisco-based think tank, is author of the book "The Extreme Future" and an adviser to leading companies, the military and other government agencies.

He is consistently listed among the world's leading speakers and has presented to diverse audiences around the globe.

He will address the Air Force Command and Control Intelligence, Surveillance and Reconnaissance Symposium, which will be held Sept. 28 through 30 at the MGM Grand Hotel at Foxwoods in Ledyard, Conn., joining Air Force Chief of Staff Gen. Norton Schwartz and a bevy of other government and industry speakers.

He offered a sneak preview of his symposium presentation and answered various questions about the future of technology and warfare in early August.

"The superiority of convergent technologies will prevent war," Doctor Canton said, claiming their power would present an overwhelming deterrent to potential adversaries. While saying that the U.S. will build these super systems faster and better than other nations, he acknowledged that a new arms race is already under way.

"It will be a new MAD for the 21st century," he said, referring to the Cold War-era acronym for Mutually Assured Destruction, the idea that a nuclear first strike would trigger an equally deadly response. It's commonly held that this knowledge has essentially prevented any rational state from launching a nuclear attack.

Likewise, Doctor Canton said he believes rational nation states, considering this imminent technology explosion, will see the futility of nation-on-nation warfare in the near future. Plus there's the "socio-economic linking of the global market system."

"The fundamental macroeconomics on the planet favor peace, security, capitalism and prosperity," he said. Doctor Canton projects that nations, including those not currently allied, will work together in using these smart technologies to prevent non-state actors from engaging in disruptive and deadly acts.

As a futurist, Doctor Canton and his team study and predict many things, but their main area of expertise -- and the one in which he's personally most interested -- is advanced and emerging technology.

"I see that as the key catalyst of strategic change on the planet, and it will be for the next 100 years," he said. He focuses on six specific technology areas: "nano, bio, IT, neuro, quantum and robotics;" those he expects to converge in so powerful a way.

Within the information technology arena, Doctor Canton said systems must create "meaningful data," which can be validated and acted upon.

"Knowledge engineering for the analyst and the warfighter is a critical competency that we need to get our arms around," he said. "Having an avalanche of data is not going to be helpful."

Having the right data is.

"There's no way for the human operator to look at an infinite number of data streams and extract meaning," he said. "The question then is: How do we augment the human user with advanced artificial intelligence, better software presentation and better visual frameworks, to create a system that is situationally aware and can provide decision options for the human operator, faster than the human being can?"

He said he believes the answers can often be found already in what he calls 'edge cultures.'

"I would look outside of the military. What are they doing in video games? What are they doing in healthcare? What about the financial industry?"

Doctor Canton said he believes that more sophisticated artificial intelligence applications will transform business, warfare and life in general. Many of these are already embedded in systems or products, he says, even if people don't know it.

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In terms of robotics, he predicts "a real sea change" will come as we move from semi-autonomous to fully-autonomous units.

"That will be accompanied by a great debate, because of the 'Terminator' model," he said. "It scares people." But he doesn't think people should be alarmed by the prospect of independently functioning robots.

"Robots don't need to be -- and we don't want them to be -- as intelligent as human beings," he said.

But they will help us in many ways, including combat.

"Robots will help fight and prevent wars," he said, noting that they will have the ability to sense, analyze, authenticate and engage, but that humans will always be in position to check their power.

Doctor Canton is looking forward to discussing all of this and more at the symposium. For more information and to register, go to www.paulrevereafa.org and click on the symposium link.