

Q&A

Q&A How robots are transforming war

Film producer Leslea Mair talks about new documentary *Remote Control War*

[CBC News](#)

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Sleek, pilotless drones soar over the mountains between Afghanistan and Pakistan, dropping bombs and killing people down below. At lunchtime, the U.S. soldiers controlling them pop down to the local fast food joint for a burger — in Indian Springs, Nev.

That is the reality of modern warfare as portrayed in a new documentary titled *Remote Control War*, which premieres Thursday evening on CBC-TV.

WATCH

Remote Control War airs Thursday at 9 p.m. on CBC-TV. It repeats Friday at 10 p.m. on CBC News Network.

The film looks at the rise of military robotics since the U.S. invaded Iraq in 2003. The U.S. alone now has a fleet of 7,000 military robots in the air and another 12,000 on the ground. Canada and 42 other countries also use military robots.

The documentary questions what the trend means for militaries and civilians around the world. And it also offers a glimpse of what the military robots of the future might look like, from a tank-treaded, camera-laden robot armed with machine guns zipping through the woods to swarms of autonomous bird-sized flying robots working together on a collective mission.

CBC News spoke to Leslea Mair, president and CEO of Zoot Films, who co-produced *Remote Control War*.

How did this project come about?

I got a Roomba! Honestly, I have a robot vacuum cleaner, and I love my robot vacuum cleaner. And we started hearing stuff about the drones and robotics in the military in the news and ... realizing, you know, the same technology that's being used in my little vacuum cleaner is actually being used in the field of war.

And while I'm happy to hand off responsibility for the dust bunnies in my house to my robot, I'm not so sure I'm comfortable with handing off the idea of who gets shot and when and how to a machine. And that certainly seemed to be the way we were going.

What role are robots playing in wars right now?

Well, right now, there's something like 43 countries [that] have robotics that they are using out in the field, primarily in the form of unmanned drones — some armed, some not. We're in the early stages of seeing deployment of ground robots as well. Many of those are for bomb disposal.



The development of ground robots like the iRobot Packbot was motivated largely by the desire to carry out bomb disposal without endangering human life. (CBC)

The U.S., obviously, is the leader ... By 2015, they estimate ... one-third of their forces will be unmanned. It's a very big shift.

Why use robots? What are the advantages?

The military ... [likes] to give them jobs that are dirty, dangerous and dull.

Bomb disposal was the big one that really motivated some development of ground robotics because people die trying to defuse IEDs [improvised explosive devices] out in the field.

If the bomb goes off, you can replace that robot... You don't have to send that really awful letter to somebody's mother or wife or sister or brother to say that they're not coming home.

What will robots be capable of in the future that they can't do now?

I think almost the question should be, 'What won't they be capable of?'

Already, they're flying the missions themselves. I think the vision for the future, certainly down the road, is for robots to be able to pretty much do anything a person can do.

You talked a bit in your film about who's responsible [for robots' actions]. Is that a big problem?

If an individual soldier makes a terrible mistake [such as shooting the wrong person], he's responsible for that mistake, and there's a process for dealing with whether or not that mistake was made in good faith ... whether there should be punishment or not.

A robot can't take responsibility for that individual mistake, so whose responsibility is it? It gets very confused and very muddy, and we don't have a process in place for dealing with that.



In the future, military robots like the VECNA bear are expected to be able to do any job that humans can do. (CBC)

Inevitably, a mistake will be made ... One of the people we interviewed, Noel Sharkey [professor of artificial intelligence and robotics at the University of Sheffield], said the artificial intelligence isn't even there to tell the difference between a child and a soldier.

Now that you've finished this project, what concerns you the most?

A lot of things come out of the military. They start with a fairly benign use of something, then they go to a more aggressive use of it, then there's aspects of it that bleed into consumer society.

With robots, it started with surveillance ... and then they started arming them, and now, we have some really sophisticated toys out on the market that are a lot more autonomous.

As people have more access to it, I think there should also be some concern that the people we should be afraid of can also use this technology. The next Timothy McVeigh isn't going to be driving a van with a fertilizer bomb in the back of it. He just might program a swarm because he can get the components at Wal-Mart.

I think the thing for me, too, is that robots aren't inherently good or bad. It's what we decide to do with them that's the really important thing. The point of the whole documentary is, really, we have to start having a conversation among ourselves about what role should robots really have and what are we OK with.

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Eggplant36

2011/02/24 at 2:29 PM ET

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3 1

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"Also, when you're dropping bombs on people, there is separation between you and the victims, remote control or not. You don't see their faces either way. Push a button from the cockpit, or a remote centre in another country. What's the difference?"

Interestingly, this seems to NOT be the case:

<http://www.military.com/news/article/predator-pilots-suffering-war-stress.html?col=1186032310810&wh=news>

"Working in air-conditioned trailers, Predator pilots observe the field of battle through a bank of video screens and kill enemy fighters with a few computer keystrokes. Then, after their shifts are over, they get to drive home and sleep in their own beds.

But that whiplash transition is taking a toll on some of them mentally, and so is the way the unmanned aircraft's cameras enable them to see people getting killed in high-resolution detail, some officers say.

In a fighter jet, "when you come in at 500-600 mph, drop a 500-pound bomb and then fly away, you don't see what happens," said Col. Albert K. Aymar, who is commander of the 163rd Reconnaissance Wing here and has a bachelor's degree in psychology. But when a Predator fires a missile, "you watch it all the way to impact, and I mean it's very vivid, it's right there and personal. So it does stay in people's minds for a long time."

fixer1

2011/02/24 at 2:19 PM ET

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4 0

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The truth is robots are here and they will be to stay. Canada and especially Ontario will never again become the manufacturing hub of Ontario's economy with out the use of robots. The only way to compete with cheap labour of China is to use robotics and that way you can now produce things cheaper and better quality then they can in China. Yes that means that many people will be put out if work. But that is just what is going to happen. People will need to be trained to service the robots and there will be lots of employment for that. But little else will be had as we will soon see robots doing everything and doing it cheaply and perfectly the first time without need to be oaid or have sick leave and pensions and the whole issues that surround the human inputs.

This is the way Ontario will have to move and I am not sure if it is that far off from being here and going. I was amazed to see a robotic machine that a person setped in to and they were measured and clothes made to suit the body for the perfect fit and they could do this time and again with out flaw. So if you want skin tight jeans down to you kness and a little looser below that, yoy just selct it and in 20 minutes they are cut sewn and ready for you to wear. No sales clerks needed to help, but at first there would be clerks to help you to run thechoices and after that there will be no need to have a supplier truck all these finished products to the store but only raw cloth and clours and fabrics. Even zippers could be stel brass or plastic. You could design the dress of your dreams simply by telling the machine the style and fabric and even colour details and then in minutes you would have the dress you always wanted and it would be your own original. This will be coming soon.

ratio et fides

2011/02/24 at 2:16 PM ET

Rating: 3

6 3

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Years of studying nothing but the unholy Qur'an will catch up to the islamists when they meet our drones and robots.

And many of our techs, engineers and scientists are women.

Take that Osama.

Broker

2011/02/24 at 2:13 PM ET

Rating: 2

5 3

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This is the wave of the future; not F35s. Pilot-less jets can do far more when the weight of the pilot and the need for oxygen equipment is removed.

G-forces become what the airframe will tolerate without any parts falling off, and I bet there would be at least a 2:1 cost benefit.

Kaz Kylheku

2011/02/24 at 1:52 PM ET

Rating: 9

10 1

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Remotely controlled machines are not robots; they are mechanical puppets-on-a-string.

Robots are autonomous machines.

If a machine is not autonomous, it is not a robot and should not be called one.

The difference between a remote-controlled machine and a robot is huge, yet it is blurred by this dumb article.

Also, when you're dropping bombs on people, there is separation between you and the victims, remote control or not. You don't see their faces either way. Push a button from the cockpit, or a remote centre in another country. What's the difference?"

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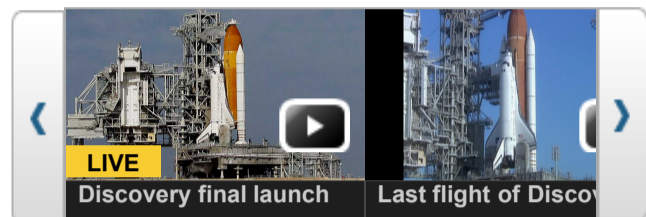
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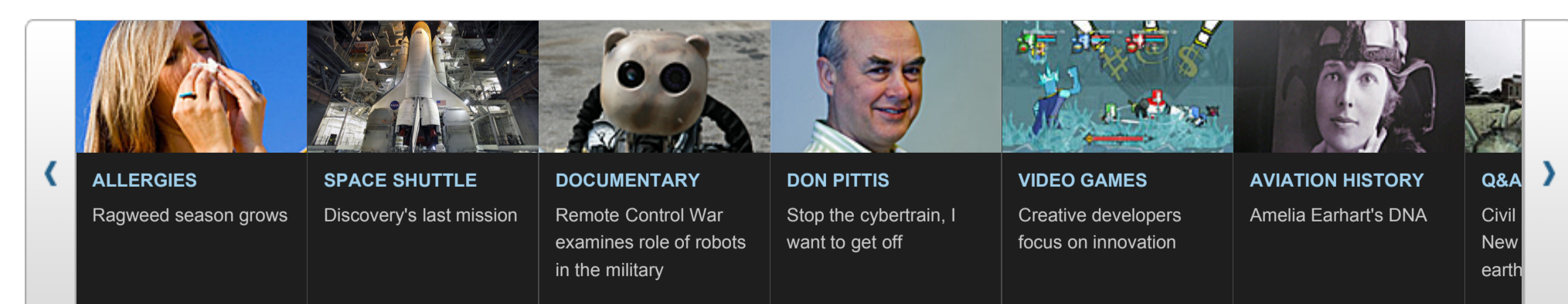


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