Robots/Autonomous Systems and the Law of Armed Conflict

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http://www.rewi.euv-frankfurt-o.de/de/lehrstuhl/or/voelkerrecht
Overview

► Definitional Issues
► Arms Control Approach
► Means of Warfare: Weapons Law
► Targeting Law
► Concluding Remarks
Definitional Issues: Robots

► "Robot" = "Subordinate Worker"

► "I can’t define a robot, but I know when I see one" (Joseph Engelberger)

► Different ideas of "robots"
Definitional Issues: Autonomy

“Autonomy” = freedom of action, self-government

Mobile Robots
- Perform computation onboard
- No fixed environment to rely on
- Adapt to changes
- Decisional autonomy?
- Programmed so as to achieve the best or, in case of uncertainty, the best expected outcome
Arms Control Approach

► Total Ban of “Killer Robots”? 

► Ban of Systems that are not under “meaningful human control”?
Arms Control Approach

► > 43 States with military robotics programs
► Demand for total ban based on imprecise legal arguments
► “meaningful human control” detracts from LOAC
► “Ideology of extreme pacifists, well intentioned, good, but utterly utopian” (Josef Kunz) OR
► Effort to counterbalance technological inferiority?

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RAWS: Means of Warfare?

- Objects designed/used for ‘attack’, i.e. inflicting death, injury, damage or destruction

- Military nature alone insufficient

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Weapons Law

► No Express Prohibition

► ‘Weapons Law’ and Weapons Review (Art. 36 API)

▪ Yardstick:

► Unnecessary Suffering and Superfluous Injuries

► Weapons that “cannot be directed at a specific military objective” - Art. 51 (4) (b) AP I

► Weapons “the effects of which cannot be limited as required” – Art. 51 (4) (c) AP I
Targeting Law

Lawful Target?

Lawful Method/Means?
Targeting Law

Lawful Target? → Lawful Method/Means? → Probability Collateral Damage?

Targeting Law
Targeting Law

Lawful Target?

Lawful Method/Means?

Probability Collateral Damage?

Minimize/Avoid Warning
Targeting Law

Lawful Target?

Lawful Method/Means?

Probability Collateral Damage?

Minimize/Avoid Warning

Attack Approved

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Targeting Law

Lawful Target?

Lawful Method/Means?

Probability Collateral Damage?

Attack Approved

Constant Care

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Targeting Law

- Lawful Target?
- Lawful Method/Means?
- Probability Collateral Damage?
- Attack Approved
- Constant Care
- Changed Circumstances
- Cancel/Suspend
Targeting Law

Lawful Target?

Lawful Method/Means?

Probability Collateral Damage?

Attack Prohibited

Excessive?

Cancel/Suspend

Change Circumstances

Constant Care

Minimize/Avoid Warning

Attacked Approved
Concluding Remarks

- No system yet with decisional autonomy
- No legal prohibition of robotic and/or autonomous systems
- Arms control approach not promising
- Compliance with LOAC