Autonomous Weapons Systems

Political and Legal Responsibility for AWS Conduct

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Conceptions of Autonomy

_scripted autonomy:_ Carrying out a pre-planned script

_supervised autonomy:_ Robots plan, sense, and monitor with human assistance

_intelligent autonomy:_ Software allows the robot to engage in decision making, problem solving, and perceiving and interpreting information.

Meaningful Human Control

International Committee for Robot Arms Control (ICRAC) Elements

1. Appropriate *deliberation* on the need for attack;

2. The attack must be executed by a *human operator*;

3. The operator has “*full contextual and situational awareness* of the target area”;

4. The operator is “*able to perceive and react* to any change or unanticipated situations”; AND

5. The operator *retains the ability to call off the attack*.

Frank Sauer, ICRAC statement on technical issues to the 2014 UN CCW Expert Meeting, May 14, 2014
Control in Criminal Law

The ability of the perpetrator to execute or obstruct the commission of the offence according to his will.

- Direct control over the actor
- Indirect control over the actor’s will
- Functional domination of a participating joint actor

Command Responsibility

ELEMENTS

1. Existence of a **superior**-**subordinate** relationship; 

2. The superior **knew or had reason to know** of the subordinates’ crimes; **AND**

3. Failure to **control, prevent, or punish** the commission of the offence(s).

Potentially Liable Actors

Software Programmer

Field Commander

Civilian/Military Commander

Subordinates

Fig. 2. Predator Drone. “Counting Deaths From Drone Strikes.” Columbia Law School Human Rights Institute. Image available at.
Recklessness

**ELEMENTS**

1. A substantial **AND** unjustifiable risk exists;
2. The risk relates to a material element of the offense; **AND**
3. The defendant is **actually aware** of the risk.

**Issue:** What risk must the defendant be aware of? Any risk? Or the exact risk?
Negligence

ELEMENTS

1. A substantial AND unjustifiable risk exists;

2. The risk relates to a material element of the offense; AND

3. The defendant is not actually aware of the risk, but he should have been aware of the risk. (Inadvertent Risk Creation)
Civil Negligence & AWS

ELEMENTS

1. Breach of a **duty of care**;

2. The breach **proximately caused** the injury; **AND**

3. The injury was **reasonably foreseeable**.

Fig. 3. Driverless Car. “New Study Says Driverless Cars Will Consume More Fuel, Auto Evolution, 15 Mar 2015. [Photo from: androidheadlines.com]
Strict Liability & AWS

Requires foreseeability of at least one of the following:

1. The kind or type of risk of harm
2. The person likely to be harmed
3. The manner of harm
Future Accountability