

Regulating autonomy in weapon systems

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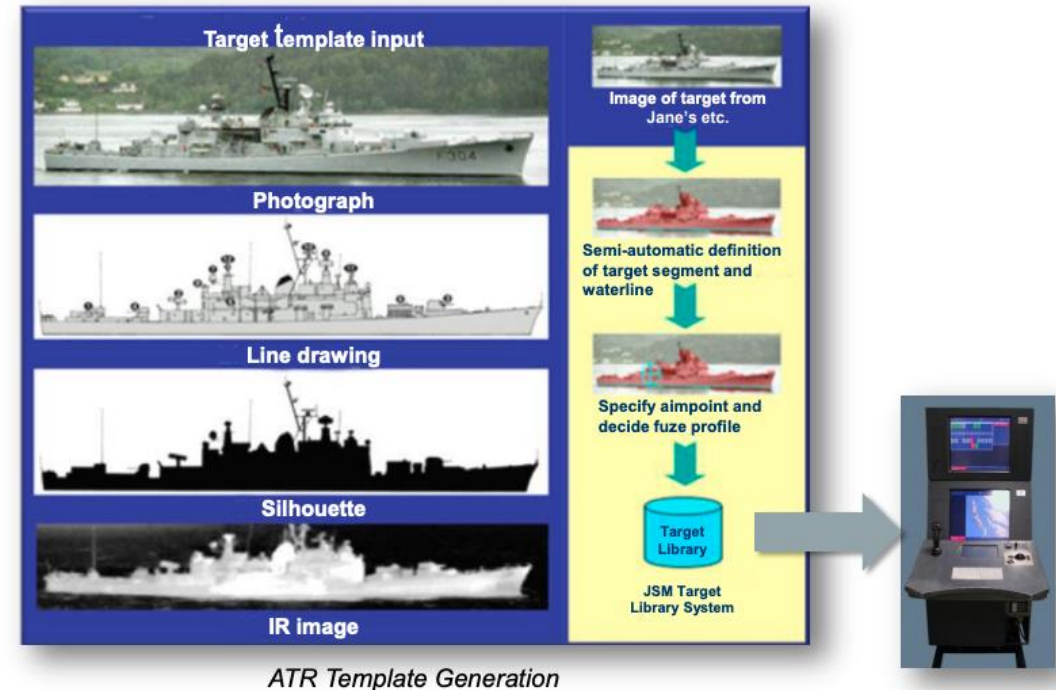


What are we talking about? (I)

- ICRC: “an autonomous weapon system is one that has autonomy in its '**critical functions**', meaning a weapon that can **select** (i.e. search for or detect, identify, track) and **attack** (i.e. intercept, use force against, neutralise, damage or destroy) **targets without human intervention**.”
- Fundamental **disagreement on the definition**
- **NOT: Replacing humans with robots, Terminators or Robot Uprisings**
- Increasing **automation** in software and hardware
- **Redistribution of tasks** humans and machines
- Prediction: Missiles, munitions, unmanned systems, defensive systems

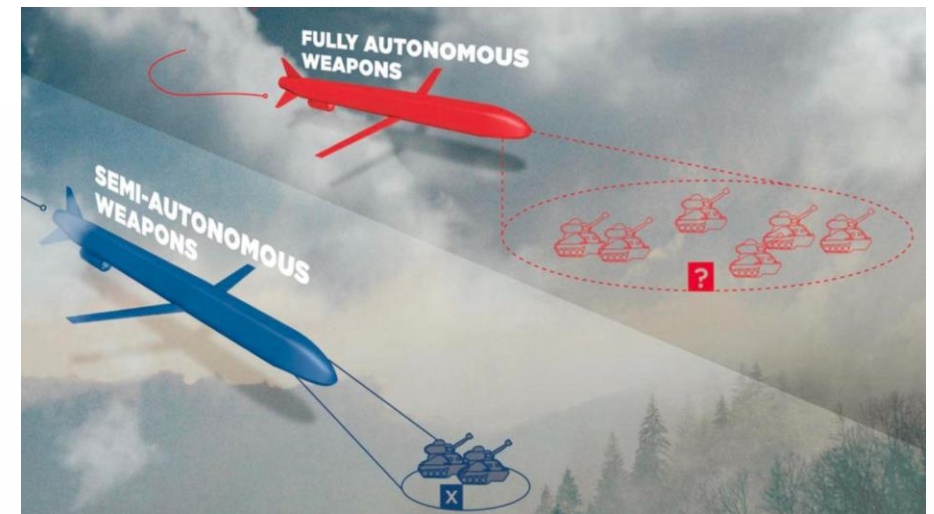
What are we talking about? (II)

- Algorithms in weapons that can (i.a.)
 - Select targets
 - Recognize targets
 - Identify targets
 - Classify targets
 - Track targets
 - Detect whether objects/events are threats
 - Recommend whether to engage targets
 - Engage targets



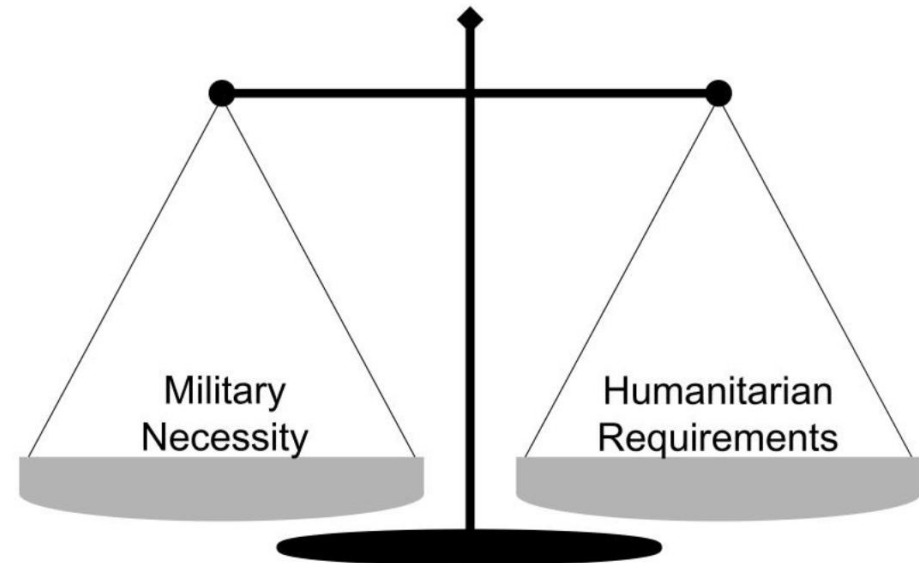
What are we talking about? (III)

- Definitional disputes:
 - Only **offensive** or also **defensive** weapon systems?
 - Difference **autonomy** and **automation**?
 - **Future** or **existing** weapon systems?
 - Which **functions** are problematic?
 - A **category** of weapon systems or a function of their **use**?



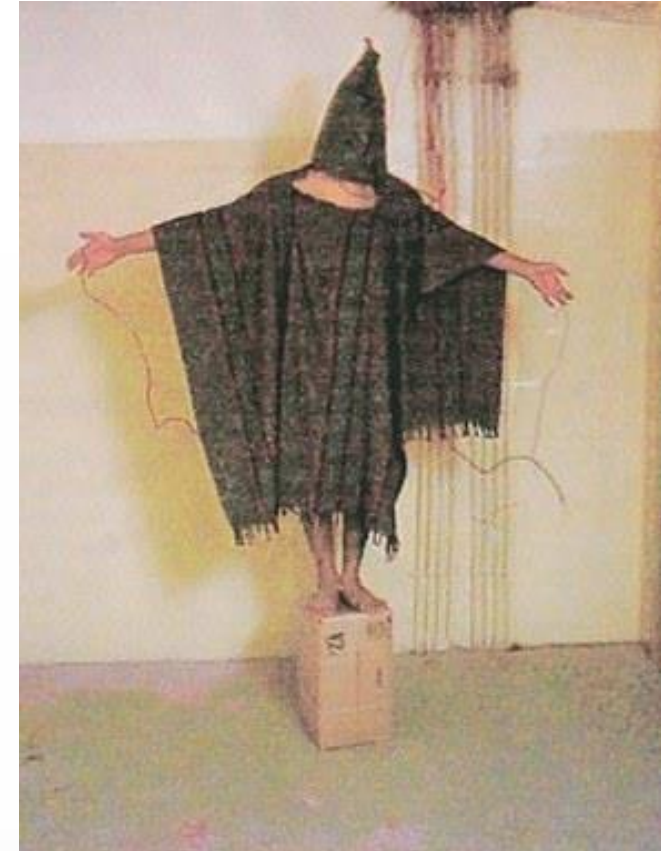
Problems with LAWS (I): Law

- Can they ever comply with International Law?
- Fundamental Principles:
 - Distinction
 - Proportion
 - Precaution
- Accountability
- Or is legality dependent on context of use?



Problems with LAWS (II): Ethics

- Use of LAWS is ethical:
 - **No emotion:** prevent bloodlust and sexual violence
 - Better **compliance with IHL**, fewer civilian casualties
 - **Protect soldiers** from harm
- Use of LAWS is unethical:
 - Loss of **human dignity** in death
 - Removal of **human agency**
 - Loss of **moral responsibility**
 - Loss of **martial virtue**
 - **Warcrimes** are often tactical/strategic



Problems with LAWS (III): Peace and Security

- Risks:
 - **Distance** and depersonalization
 - **Assymetry**
 - Lower **threshold** of going to war
 - **Conflict escalation**
 - **Arms Race**

Whoever Predicts the Future Will Win the AI Arms Race

China will be the AI superpower

The US is sleepwalking into defeat

NICHOLAS THOMPSON AND JAN BREMMER BUSINESS 10.23.18 06:00 AM

THE AI COLD WAR THAT THREATENS US ALL

Commentary: Are China, Russia winning the AI arms race?

NETWORKS / CYBER, THREATS

Our Artificial Intelligence 'Sputnik Moment' Is Now: Eric Schmidt & Bob Work

By COLIN CLARK on November 01, 2017 at 5:59 PM

The discussions on LAWS (I)

- Since 2012: Campaign to Stop Killer Robots
- Since 2014: Discussions in the Group of Governmental Experts (GGE) on Lethal Autonomous Weapon Systems (LAWS) at the United Nations Convention on Certain Conventional Weapons (CCW)
- Options:
 - Legally binding **ban** on LAWS
 - Obligation to maintain **Meaningful Human Control**
 - **Political declaration**
 - **Legal reviews** of new weapons

The discussions on LAWS (II)

- Political obstacles:
 - Disagreement on **definitions**
 - **Defining** LAWS
 - **Delineating** LAWS
 - When is control **meaningful**?
 - Practical obstacles
 - **Fast** technological developments
 - **Verification** of compliance
 - **Civilian proliferation** of technology
 - Uncertainty about **future capabilities**
 - Own **strategic** interests
 - Lack of **capacity and resources** by states
 - **Financial position** of the CCW



U.S. inspectors during an SS-12 inspection at Saryozek, USSR, April 1989.

Recommendations

- Push for a more substantive debate at the UN CCW
- Promote discussion
 - Finding consensus
 - Increase understanding
- Lead by example
 - Unpack “LAWS”
 - Transparency

