

Ethical and legal reasons for banning Autonomous Weapons Systems

Implications for meaningful human control of weapons

Guglielmo Tamburrini

Università di Napoli Federico II

Member of ICRC and USPID



ISODARCO WINTER COURSE – Andalo, 12th January 2017

1. What is an autonomous weapons system (AWS)?

2. Ethical toolkits for assessing AWS

- **Obligation-oriented ethical reasons**
- **Consequence-oriented ethical reasons**
- **Merging both kinds of ethical reasons**

3. Implications for meaningful human control of weapons

What is an AWS?

SGR-A1 sentry

Robotic stationary platform - South Korea



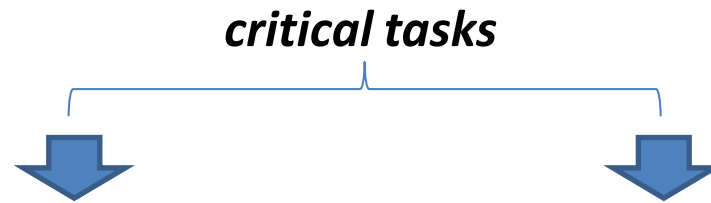
- identifies and tracks potential targets to support human decision making

- can additionally be enabled to decide and fire without prior human 'go' command

Properties of AWS

US DoD condition

A weapons system is autonomous only if



“once activated, [it] can select and engage targets without further intervention by a human operator.”

DoD DIRECTIVE 3000.09/2012: AUTONOMY IN WEAPONS SYSTEMS, pp. 13–14. www.dtic.mil/whs/directives/corres/pdf/300009p

Properties of AWS

UK condition

- An AUV must be “capable of **understanding higher level intent and direction**. From this understanding and its perception of its environment, such a system is able to take appropriate action to bring about the desired state. ...**Although the overall activity of an autonomous unmanned aircraft will be predictable, individual actions may not be.**”
 - *The UK Approach to Unmanned Aircraft Systems*, Joint Doctrine Note 2/11, p. 14, 30th March 2011

SGR-A1 sentinel

Robotic stationary platform - South Korea



Is this an autonomous weapon?

YES/NO :

- according to US condition
- according to UK condition
- according to both

Political implications for public fora

- US condition:
 - there are **AWS** here and now
- UK condition:
 - *AWS are projected in a technologically distant future*
- According to the UK condition, *the UN Convention on Conventional Weapons (CCW) has been dealing with (2014-2017) futuristic weapons only.*

State Parties Views

at CCW

- **No new regulation needed**
 - *Existing IHL and arms reviews suffice for AWS*
- **New regulation is premature**
 - *AWS are weapons of the future*
- **Comprehensive restrictions needed**
 - *AWS are already threatening basic human rights, peace and security*

Some autonomous weapons satisfying the US condition

- **Aselsan gun tower (Turkey)**
 - *Issues warnings and fires on border trespassers*
- **Iron Dome (Israel)**
 - *intercepts short-range incoming rockets*
- **Brimstone *fire-and-forget* missile (UK)**
 - *Selects and attacks tanks within specified areas*
- **Harpy - Harop 2 (Israel)**
 - *homes in on radar systems (6 hrs loitering time)*

Ethical toolkits for assessing AWS

Varieties of ethical reasons in AWS debates

- **Obligation oriented**
 - Based on **obligations** of certain sorts of agents and non-negotiable **rights** of certain sorts of patients
- **Consequence oriented**
 - Based on **expected consequences** of AWS use for aggregate human welfare

O1: patient-relative rights

- The intrinsic value of each human being (i. e. **human dignity**) is denied if people subject to lethal decision-making are “**placed in a position where an appeal to the humanity of the person on the other side is not possible**”
 - *Christof Heyns, Report A/HRC/23/47, UN Human Rights Council 2013*

O1: agent-relative obligations

1. A decision to kill a human being is morally justified only if it is **non-arbitrary**.
2. A non-arbitrary kill decision requires **human control** and **conscientious evaluation**
3. Requirement 2 is not fulfilled in lethal acts of killing carried out by AWS

It is morally unjustified to use lethal AWS

Scope and limits of O1

- **O1 concerns *lethal* uses of AWS only**
- **O1 fails to apply to**
 - ***armed confrontations between AWS***
 - ***AWS attacks on uninhabited infrastructures***

02 – 03

with similar scope and limits

- **02: do not harm or kill the innocent**
 - hard to meet by current and foreseeable AWS in unstructured warfare scenarios, in view of perceptual and decision-making limitations
- **03: human responsibility and accountability chains ought to be preserved**
 - complexity of AWS systems and difficulty to predict their behavior and interactions afford a powerful defense to discharge moral responsibilities.

DSB summer study on autonomy

2016, p. 20

Cultural, policy, and legal issues

The overwhelming majority of potential military applications for autonomy are non-lethal and offer the potential for improved efficiencies or entirely new capabilities. Skepticism about the employment of autonomy in military operations is almost wholly focused on the use of autonomous weapons systems with potential for lethality. For this reason, any new autonomous capability may meet with resistance unless DoD makes clear its policies and actions across the spectrum of applications.

This is **not** an accurate representation of the ethical debate:

Consequence-oriented reasons concern non-lethal AWS uses

Consequence-oriented reasons

narrow vs wide approaches

Narrow_approach to consequences

(pro-AWS)

- Future AWS will be more conservative in firing decisions and more precise, will cause less victims on the battlefield, less war crimes, etc.
- Hence, AWS will enable one to reduce sufferings more than human soldiers
- **In those *future* battlefield scenarios, permitting rather than prohibiting AWS is preferable in the light of expected consequences.**

Wide approach to consequences (against AWS)

- Lowering thresholds to start and continue wars
- Accelerating pace of war
- New arms race
- Proliferation with repressive regimes and terrorist groups
- Regional and global destabilization risks
- Swarms of AWS destroying vital infrastructures up to and including nuclear infrastructures

Scope and limits of wide approach

- Destabilizing uses of AWS – *also non-lethal ones* – are in the scope of the wide approach
- Non-destabilizing uses of AWS – *also lethal uses against human beings* – are not in the scope of the wide approach

Taking stock

- For advocacy of comprehensive regulation on AWS it is quite important to merge obligation-oriented and consequence-oriented ethical reasons
 - One could rely on an ethical tool kit targeting both lethal and destabilizing uses of AWS

Can one consistently merge these different ethical reasons?

**Combining
obligation-oriented and consequence-
oriented reasons**

Conflicts between ethical approaches

Deontological

versus Consequentialist

- There are categorical prohibitions & inalienable rights

- No categorical prohibitions: an action is right or wrong on the basis of its consequences only

Do not kill the innocent



It is permitted to kill an innocent in view of greater good consequences.

Human dignity is inviolable (never torturing, etc)



Human beings can be treated as means only

Rules for consistent merging

priority rule

- **Priority rule:** obligation-oriented reasons cannot be overridden by consequence-oriented reasons
- **Justification of priority rule:** Human dignity, protection of the innocent, preservation of responsibility chains are foundational values for international customary law: IHL, IHRL and ICL.

Rules for consistent merging

default rule

- **Default rule**
 - When o-reasons provide no guidance, apply c-reasons
- **Justification:** The aggregate welfare of the humankind is a foundational value of the UN Charter (Art 1, peace and security)

**Implications
for meaningful human control of
weapons systems**

Meaningful Human Control (MHC)

- MHC must be exercised on weapons system
- But there are many interpretations of MHC:
 1. MHC requires appropriate system programming and testing of an AWS
 2. MHC requires the ability of a human operator to oversee deployment and veto AWS
 3. MHC requires human deliberative reasoning over individual attacks

One size doesn't fit all

- **Iron Dome – Israel**
 - *Not against humans, not destabilizing* - MHC1
- **SGR-A1, Aselsan gun tower**
 - *Human veto needed in each case* - MHC2
- **Brimstone – UK**
 - *Human informed judgment on area and time frame of each attack* – MHC3
- **Harpy, Harop 2 – Israel**
 - *homes in on radar systems (6 hrs loitering)*

Conclusions

- Rules for merging different ethical frameworks are justified by ethical foundational values of IHL, IHRL, ICL.
- These rules enable one to put consistently together a comprehensive ethical toolkit guiding regulation requests on AWS
- The ethical toolkit is a compass for steering one's course in the dire straits of competitive security, political lack of wisdom, and industrial vested interests.