

Cyber Ethics 4.0: Serving Humanity with Values



Photo by [Erik Eastman](#) on [Unsplash](#)

Module 9

Ethics and Autonomous Weapon Systems



Introduction

- International Committee of the Red Cross (ICRC) involvement;
- Autonomous weapon systems ethical issues;
- Ethical arguments:
 - fewer adverse humanitarian consequences;
 - fulfil the duty of militaries to protect their own forces



ICRC's position

- *States must establish limits on autonomy in weapon systems*
- *States must assess type and degree of human control required in the*
use of autonomous weapon systems

The Principles
of Humanity
and the
Dictates
of the Public
Conscience

Ethics and the
Law

The Principles
of Humanity
and the
Dictates
of the Public
Conscience

Ethics and the
Law

The Martens
Clause

The Principles
of Humanity
and the
Dictates
of the Public
Conscience

Ethics and the Law

The Martens Clause

The Public Conscience in
Practice

The Ethical Debate on Autonomous Weapon Systems: Main Ethical Arguments

Limits of technology to function within legal constraints and ethical norms.

Ethical objections that are independent of technological capability:

The Ethical Debate on Autonomous Weapon Systems: Main Ethical Arguments

Limits of technology to function within legal constraints and ethical norms.

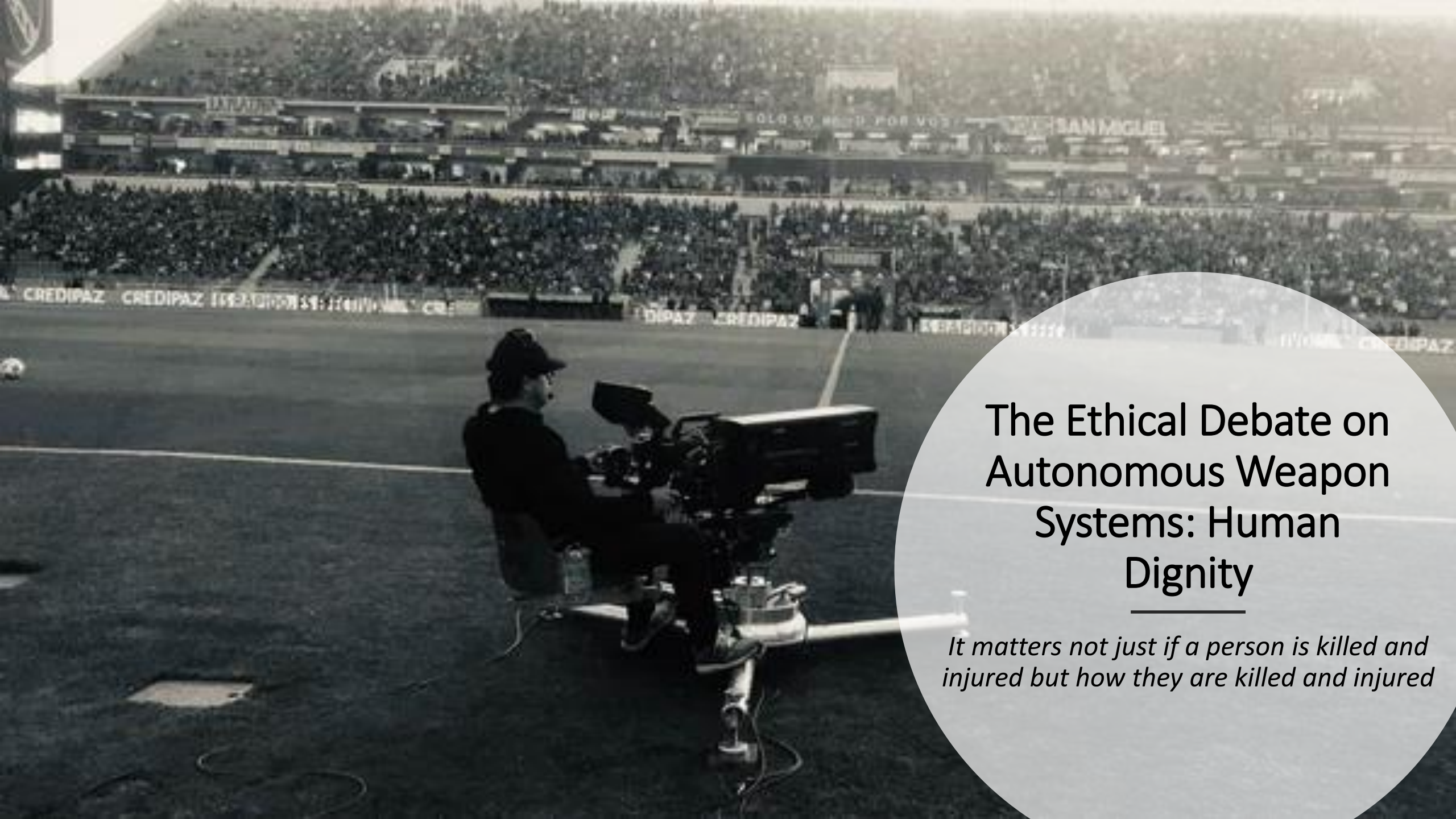
Ethical objections that are independent of technological capability:

- *Removing human agency from decisions to kill, injure and destroy;*
- *Undermining the human dignity;*
- *Further increasing human distancing.*

The Ethical
Debate on
Autonomous
Weapon
Systems:
Human Agency
in Decisions to
Use Force

machines must not
make life-and-death
decisions;

machines cannot be
delegated responsibility
for these decisions.



The Ethical Debate on Autonomous Weapon Systems: Human Dignity

It matters not just if a person is killed and injured but how they are killed and injured

A soldier in camouflage gear is positioned against a stone wall, holding a rifle. The soldier's helmet has "ARO" written on it. The scene is outdoors, with moss growing on the stone wall.

Responsibility, Accountability and Transparency

Responsibility and accountability for decisions to use force cannot be transferred to a machine or a computer program.

Responsibility,
Accountability
and
Transparency:
Implications of
Autonomy for
Moral
Responsibility

An autonomous weapon system creates varying degrees of uncertainty as to exactly when, where and/or why the resulting attack will take place.

An autonomous weapon system self-initiates an attack: it is given a technical description, or a “signature”, of a target, and a spatial and temporal area of autonomous operation.



**Responsibility, Accountability
and Transparency:
Transparency in Human-
Machine Interaction**

*Machine control and human control have
different strengths and weaknesses.*

Responsibility, Accountability and Transparency: Transparency in Human- Machine Interaction

This difference gives rise to a number of problems in human-machine interaction that are relevant to discussions about autonomous weapon systems:

- *automation bias*
- *Surprises*
- *“moral buffer”*

Predictability, Reliability and Risk

Unpredictability and unreliability have been raised as key issues for any legal assessment of autonomous weapon systems



Predictability, Reliability and Risk

Unpredictability and unreliability in autonomous weapon systems *contribute to the level of risk that the use of the weapon will lead to unacceptable consequences*



Ethical Issues in Context: Constraints in Time and Space


A longer timeframe and/or increased scope of movement over an area are major factors in contributing to uncertainty between the point of activation of an autonomous weapon system and the eventual attack that results.



Ethical Issues in Context: Constraints in Operating Environments, Tasks and Targets

In situations where there are fewer risks to civilians or civilian objects, some have argued there may also be fewer ethical concerns raised by autonomy.





Public and Military Perceptions: Opinion Surveys

Public opinion may not provide evidence-based answers to ethical questions, especially when those surveyed have different understandings of the questions and the concept of an autonomous weapon system. However, opinion polls can spark debate and illustrate a significant interest in and engagement with the topic by different constituents, as well as revealing trends related to public- conscience concerns.



Public and Military Perceptions: Contrasting Military and Public Perceptions

In comparisons between military and public perceptions, most notable was the similar level of concern about a loss of human dignity, which may indicate some common ground among different constituents.

The End