

LTC Christopher M. Ford

*Stockton Center for the Study of International Law,
U.S. Naval War College*

My comments/slides are in my individual personal capacity—not as a representative of the United States government or delegation, the United States Army, or the United States Navy.

Distinction

- Distinction requires parties to a conflict to distinguish between lawful targets (combatants, civilians taking direct part in the hostilities, and military objects) from unlawful targets (civilians, those *hors de combat*, civilian objects, and other protected persons and objects).

Proportionality

- The rule of proportionality that prohibits an “attack which may be expected to cause incidental loss of civilian life, injury to civilians, damage to civilian objects, or a combination thereof, which would be excessive in relation to the concrete and direct military advantage anticipated.”

Precautions in Attack

- Persons conducting attacks with autonomous weapons systems must take feasible precautions to reduce the risk of harm to civilians and other protected persons and objects.
- Additional Protocol I Obligations:
 - “constant care” be taken to “spare the civilian population, civilians and civilian objects.”
 - “...do everything feasible to verify that the objectives to be attacked are neither civilians nor civilian objects and are not subject to special protections but are military objectives...”

Autonomy and Issues in Weapons Testing

- How are technical results from tests translated into a narrative that a legal advisor can understand?
- How are tests designed for new technologies?
- How can tests replicate the planned and normal circumstances of use?
- How can a weapons review be conducted on a weapon that is so complex that it is physically impossible to test all lines of computer code?
- How does testing account for design and manufacturing errors?

Autonomy and Distinction

- How well can the system identify the military objective that is the object of attack? How is this quantified?
- How do changes in the *physical* environment (e.g., atmospheric conditions, time of day, and weather) affect the ability of the system to identify military objectives?
- How do changes in the *operational* environment (e.g., the persons and man-made structures which are physically present) affect the ability of the system to identify military objectives?

Autonomy and Proportionality and Precautions in Attack

- To what extent is the system making proportionality calculations (as opposed to calculations being pre-programmed or made by a human operator)?
- If there are situations where the system is expected to calculate proportionality, is the system sufficiently sophisticated and reliable to do so? In such a situation, can the system account for changes to the military advantage?

Recommended Best Practices

- The weapons review should either be a multi-disciplinary process or include attorneys who have the technical expertise to understand the nature and results of the testing process.
- Reviews should delineate the planned and normal circumstances of use for which the weapon was reviewed.

Recommended Best Practices

- The review should provide a clear delineation between expected human and system roles.
- Optimally, the review should occur at three points in time. (1) before development; (2) before fielding; (3) periodically based upon feedback on how the weapon is functioning.