

Stars War: Peace, War, and the Legal (and Practical) Limits on Armed Conflict in Space



Weapons and Conflict in Space: History, Reality, and The Future

Dr. Brian Weeden



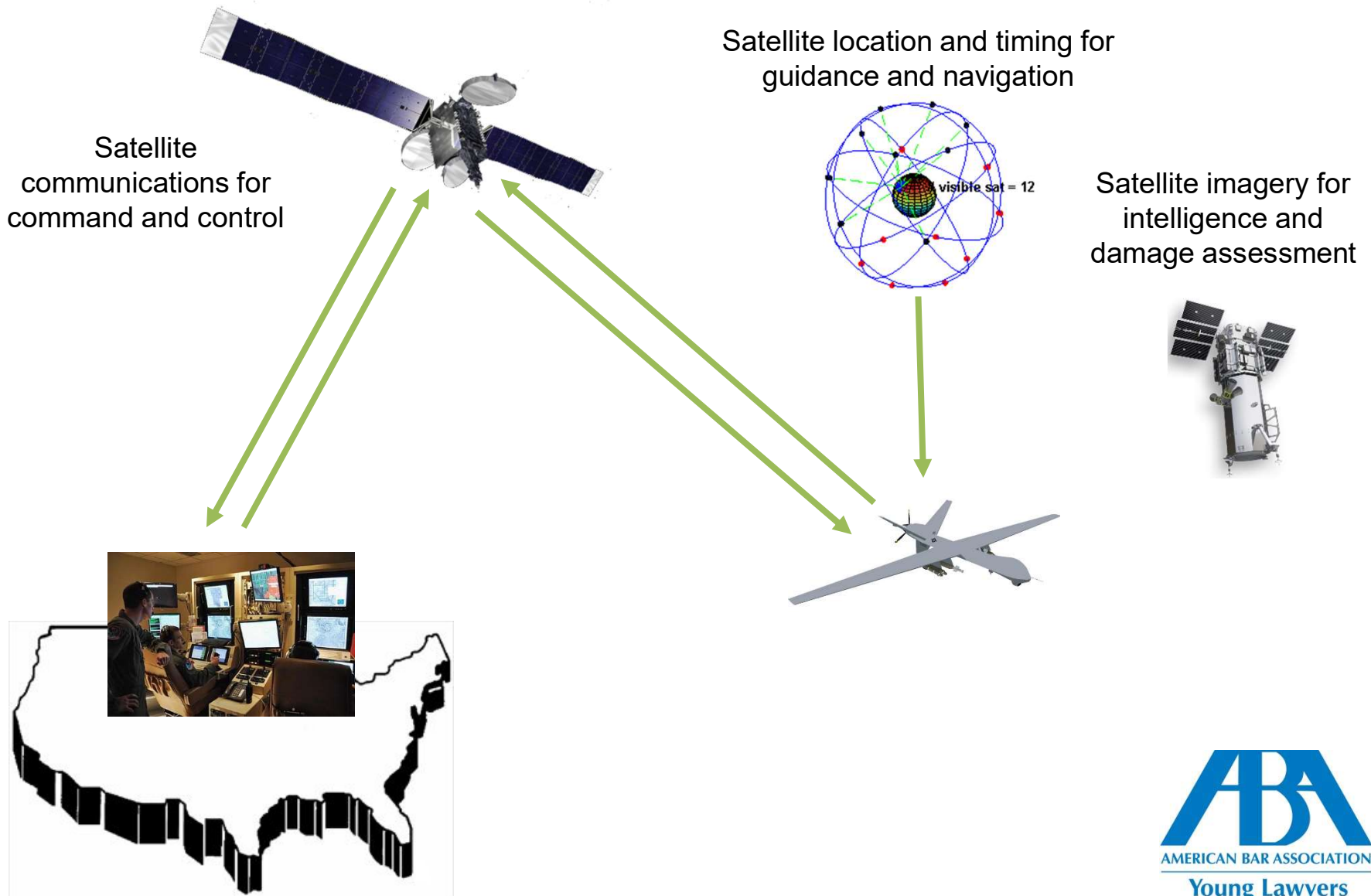
Hollywood vs Reality



Space and National Security

- Historically space was mainly used for “strategic” missions, and linked to nuclear war
- Today, space is critical to nearly all aspects of national security and military power
 - Intelligence, surveillance, and reconnaissance
 - Communications
 - Precision timing and navigation
 - Attack warning and characterization
- Counterspace now part of conventional warfare

Example – RPV Operations



Elements of a space capability

Space segment



Ground segment



User segment



Internet

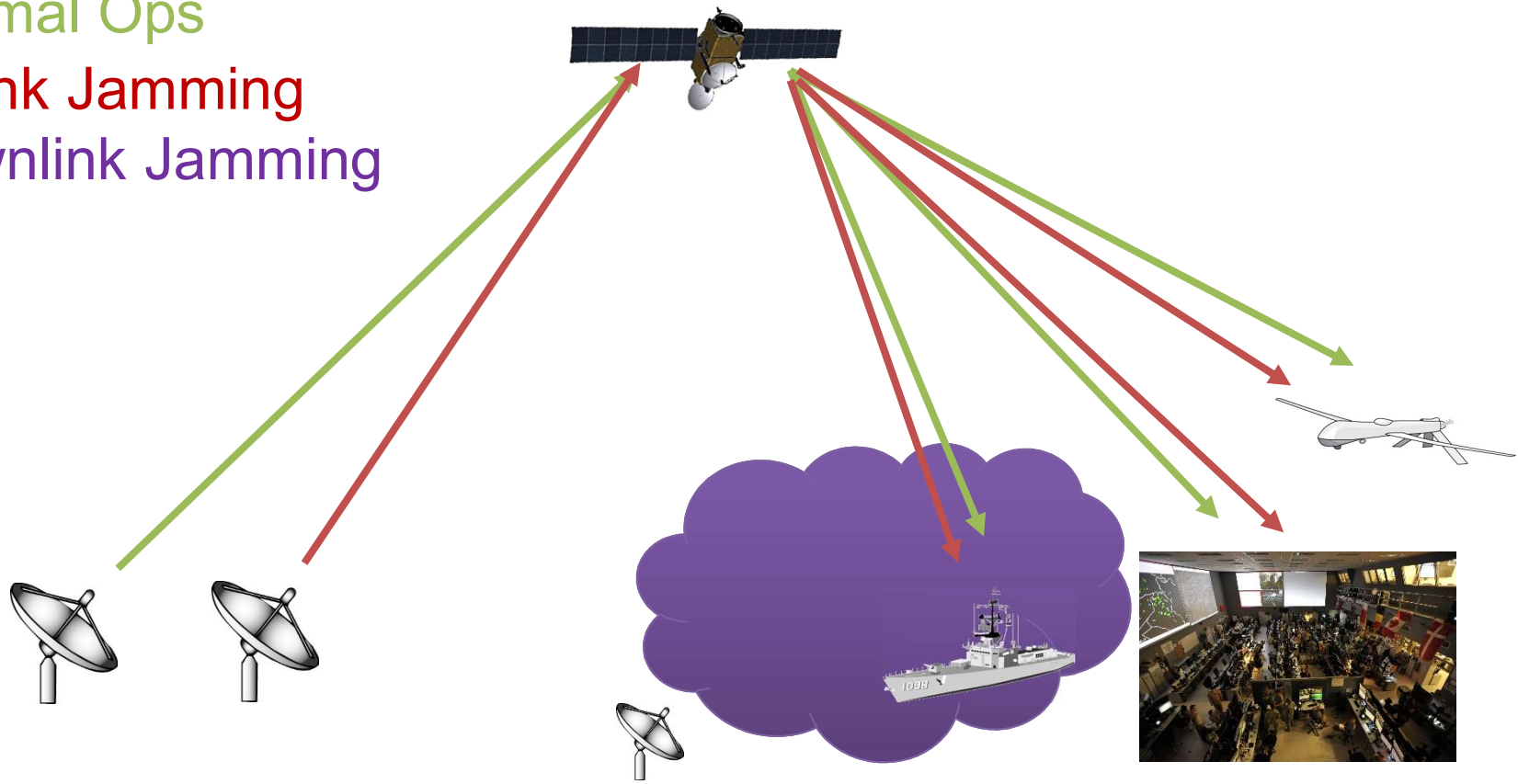


Electronic Warfare Attacks

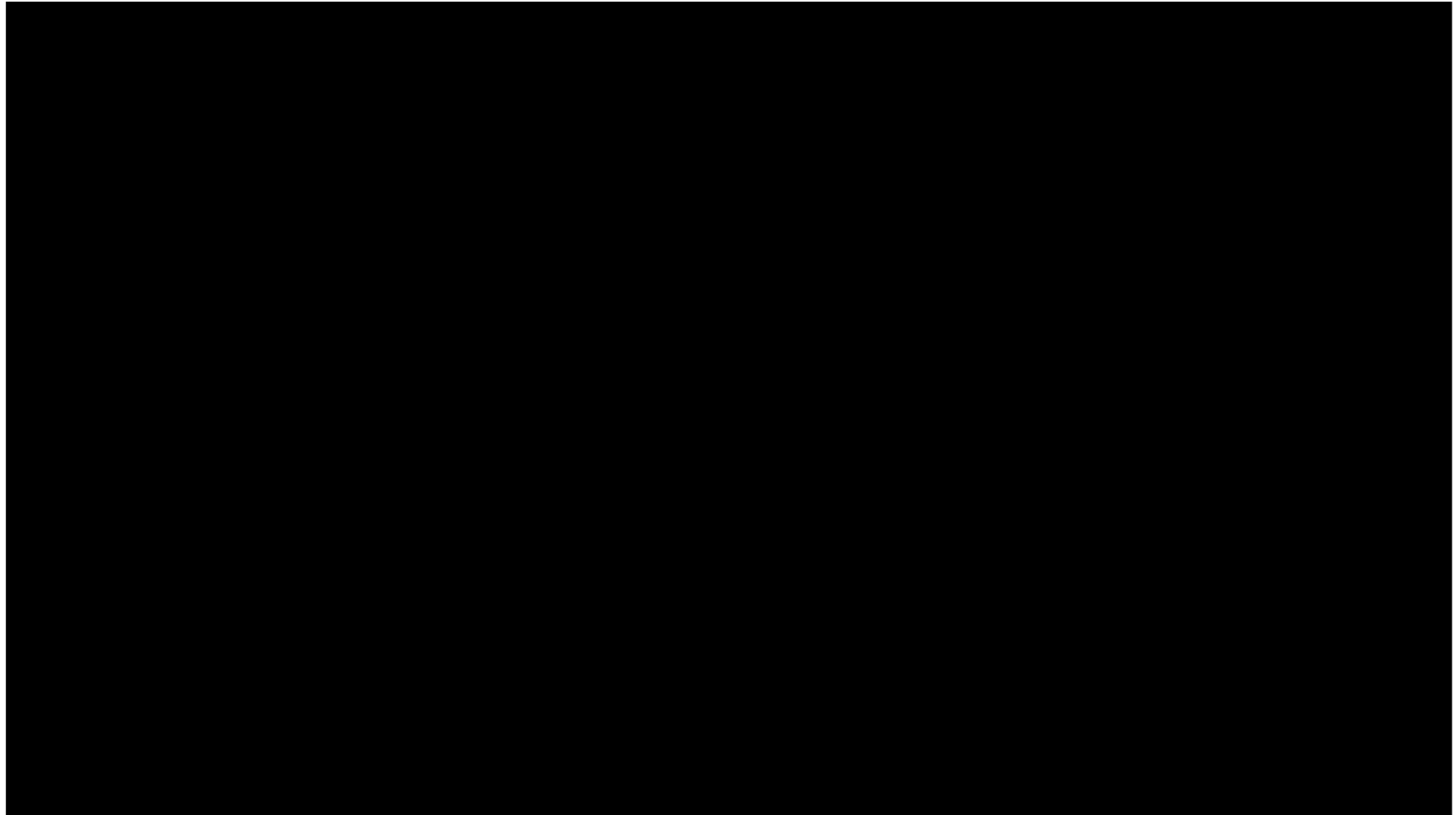
Normal Ops

Uplink Jamming

Downlink Jamming



Kinetic Attacks



Destruction of the USA 193 satellite
(Source: [AGI](#))



Comparison

- Non-kinetic (jamming, interference) attacks occurring more often
 - Cheaper, easier to pull off
 - Harder to verify they worked
 - No long-term negative impact on space environment
- No known example of a deliberate kinetic attack (yet)
 - More expensive and difficult to pull off
 - Easier to verify they worked
 - Can create long-lived orbital debris

"Space Law": Treaties, Agreements, and International Laws Impacting Space

Mr. Michael Hoversten



International Space Law

- 1967 - Outer Space Treaty
- 1968 - Rescue and Return Agreement
- 1972 - Liability Convention
- 1975 - Registration Convention
- 1979 - Moon Agreement



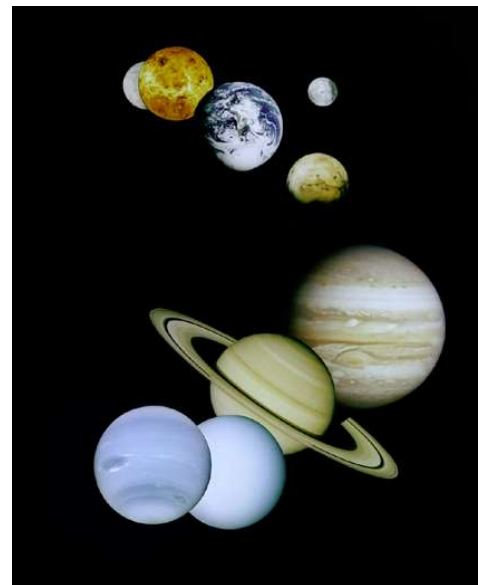
Freedom Principle

- OST Article I: Outer space, including the moon and other celestial bodies, shall be free for exploration and use by all states without discrimination of any kind, on a basis of equality. . .



Non-Appropriation Principle

- OST Article II: Outer space, including the moon and other celestial bodies, is not subject to appropriation by claim of sovereignty, by means of use or occupation, or by any other means.



International Law Applies in Space

- OST Article III: States Parties to the Treaty shall carry on activities in the exploration and use of outer space, including the Moon and other celestial bodies, in accordance with international law, including the Charter of the United Nations . . .



International Law Applies in Space

- Impact on military operations in space:
 - Other international law obligations are applicable in space
 - Principles, customary law, and treaties
 - Law of Armed Conflict (LOAC)
 - UN Security Council Resolutions
 - UN Charter rules on use of force
 - Inherent right of self-defense



Use of Space for Peaceful Purposes

- OST does not state specifically that outer space must be used for peaceful purposes
- OST does specifically state that Moon and other celestial bodies must be use exclusively for peaceful purposes
- 2 interpretations of peaceful purposes
 - Peaceful purposes = no military use
 - Peaceful purposes = nonaggressive military use consistent with international law and the UN charter



Militarization vs Weaponization of Space

- Militarization = military use
- Weaponization = placement of weapons in outer space



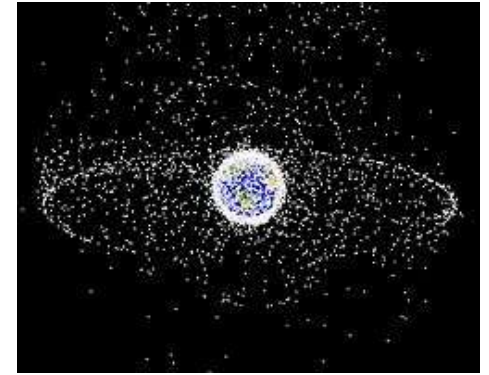
Weapons in Outer Space

- Weaponization of space
 - OST only prohibits “nuclear weapons or any other kinds of weapons of mass destruction”
 - In Earth orbit;
 - Stationed in outer space; and
 - On celestial bodies (e.g., the Moon)
 - No military activity/weapons tests on celestial bodies
 - Use moon and celestial bodies only for “peaceful purposes”
- Efforts to stop space weaponization
 - Push to adopt new treaty to ban space weapons (Prohibition on the Placement of Weapons Treaty (PPWT))
 - Major proponents: Russia, China



Space Debris

- No int'l law specifically governs or prohibits space debris
- International Efforts
 - Inter-Agency Debris Coordination Committee (IADC)
 - UN Committee on the Peaceful Uses of Outer Space
 - Debris Mitigation Standards
- U.S. National Space Policy
 - One of the stated goals is to strengthen measures to mitigate orbital debris
 - Departments and agencies follow the US Gov't Orbital Debris Mitigation Standard Practices



State Responses to National Security Satellite Interference

Maj Ross A. Brown



Introduction

- Personal introduction and disclaimer
- Basic scenario: National security satellite interference not constituting armed attack

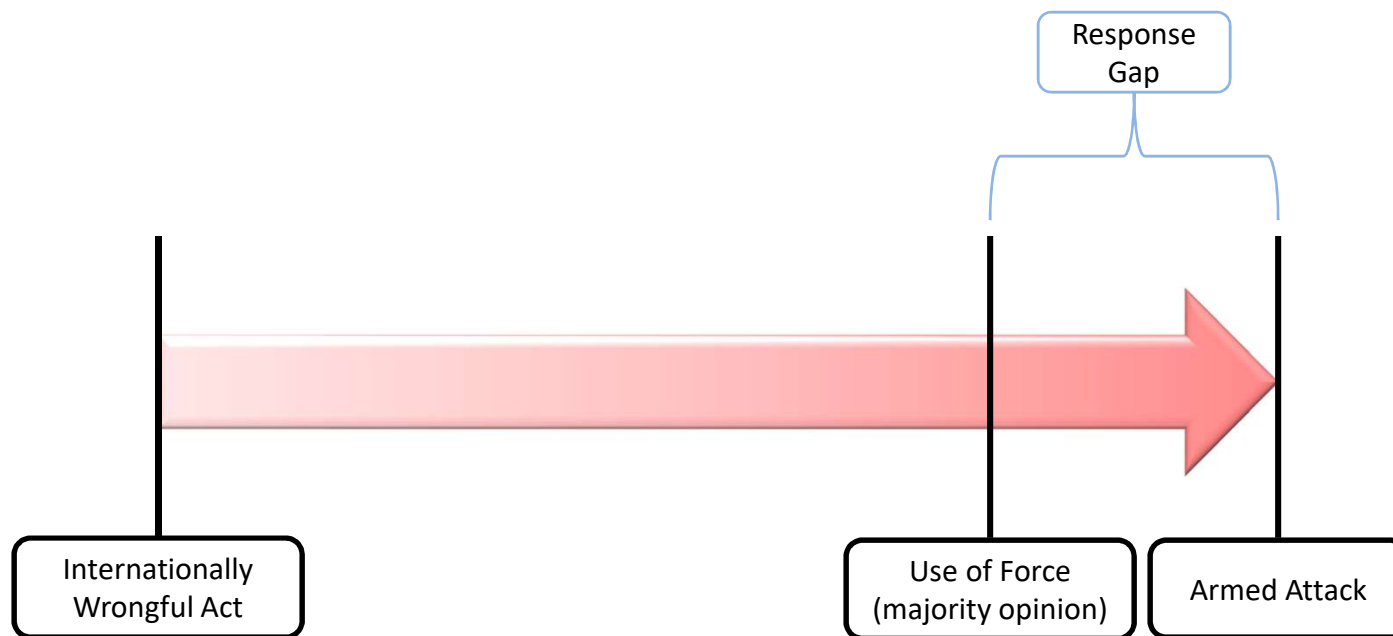


Black (or Gray) Letter Law of Space Conflict

- Armed attack (AA) → Self-defense
 - What is armed attack in space?
 - Are use of force and armed attack the same?
- Non-AA wrongful act → Countermeasures
 - Assorted countermeasures requirements
 - Proportional, non-forceful, constrained in time, reversible(?)

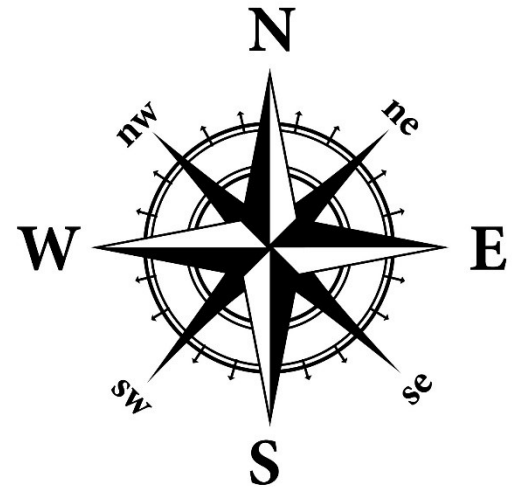
New(ish) Problems on the Final Frontier

- Time constraints
- Injury-centric proportionality
- Use of force response gap

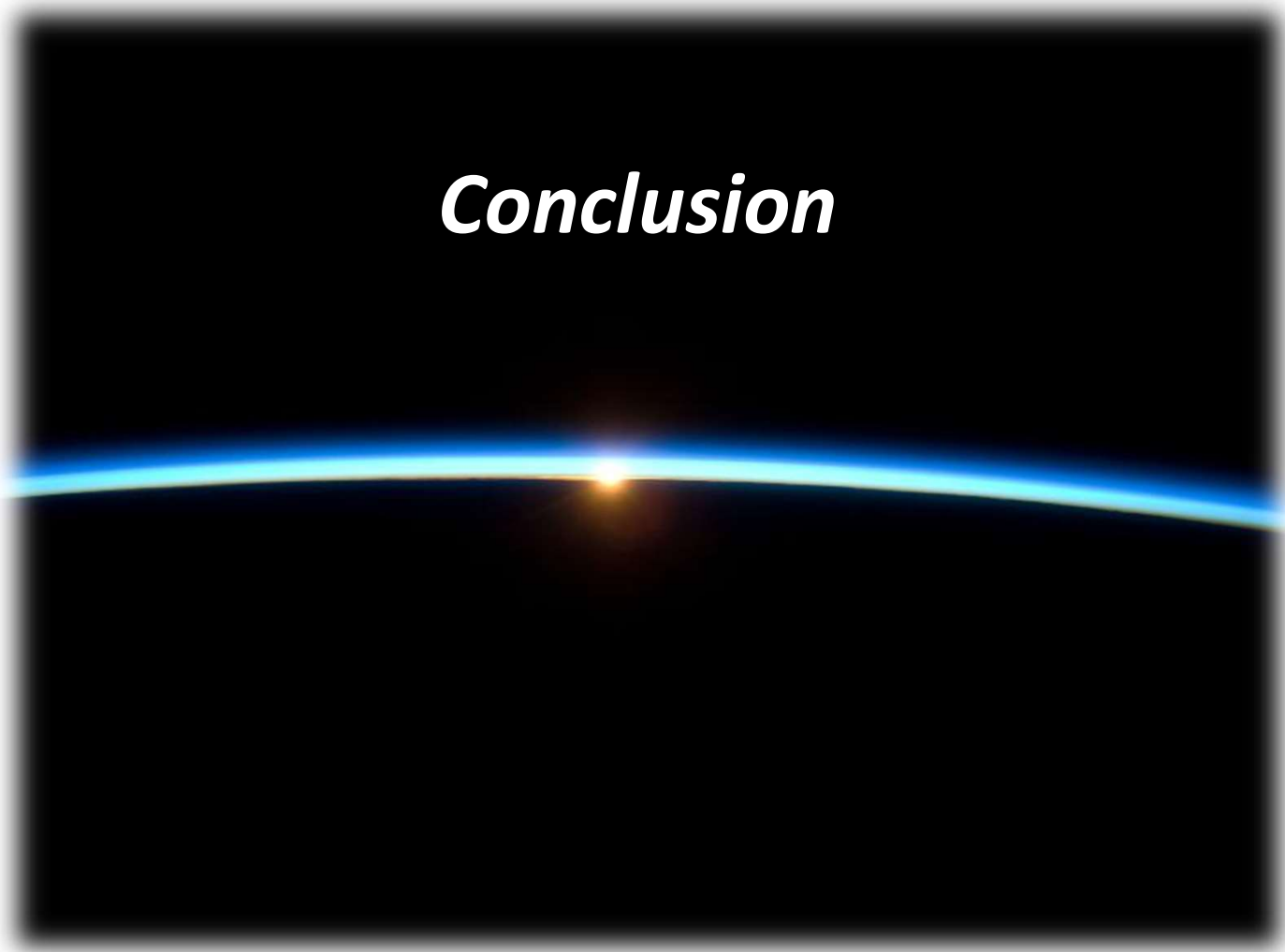


Where Do We Go from Here?

- Keep on keeping on, *or*
- Defensive counteractions
 - Objective-centric proportionality
 - Force in response to force
 - Looser time constraints
 - Possible long-term disabling of adverse assets
 - Restrictions in immediacy, targeting, and third party protections



Conclusion



Questions?

