

# How Space Power Theory Affects One's Deterrence Outlook

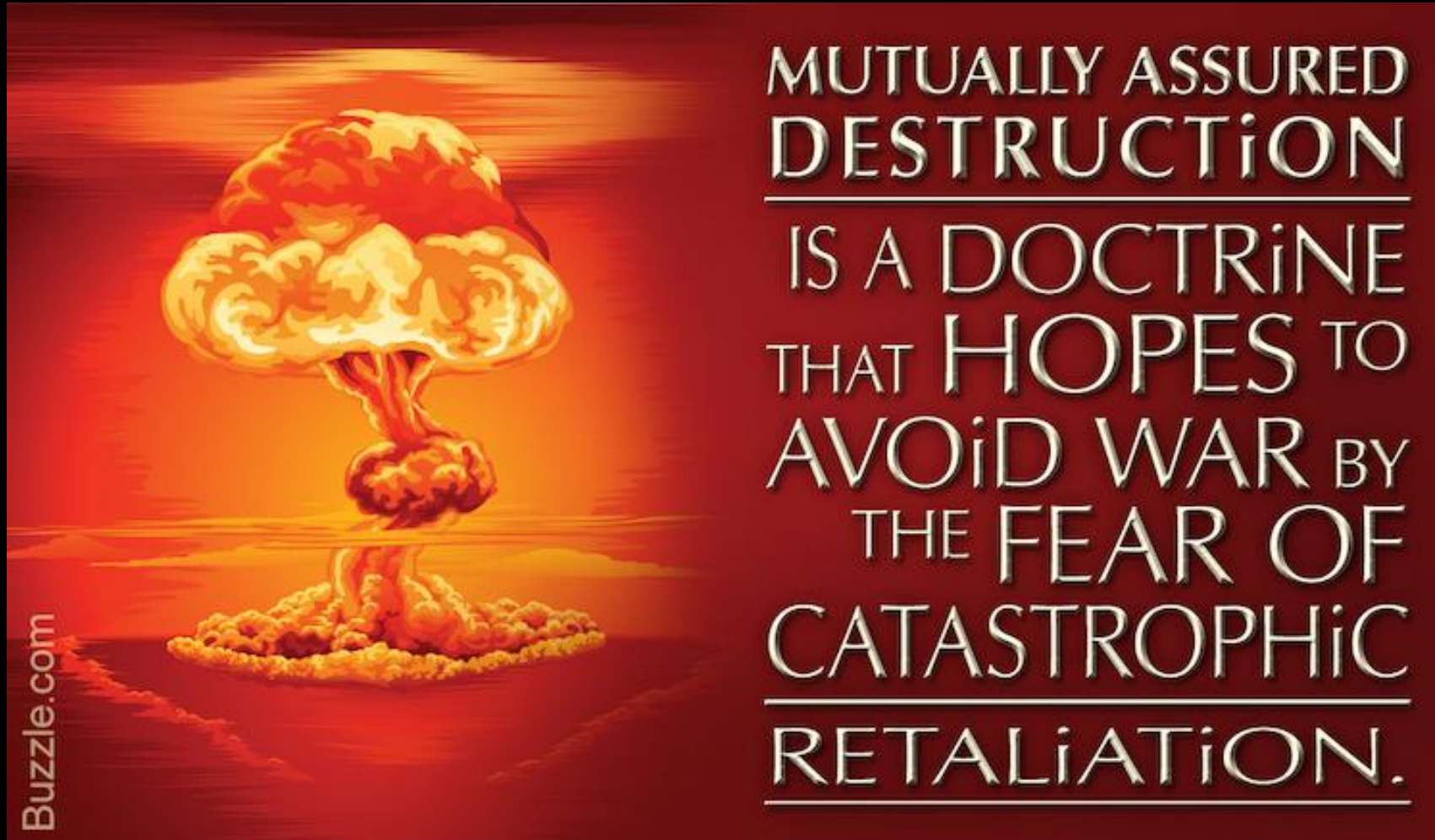
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# Thesis

- The mechanics of space deterrence have not been conclusively proven, but the current political consensus is based on **nuclear deterrence theory** – emphasizing stability and escalation.
- **Spacepower theory** offers a different perspective that provides almost diametrically opposed recommendations for space deterrence based on dynamism and limited war principles.
- **What theory you believe governs space warfare** will affect your outlook and recommendations on deterrence policy.

# Today's Space Deterrence is Based on Nuclear Thinking (Sanctuary School)



# The Sanctuary School of Space

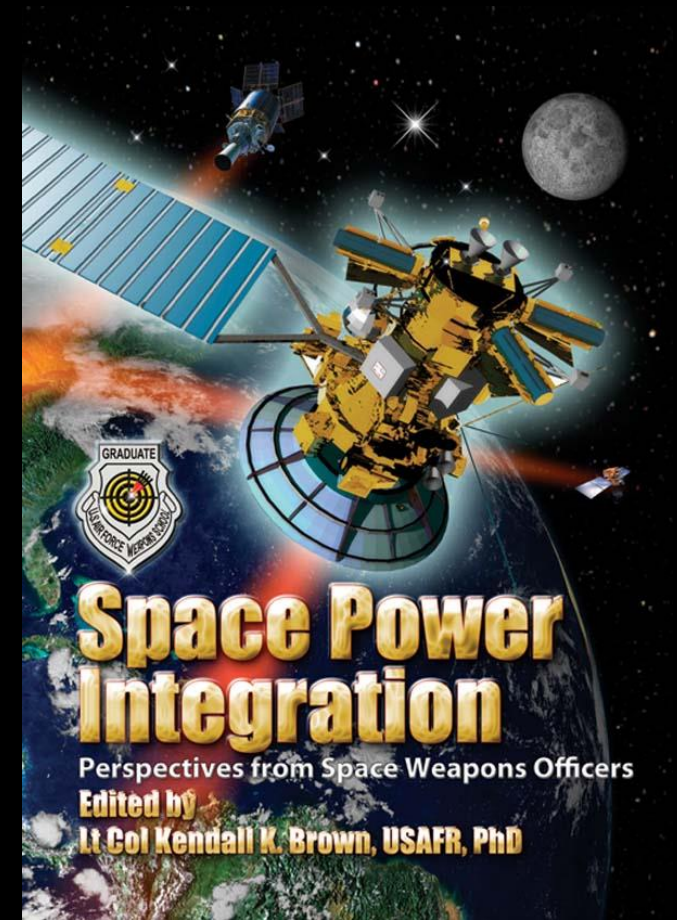
- 1980's – tied space warfare to nuclear warfare
  - At time, most space targets were part of the nuclear deterrent system
    - Nuclear Command and Control satellites
    - Missile Warning and “Spy” satellites
  - Space systems were inherently strategic
  - Attacking space systems provided no real conventional warfare advantage
  - Space war was only useful as a prelude to a nuclear first strike
- Space warfare was “unthinkable”





# 1990's Space as a Warfighting Domain

- Space systems evolved into operational/tactical systems and/or part of economic infrastructure.
- Space warfare moved from strategic (nuclear) focus to achieving operational/tactical advantages in conventional battlefield.
- Conventional space attacks now made sense in limited (non-nuclear) conflicts.
- Space warfare - jamming and interference - proliferated.



# But the Sanctuary School remains in policy today

- In the cyber and space domains, the **risk of inadvertent escalation** is particularly high due to unclear norms of behavior and **escalation thresholds, complex domain interactions**, and new capabilities. (NDS, 6)
- The PRC and Russia now pose more dangerous challenges to safety and security at home, even as terrorist threats persist. Both states are already using non-kinetic means against our defense industrial base and mobilization systems, as well as deploying counterspace capabilities that can **target our Global Positioning System** and other space-based capabilities that support military power and daily civilian life. (NDS, 5)
- “Escalation,” “Complex Domain Interactions” – all alarmist nuclear terms
- Note that even though GPS is now the avowed target, the assumption of inadvertent escalation from targeting N/C3 and MW systems remains.

# Cross Domain “Integrated” Deterrence

- The Department will employ an **integrated deterrence** approach that draws on tailored combinations of conventional, cyber, space, and information capabilities, together with the **unique deterrent effects of nuclear weapons**. (NDS, 10)
- “the credible ability to carry our retaliation [for attacks against space systems]... includes all elements of national power in any domain. It **need not, and should not, be limited to military actions in the space domain**.” – Director of Space Policy and Strategy Development, UnSecDef (Policy), 2010.
- Sanctuary School today in a nutshell: Space war is still “unthinkable” so US should do everything possible, including threaten nuclear retaliation, to ensure it doesn’t happen.
- Reversal of causation

# Spacepower Theory as an Alternative

- “The inherent value of space is the utility and access it provides, and this utility and access are enabled through celestial lines of communication.” pg 51
- “Celestial lines of communication are those lines of communication in and through space used for the movement of trade, materiel, supplies, personnel, spacecraft, electromagnetic transmissions, and some military effects.” pg 51
- the primary objective of space warfare is to protect and defend one’s own [celestial] lines of communications, while limiting the enemy’s ability to use his.” pg 51
- “Command of space entails the ability to ensure access and use of celestial lines of communications” pg 60



*Space Warfare: Strategy, Principles and Policy* by John Klein, 2006

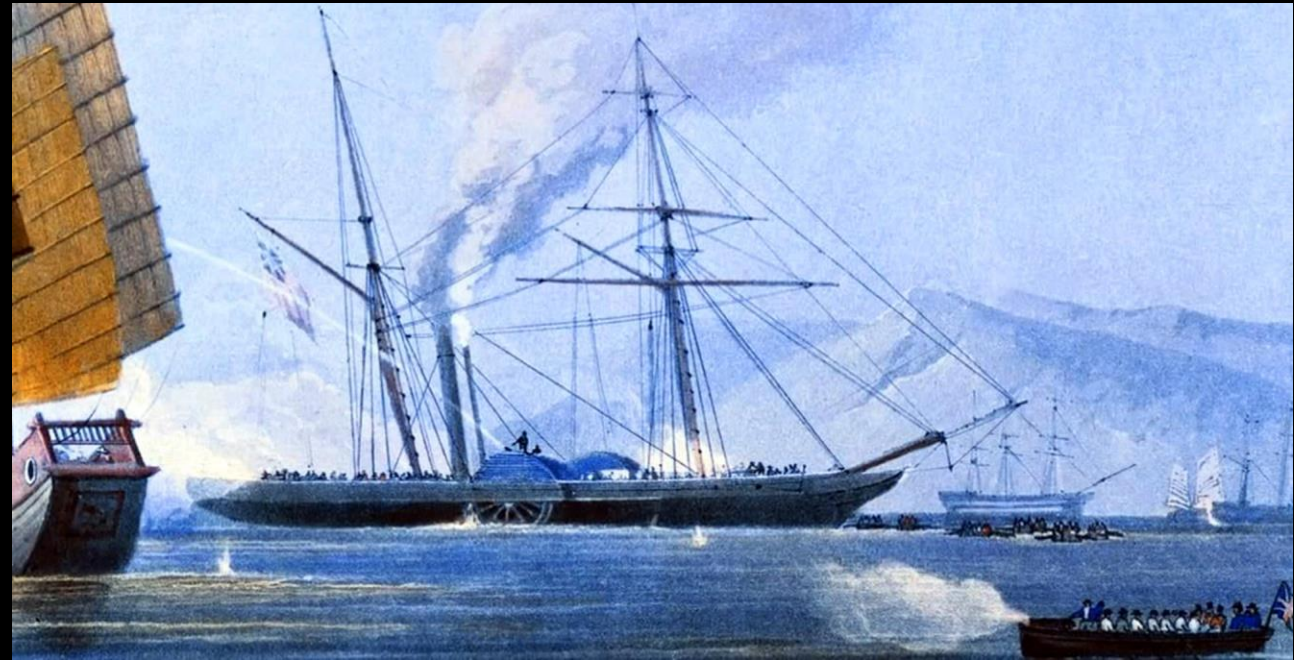


# Spacepower Theory Conclusions

- Space warfare is over control of CLOCs, a **form of limited war**
- No necessary escalation in space war because **it does not directly threaten a country's vital interior**
  - **Caveat:** Space to space weapons only for limited war, space to ground weapons may be against space warfare's nature and may be uniquely dangerous and counterproductive.
- Space warfare happen all the time (jamming, dazzling, proximity operations)
- Analogous to sea warfare over lines of communication, economic war
  - GPS is an economic target and degradation or even destruction would not endanger United States like an atomic or even conventional attack would.
- But about deterrence and dynamism..

# Conventional Deterrence and Naval Dynamism

- Pax Britannica in 1800s
- British Sea Superiority
  - Ships
  - People
  - Technology
  - Trade/Financial/Industrial Base
  - Political Support
- Limited Naval Campaigns prevented large European Wars for decades
- Dynamic improvements in technology, economy, tactics, strategy.
- No room for “stability” in anything but superiority



HEICS *Nemesis*, 1862

# Space Dynamism

- Physical destructive space warfare by satellite is highly questionable
  - Severe movement and maneuver deficiencies
  - Expensive and of extremely limited utility
- Do we need spacecraft before we see space war?



# Why is this Important?

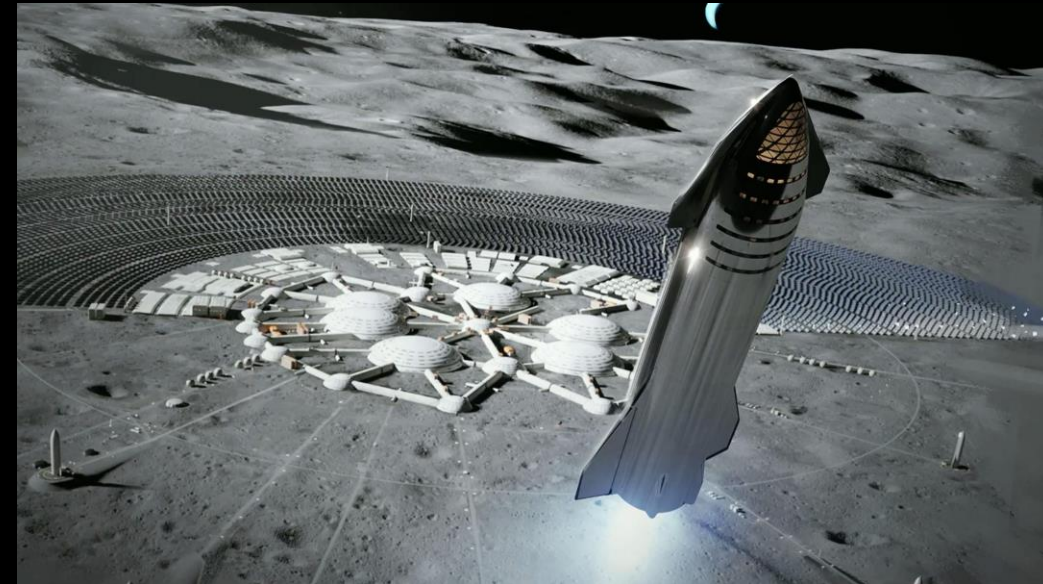
- SpaceX Starship and follow-ons
  - May bring true movement and maneuver on space battlefield
  - May have adaptable physical weaponry that can make space warfare economically and tactically viable





# Undeniable Space Warfare

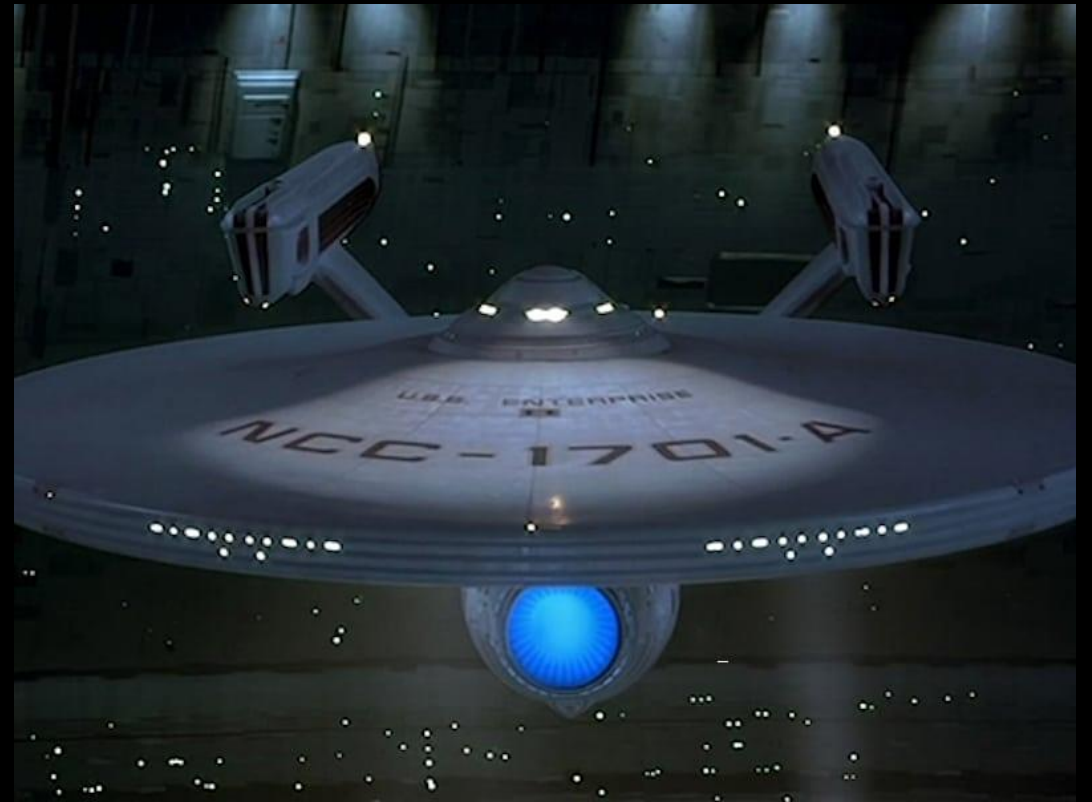
- What happens when there is an undeniable attack on a space asset?
  - Do we want Sanctuary thinking, centered on uncontrollable escalation, to be the deterrence theory of choice?
  - Spacepower theory suggests space war is limited war without uncontrollable escalation
  - Spacepower theory also allows for dynamism in domain without “stability” danger
- Spacepower Theory may a better foundation for space war analysis and sounder space deterrence policy than nuclear-style Sanctuary deterrence.





# How do you see space warfare and space deterrence?

- The answer may very well decide history.



Questions?

# “Balloon” versus “Airplane” Mentality

- Air Power in WW1
- No record of balloon or even zeppelin engagements in air war history
- Air warfare required airplanes



# Sanctuary Space Warfare “Truths”

- Space warfare is “unthinkable”
  - Rapid, uncontrollable escalation
- First Strike Stability essentially for deterrence
- Space is an offensive-dominant domain (advantages to first strike)
- Integrated deterrence necessary because there’s no space stick
  - Space weapons are uniquely horrifying (like nukes!)
  - \*\*Possibility for rapid escalation due to retaliation through other domains
    - A self-fulfilling prophecy?
- Because stability is important, dynamism in domain is discouraged