

# War in the Twenty-First Century

## Lecture Three

“I Do Not Know With What Weapons World War III Will Be Fought, But  
World War IV Will Be Fought With Sticks and Stones”

Tuesday, February 14

Historically, the cultures of nuclear war have varied from country to country



A strong US ally, since 1984 New Zealand has been a nuclear-free zone



During the Cold War, New Zealand would have been global refuge in case of nuclear Armageddon



The lethal bombing of the Rainbow Warrior, flagship of Greenpeace, carried out by agents of France's DGSE. The attack took place in the port of Auckland on July 10, 1985

Clockwise from left to right: President Xi Jinping (China), President Vladimir Putin (Russia), Supreme Leader Ali Khamenei (Iran), Prime Minister Narendra Modi (India), Prime Minister Shehbaz Sharif (Pakistan), Prime Minister Benjamin Netanyahu (Israel), Supreme Leader Kim Jong-un (North Korea)



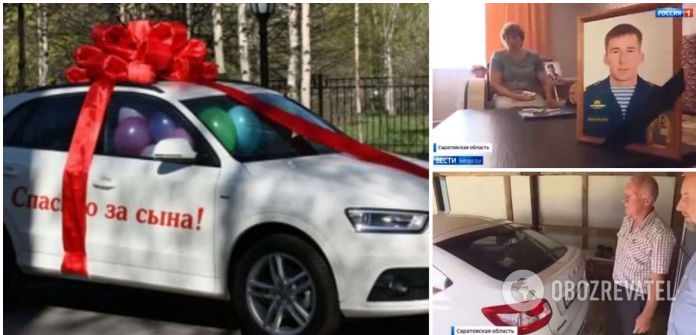
The Battle of Jutland (May 31—June 1, 1916) holds lessons about the combat deployment of tactical nuclear weapons



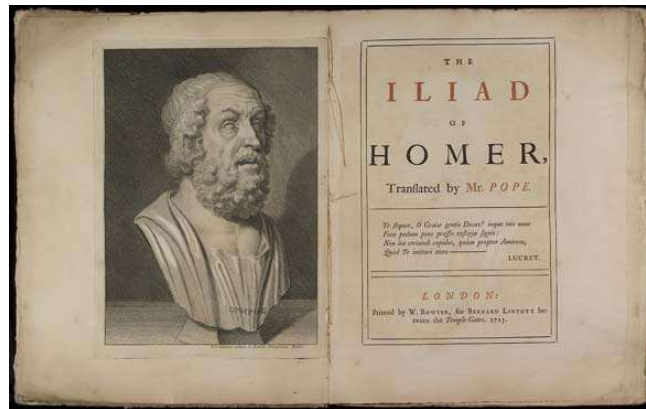
*Why We Fight* was a series of seven films produced by Frank Capra during World War II:  
[https://www.youtube.com/watch?v=wcAsIWfk\\_z4&list=PLugwVCjzrJsXwAiWBipTE9mTIFQC7H2rU](https://www.youtube.com/watch?v=wcAsIWfk_z4&list=PLugwVCjzrJsXwAiWBipTE9mTIFQC7H2rU)



In the public mind these days, war is fought *over there* by *someone else*. Civilian society remains remote from the realities of combat, except in the PR / propaganda / cultural sphere. This is as true of the United States as it is of China and even Russia. The latter's "Special Military Operation" is a striking example of the disconnect between the lives of the Russian people and the war that is fought in their name in Donbas and Zaporizhzhya

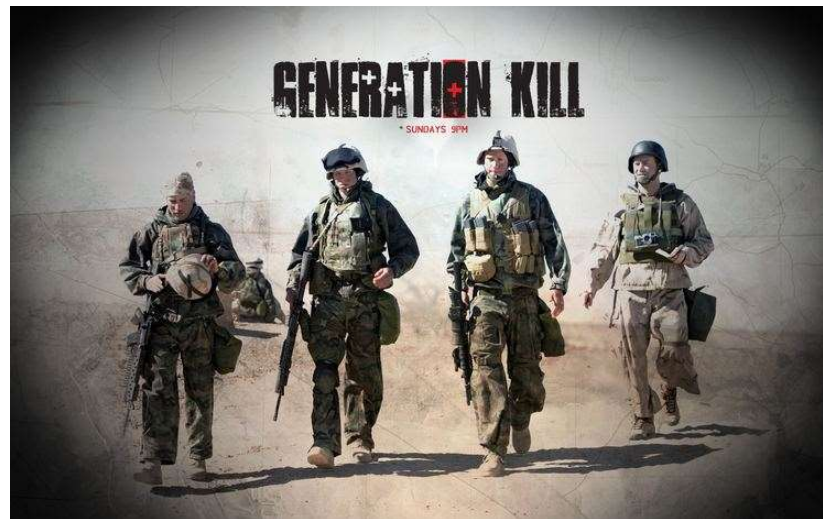
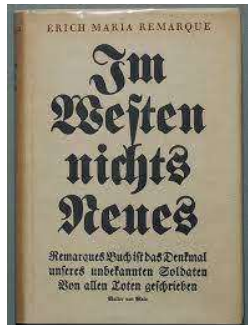


# The Iliad





World War I and its aftermath saw the emergence of explicitly antiwar poetry, prose, and film. The “good war” the Allies waged against the Axis was followed by deheroizing artistic treatments of combat in English, French, and even Russian. The Vietnam War and the second war in Iraq generated its own narratives of battlefield distress, particularly in film and on TV



Before World War I, combat was two-dimensional. That conflict extended it into the air, while the twenty-first century has seen the militarization of low-orbit space by the US, China, and Russia. This trend will continue, altering the conduct of military operations on earth



The US Space Force (founded 2019) descends from the Air Force Space Command, which was established in 1982

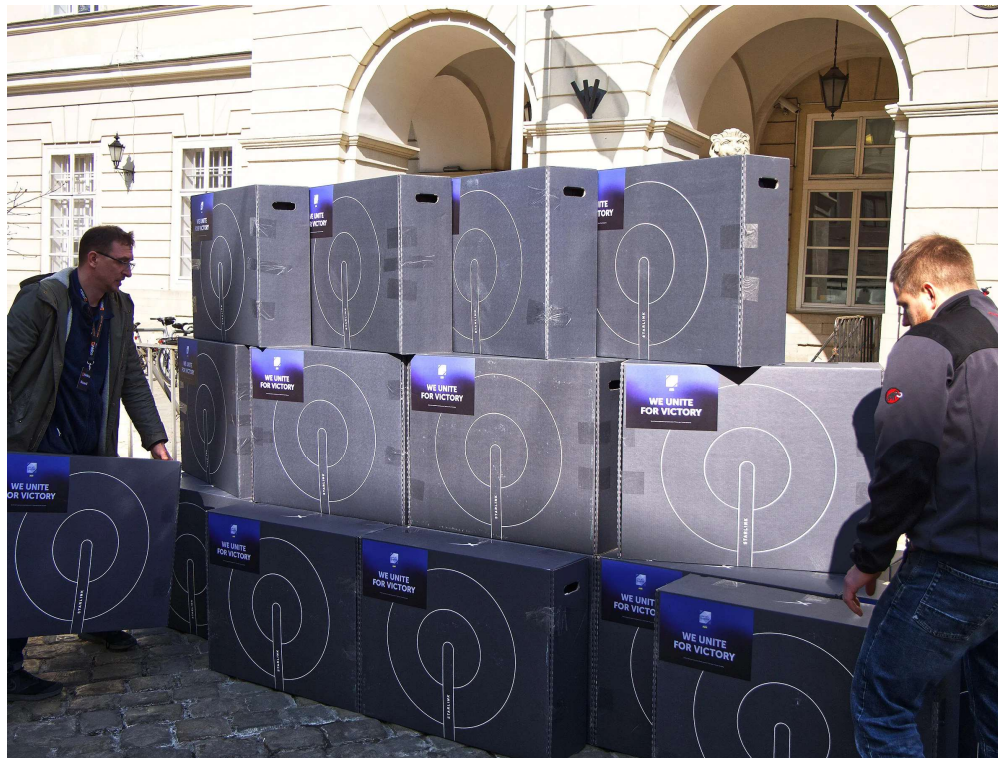


The Russian Space Forces (founded 2015)

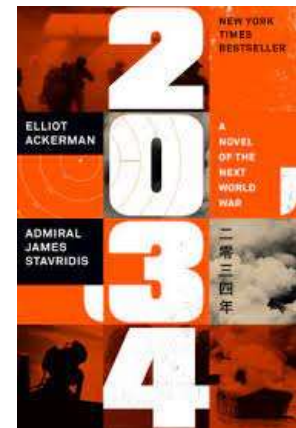
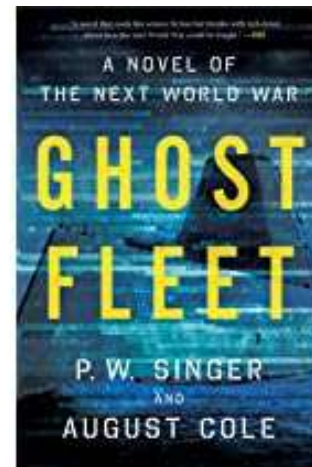
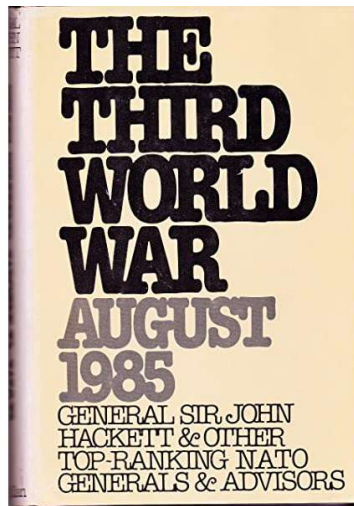


China's Strategic Support Force (founded 2015) comprises space, cyber, and psychological warfare branches

The Ukrainians' use of Elon Musk's Starlink satellite-based communication system has been remarkably effective. Image shows a consignment of Starlink dishes being delivered to the Ukrainian army. The use of low-cost, off-the-shelf technology is a feature of asymmetric warfare



## Military thrillers as a professional resource



SIGMA was founded by former White House Science Office member  
Arlan Andrews, Sr.

See: <http://www.sigmaforum.org>



“Sigma is a group of science fiction writers who offer futurism consulting to the United States government [...]. [...]. Most of us have earned PhDs in high tech fields and some presently hold Federal and defense industry positions. Each is an accomplished science fiction author who has postulated new technologies, new problems, and new Societies [...].”

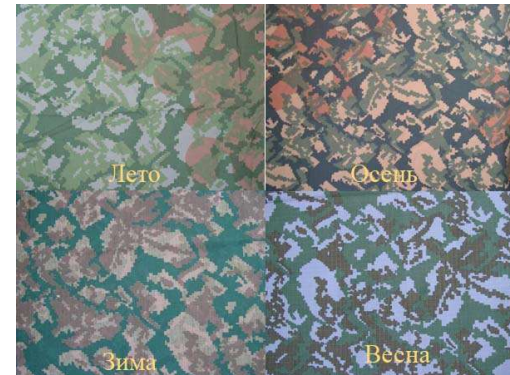
Prof. Shvanvich (Schwanwitsch) taught Stalin lepidoptery and helped the Red Army defeat Nazi Germany



Boris Shvanvich  
(1899-1957)



Prof. Shvanvich's grave  
in St. Petersburg



Soviet camouflage  
patterns in World War II  
(clockwise from top left:  
summer, autumn, spring,  
winter)

Fighting the last war, or, the perils of operational plagiarism.

On February 24, 2022 Russia attempted to mount a version of Operations Desert Storm and Iraqi Freedom. It did not work. In consequence, the Russian army reverted to its traditional, attritional manner of waging war.

NB: the principles of strategy never change, but operational and tactical methods evolved through the ages

“Shock and Awe”

Shaping the battlefield

Land- and sea-based cruise missiles

Deployment of special forces

“Light footprint” (associated with the 2003 Iraq war)

PMC’s (private military contractors)

Battalion-sized tactical groups

Pixelated camo patterns that are machine-engineered

Under Russian law, the Wagner Group should be illegal as it is a private military company. Its owner, “Putin’s Chef” Yevgeny Prigozhin, has emerged as an important political player. “Gordon Ramsey was not in charge of Blackwater” (Atomic Cherry, a Russian military affairs Telegram channel). That said, or quoted, the privatization of military action will be a central feature of twenty-first century warfare. In this regard, however, China may prove to be something of an exception...

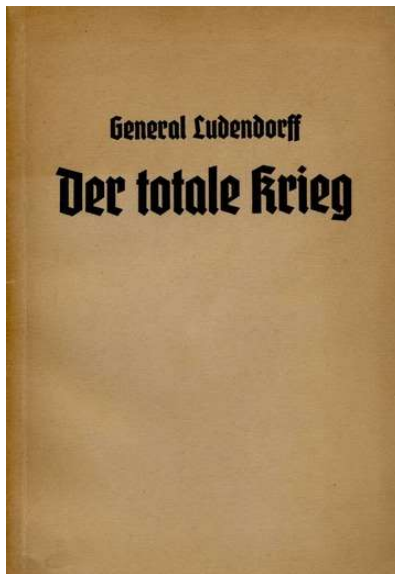




..because its privatization of the state's monopoly on violence is confined to PSCs (private security contractors). These images shows Tianzun Special Guard owner Wang Haichun leading a company exercise in Hangzhou, China in 2018 (on left), and posing with his employees in front of company headquarters (on right). As in the case of the Wagner Group or, earlier, America's Blackwater company (now operating as Constellis), private security or military work carries with it a certain aesthetic



## Total war and the three models of a war economy



**Soviet model:** Economic and human resources prepared and mobilized prior to start of military operations (World War II, Cold War)

**American model:** Said resources mobilized after military operations commence (Civil War, World Wars I & II, Korea; in the case of Vietnam, Iraq (twice), and Afghanistan, economic and human mobilization was partial and limited)

**Japanese model:** across-the-board integration of civilian population and the entire economy into the war effort (World War II)

**Takeaway for the twenty-first century:** A successful wartime economic policy will aim at imposing as minimal a burden as possible on the civilian sector and the country's population. Efficiency rather than size or scale!

# Tracking Santa Claus is harder than it seems!

Tots Foundation, Microsoft®, Microsoft Azure, Naden Band of Maritime Forces Pacific, Newsline360, Office Depot®, OnStar, Plantronics, Portable North Pole, Prefixa, Proactive, S4, SiriusXM®, Space Foundation, Strategic Air Command & Aerospace Museum, U.S. Air Force Band, U.S. Air Force Academy Band, U.S. Department of State Family Liaison Office, U.S. Olympic Committee, and Verizon.

The NORAD Tracks Santa website can be found at [www.noradsanta.org](http://www.noradsanta.org). On Dec. 24, users may call or text 1-877-HINORAD for Santa's up-to-date location.

The defense of Canada and the United States is NORAD's top priority. NORAD is on alert around the clock, every day. For 60 years, NORAD aircraft have identified and intercepted aircraft in the execution of NORAD's North American air sovereignty and air defense missions. Because NORAD is a binational command, our responses do not distinguish between the two nations and draw on forces from both countries.

- 30 -

*NOTE TO MEDIA MEMBERS: If interested in covering the NORAD Tracks Santa program, send requests to [NTSMedia@outlook.com](mailto:NTSMedia@outlook.com) or call (719) 554-6889. Also visit the NTS DVIDS page <http://www.dvidshub.net/feature/NORADTracksSanta> for B-roll video, photos and more.*

#### *Additional NORAD Tracks Santa details:*

*Starting at 2:01 a.m. EST on Dec. 24, website visitors can watch Santa make preparations for his flight. NORAD's "Santa Cams" will stream videos on the website as Santa makes his way over various locations. Then, at 6 a.m. EST, trackers worldwide can speak with a live phone operator to inquire as to Santa's whereabouts by dialing the toll-free number 1-877-HI-NORAD (1-877-446-6723), you can also text this number for automatic updates [standard data rates apply for non-Verizon customers]; by sending an email to [noradtracksanta@outlook.com](mailto:noradtracksanta@outlook.com) or by following the official NORAD Tracks Santa social media channels. Additionally, any time on Dec. 24, Amazon Alexa users can ask for Santa's location through the NORAD Tracks Santa skill for Amazon Alexa, and OnStar members can push the blue OnStar button in their vehicles to locate Santa. Bing users can also find Santa's location on Dec. 24.*

*Featuring Santa's North Pole Village, the website includes a holiday countdown, games, activities, information regarding NORAD's mission of Homeland Defense, and more. The website is available in eight languages: English, French, Spanish, German, Italian, Japanese, Portuguese and Chinese. Tracking opportunities are also offered through social media on Facebook, Twitter, YouTube and Instagram.*

*Public signups to work in the NORAD Tracks Santa operations center and receive calls from children around the world are currently ongoing. Anyone interested in volunteering to take calls must be older than 15 years of age and be able to travel to Peterson Air Force Base in Colorado Springs, Colo. on Dec. 24. Interested individuals can sign up until Dec. 12 at: <https://2018SantaTrackerVolunteer.us.me>*



**NORTH AMERICAN AEROSPACE DEFENSE COMMAND  
AND  
UNITED STATES NORTHERN COMMAND**



**PRESS RELEASE  
Immediate**

**February 2, 2023**

## **NORAD & U.S. Northern Command Statement on the High-Altitude Surveillance Balloon**

The United States Government has detected and is tracking a high altitude surveillance balloon that is over the continental United States right now. The North American Aerospace Defense Command (NORAD) continues to track and monitor it closely. The NORAD commander, Gen. Glen VanHerck, assesses the balloon does not present a military or physical threat to people on the ground at this time. The balloon is currently traveling at altitude well above commercial air traffic.

## Nato Secretary General Jens Stoltenberg's warning of Monday, February 13



“It is clear that we are in the race of logistics. Key capabilities like ammunition [ . . . ] must reach Ukraine before Russia can seize the initiative on the battlefield.”

“A war of attrition becomes a battle of logistics.”

In most NATO armies, the standard ammunition load for an infantryman is 210 rounds of the 5.56 x 45 mm cartridge = seven magazines. Actual loads will vary depending on weapons or equipment carried by the soldier, or the nature of the mission



In the second Iraq war it took, on average, 300K rounds of ammunition to kill one insurgent



The Lake City Army Ammunition Plant in Independence, MO is the single largest manufacturer of small caliber ammunition for the US Armed Forces. Current production capacity: + 1,6B rounds per year

The GAO/NSIAD-95-89 “Inventory and Requirements for Artillery Projectiles” report (1995) stated that the United States had a manufacturing capacity of 450,000 artillery shells per month. Currently this is much lower. Yet the Russia-Ukraine war has shown that shortages of artillery ordnance and missiles will severely degrade combat performance. According to Western sources, the Ukrainian army expends 3000-6000 artillery rounds a day, about a third of Russia’s estimated expenditure. The Pentagon says that as of January 2023, the United States had sent Ukraine over 1M 155 mm rounds alone

The US is now supplying the  
M777 howitzer to Ukraine



See also Fact Sheet on US Security Assistance to Ukraine of January 23, 2023:  
<https://media.defense.gov/2023/Jan/25/2003149684/-1/-1/1/UKRAINE-FACT-SHEET-JAN-25.PDF>

“Artillery is the god of war”  
(Joseph Stalin, in 1944)



Russian artillery has traditionally been of high quality, going back to the Napoleonic wars. During World War II, the Red Army relied, to a much greater extent than the Axis or the Allies, on the deployment of massed artillery at the level of the army and Front (army group): a World War I operational practice adapted for the mechanized war of maneuver on the Eastern Front. The other operational skill the Red Army displayed was *maskirovka*, or military deception: see Operation Uranus (the Battle of Stalingrad) or Operation Bagration (the destruction of Army Group Center in June-July 1944). In Ukraine, the Russians have attempted to use both artillery and *maskirovka*, with mixed results. The Ukrainians, whose armed forces, like those of Russia, are descended from the Red Army, have shown themselves to be much better at using both



# Joint force capabilities

The coming together of assets and resources from different service branches, which produces synergies, improves efficiency, and avoids duplication. US military doctrine defines joint operations as comprising: C2 (Command and Control), information, intelligence, fires, movement and maneuver, protection, and sustainment

Example: ARSOF, or the US Army Special Operations Command

**ARSOF 2022**  
U.S. ARMY SPECIAL OPERATIONS COMMAND

**FOUNDATIONAL CONCEPTS FOR ARSOF**

USASOC generates two different but mutually supporting forms of special operations:

- Special Warfare:**
  - Organized to provide the ability to conduct operations in the most sensitive and complex environments.
  - Units capable of conducting complex, sensitive and irregular operations in denied areas.
  - Units based on assigned, organic, available, and allocated special operations soldier capability.
  - Units based on assigned, organic, available, and allocated special operations soldier capability.
- Surgical Strike:**
  - Units based on assigned, organic, available, and allocated special operations soldier capability.
  - Units based on assigned, organic, available, and allocated special operations soldier capability.

**ARSOF 2022 PRIORITIES**

- INVEST IN HUMAN CAPITAL:** USASOC fields a diverse, regionally expert force with the world's best trained and allocated special operations soldier capability to address uncertainty.
- OPTIMIZE ROYCE/JAIN INTERDEPENDENCE:** USASOC optimizes the force multiplying potential of partnership with the Army and interagency to provide the nation with seamless combat power.
- OPERATIONALIZE THE COMBAT BASE:** Regionally expert forces provide continuous, proactive and responsive support to forward deployed forces.
- INTEGRATE SOF CAPABILITY AT OPERATIONAL LEVEL:** USASOC forces provide expertise to enable operational-level responders in their effort to be tactical capabilities to regional or national strategies.
- FACILITATE SOF MISSION COMMAND:** ARSOF have developed and validated flexible, scalable and responsive distributed command and control structures.
- OPTIMIZE RESOURCES AND COMMUNITY ABILITIES:** USASOC will continue to portfolio write getting better, not bigger.

**ARSOF 2022 USASOC Commander's Vision** Provide our nation the world's premier special operations units, capable of prosecuting the most sensitive special warfare campaigns and executing the most difficult surgical strike operations, while providing seamless and persistent special operations support to joint-force commanders worldwide.

**Commander's Intent:** USASOC matches the Army SOF profession, addresses capability gaps and improves integration at the 'seams' to better enable seamless application of combat power across the spectrum of responsibility.

**FUTURE FORCE DEVELOPMENT PROCESS:** Execute a deliberate and methodical way to change. Build and test concepts that define how ARSOF will fight in the future. USASOC develops the future force through mutually supporting processes that are fully integrated into broader Army and USSOCOM processes.

**SOI CAMPAIGN OF LEARNING:** Develop ARSOF concepts, validate through robust experimentation. Inform CBA and PCAM processes. Integrate with Army and USSOCOM. Execute workshops, seminars and other learning events. Link science & technology efforts. Partner with industry & academia.

**STRATEGIC PLANNING PROCESS:** Provide operational focus and prioritize required capabilities. Identify gaps and mitigation strategies, balance portfolios and S&T investment opportunities. Integrate and allocate resource guidance to put capabilities in the hands of the operator.

**USASOC is the preponent for a segment of the U.S. Army's Range of Military Operations:**

Human Domain | 7th WFF / Engagement | Land Domain

Army Special Operations Force Core Competency | Army Conventional Force Core Competency

UW / CT / CP | COIN / SFA / FID | Combined Arms Maneuver

USASOC | TRADOC | FORSCOM

Army Foundational Activities