

The Second Seal – A Red Horse (Wars)

Warfare Technology and the Nature of Modern Warfare

Warfare Technology

- The mercenary forces of the 16th and 17th century seldom surpassed 20,000-30,000.
- The 17th century nationalized armies doubled and tripled in size; Napoleon mobilized about 1,000,000.
- In the 17th century, there was rarely one artillery piece for 1,000 armed men. By 1709, there were usually two or three.
- In 1916 the French massed 2,000 guns on 10 kilometres of front.
- In 1942-3, at Stalingrad, the Russians assembled 4,000 guns in 4 kilometres.
- In the 18th century the average size of a large field army was 47,000.
- In the U.S. Civil War (1861-65), the federal army reached a maximum size of 622,000.
- In WWI, over 63,000,000 men were mobilized and at least 8,500,000 killed.
- In WWII, the total mobilized was about 107,000,000. (Battle casualties don't include over 100 million killed by Stalin or Hitler in death camps or equivalent)
- WWI conflict domains remained historically limited and territorial.
- WWII introduced global conflict.
- Current strategic horizon involves TRIADS: land-based missiles, submarine missiles, and bombers.
- WWII will certainly involve space assets.
- 20th century has also been deemed the bloodiest century in history.
- Final confrontation: hyper-dimensional - General Douglas MacArthur and President Reagan have both so declared in public statements.
- Wars (and other prophetic events) always seem to come in "spurts" and with increasing intensity, like "birth pangs"...
- Technology has accelerated confrontations. Battles are won and lost, in advance, on the drawing boards years earlier. Electronic countermeasures are a key technology.
- In the movie Top Gun, the critical engagement was "over in three minutes..."
- Today: Standing armies, professional military, heritage and traditions – all have been prostituted in our current administrations.
- Advent of "strategic" weapons: Atomic bombs still involve a "point" target; thermonuclear bombs are a wide-area weapon.
- Also EMP (Electromagnetic Pulse), neutron bombs, biological weapons
- This is now exacerbated by the advent of inexpensive chemical/biological weapons and the deniability that accompanies small rogue terrorist groups.

The Nature of Modern Conflicts

- The ground blast of a relatively small one-megaton bomb hitting a city of 1,000,000 would leave almost half injured and one-fourth of the buildings unusable. A standard four-megaton bomb would leave a 30-mile crater in which even the building materials would be unidentifiable (ionization).
- Today, intercontinental ballistic missiles can reach anywhere in the world in less than the time of this talk; from orbit, in a matter of minutes. Casualties of a full-scale exchange have been estimated at about half the population.
- Soviet doctrine: Advantage of surprise = First Strike. JCS confirmed.
- U.S. policy: to endure a first strike: Reckless endangerment of the American people.

- For a deterrent to be effective, it has to be credible. That is more than a technical assessment of the systems involved; it includes the credibility of the decision maker. Brinkmanship confrontations have already occurred (1962 Cuban Missile Crisis). Putin now believes he can survive an exchange.

Technology Trends

- Trans-Humanism: Super-Soldiers
 - Stealth
 - Airborne
 - Ground
- Robo-Wars
 - Predators under remote control (AI)
 - Aircraft carriers: C130 + Predators & Return
 - Predator Robots in Afghanistan were being piloted from Langley Virginia and Florida.
- Stealth bombers are now also remotely piloted from aircraft carriers.
- Drones are now able to be launched from airborne carriers and then retrieved after their missions.
- Reversal of economies of scale:
 - Miniaturization
 - EMP Vulnerabilities
- EMP – The nemesis of our electronic world:
 - Nuclear Threat
 - Intercepted email among Russian officers says... 20 km range of portable weapons... disables car batteries, et al. [plus all microelectronics...]

The Vulnerability Today

- Israel is known as a “one bomb” target.
- So is the United States (and most nations):
 - Just one bomb, delivered at high altitude, could plunge the United States back to the 19th century!
- No telecommunications
- No Power (not just for hours or days...)
- No water, food, sanitation in major cities
- No law enforcement...
- No recovery plan could then be installed...
- How do you get an ambulance to the hospital if the signals aren't working?
- What will prevent looting and other crimes of violence?
- How do you get food to the stores if the trucks aren't working?
- How do you cope with
 - No phones...
 - No power...
 - No water...
- The EMP Commission estimated that within 12 months of a nationwide blackout, up to 90% of the U.S. population could possibly perish from starvation, disease and societal breakdown.
- There is plenty of data – but no sense of urgency
- An off-the-shelf nominal warhead, launched in an off-the-shelf medium range missile, from 200 miles off-shore from a container ship (accuracy doesn't matter: altitude does) could reach over Cincinnati or Indianapolis, and thus reach 70% of the US population.