Opportunities and Perils in the Command of Space

Lt Col Lionel D. Alford, Jr.
HQ AFMC/DOX
lionel.alford@wpafb.af.mil

Disclaimer

The views expressed in this paper represent the personal views of the author and are not necessarily the views of the Department of Defense or of the Department of the Air Force

Introduction

- 18 September 1947, birth of USAF
  - AF unique vision--use of atmosphere and aviation technology to wage strategic warfare
- US faces similar decision about space
  - How to use space to wage war?
  - How to organize forces to wage war from space?
- Question now: AF or Space Force

Overview

- Historical Parallels
- Technological Parallels
- Strategic Parallels
- The Dilemma
- One Answer
- Recommendations
- Summary

Historical Parallels - WWI

- WWI - aircraft (balloons, Zeppelins, airplanes)
  - Observation - eyes for ground commander
  - Artillery direction

Historical Parallels - WWII

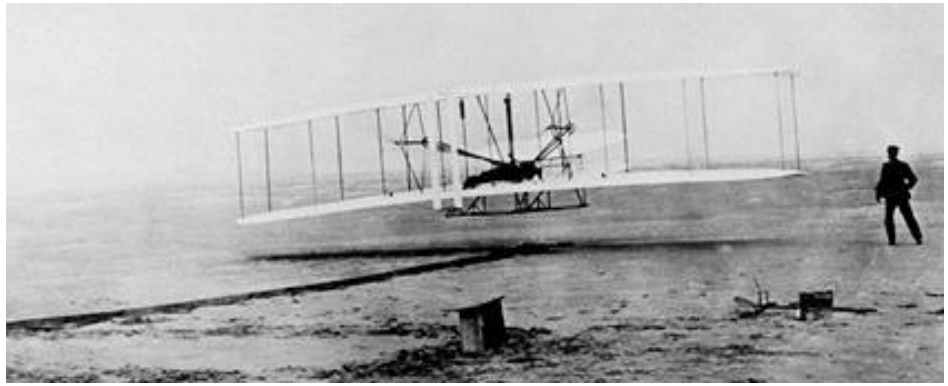
- Tactical Airforces
  - Blitzkrieg tactics
  - Interdiction
  - Close air support
- Strategic Bombing
- Observation and Reconnaissance still critical, but ancillary to offensive mission

Historical Parallels - Today

- Space systems parallel early aviation
  - Space platforms - satellites
  - Reconnaissance and communications
  - Current space assets--balloons and Zeppelins
- Spacecraft analogue to airplane will change high ground of space
  - Current space platforms will become as obsolete as balloons and Zeppelins

Technological Parallels- Beginning

- Wright brothers' first aircraft
  - Powered glider
  - Used assisted launch platform
  - Landed on skids
  - Reusable, but useless without launch facility



Technological Parallels

- Airplanes generally still require launch and recovery facility (a runway)
- Current operational space vehicles takeoff with an assisted launch and recover (when they recover) in unpowered flight as a glider or via parachute.

Technological Parallels

Technological Parallels

- “Fire and maneuver” in space a double-edged sword
  - hypersonic flight
  - zero speed flight
- Realm of zero speed merges with zero power
  - helicopters
  - vertical takeoff and landing (VTOL)
  - gliders

Technological Parallels

- Space access and recovery systems remain in the low/zero speed realm
  - Shuttle is a glider
  - Roton uses helicopter reentry
  - Space lifeboat uses paraglider concept
  - Low cost to space are all VTOL

Technological Parallels

- Hypersonic technology critical to space "fire and maneuver"
- Space force must master the high speed and the low speed regimes

Strategic Parallels

- Parallel characteristics relate advent of air power to advent of space power
- Space Force will come into being
  - US Space Command
  - Air Force
- Which should form our Space Force
  - History--the Space Force=US Space Command
  - History is similar, but “it just ain’t the same”

Strategic Parallels-Signal Corps

- US Space Command historically analogous to Army Signal Corps
  - Aircraft for communications and observation
  - Led US into WWI with most advanced fleet of balloons and dirigibles
  - balloons and dirigibles were largely obsolete
  - US did not possess single battle-worthy aircraft
  - Wright brothers invented the aircraft, no US built airplane participated in WWI

Strategic Parallels-Air Corps

- AF historically analogous to Army Air Corps
  - Vision of strategic warfare drove planning and acquisitions
  - Almost made same mistake: did not possess a state-of-the-art fighter
  - Owned world's best bombers
  - Possessed infrastructure to recover

Strategic Parallels

- Signal Corps
  - Exploited high ground without offensive vision
- Air Corps
  - Viewed atmosphere and aircraft as more than improved communications and observation
  - Envisioned new method of warfare--strategic bombing forever changed face of war
  - Captured high ground and took fight to enemy

Strategic Parallels

- Difference between approach of Signal Corps and Air Corps
  - Fire and maneuver,
  - Principles of offense
- Air Corps' approach succeeded
- Air Corps vision won right to form new service—the US Air Force.

Strategic Parallels-Space Com

- US Space Command approaching space same way Signal Corps approached aviation
  - Observation and communications
  - Space “fire and maneuver” policy advanced static defense systems (like AAA for balloons)
  - Few imagine future hypersonic spacecraft
  - Powered hypersonic spacecraft certain
  - Not staffed or prepared to accept “fire and maneuver” mission

Strategic Parallels-Air Force

- Air Force manned and prepared to accept space mission
  - Hypersonic spacecraft will fill chasm between space shuttle and aircraft
  - Experienced in tactical and strategic air power
  - Can take fight to enemy
  - Already press invisible boundary between air and space

Strategic Parallels-Comparison

- US Space Command possesses mission and mindset of a Space Force
- Air Force
  - Does not think of itself as Aerospace Force
  - Has not trained people in space warfare
  - Many United States Government don't view AF as air and space force
- Problem one of perception and training

The Dilemma

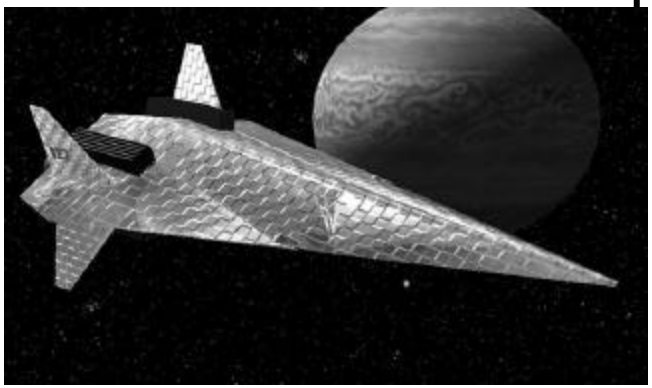
- Historically analogous question about space power asked about air power in 1947
- Factors that led to Air Force
  - end of WWII
  - nuclear bomb
  - beginning of Cold War
- Wrong decision about space power could cost us world leadership or next war

One Answer

- Because AF manned, equipped, and likely to focus the Space Force in “fire and maneuver,” it should lead the United States military into space
- How do we make this happen?
- Must convince policymakers and public that AF is ready and willing to accept this role

Recommendations

1. AF change its name to Aerospace Force
2. Aerospace Force must look like Space Force
3. Aerospace Force explore realm of zero speed/power flight
4. Aerospace Force reestablish leadership in hypersonic and space R&D
5. Aerospace Force lean forward toward space

Summary

- We stand at a critical decision point
- History gives us clairvoyant view
- Mistake may cost us world leadership or next war
- We should make AF our Aerospace Force