Project Genesis, TOR, and Study Design

- 2005 QDR
- Feb 06 OSD Letter with TOR to NDU
- Study Design
  - Yearlong effort: due Jun 07
  - Seminars, Workshops, Conferences
  - Product: Two Books
    - Volume I: Concise Spacepower Theory
    - Volume II: Comprehensive Spacepower Theory
Seminars During Summer 2006

- Dennis Wingo: *Innovative Commercial Approaches to Space*
- Klaus Heiss: Strategic Importance of the Moon
- Joanne Gabrynowicz: *Space Law and Spacepower*
- Peter Teets: *National Security Space in the 21st Century*
- Roger Launius: *Exploration, Leadership, and Spacepower*
- Jon Sumida: *Mahan on Spacepower*
- Colin Gray: *Strategy and Spacepower Theory*
- Scott Pace: *Thoughts on Spacepower*
- Alex Roland: *Strategy, Spaceflight, and Spacepower*
- Karl Mueller: *Depolarizing the Space Weaponization Debate*
- John Logsdon: *Human Spaceflight and Spacepower*
- Theresa Hitchens: *International Perspectives of Spacepower*
- Phillip Baines: *Non-offensive Defenses in Space*
- Everett Dolman: *Astropolitik: Classical Geopolitics in the Space Age*
- Hal Winton: *On the Nature of Theory*
- Michael O’Hanlon: *Hedging Strategies: Neither Star Wars nor Sanctuary*
- Hank Cooper: *Missile Defense, the Space Connection and the 21st Century*
1st Workshop: Merchants and Guardians

Government’s Role in Regulating, Licensing and Incentivizing Space Activity

- NDU; 31 October 2006
- Approximately 40-50 attendees consisting of government and non-government experts
- Roundtable discussion
- Agenda included four panels:
  - Panel 1 - Space Exploration: The Case for Public and Private Ventures
  - Panel 2 - Current Commercial Space Activity: Incentives and Impediments
  - Panel 3 - Crafting Laws and Policy to Facilitate Space Commerce and Exploration
  - Panel 4 - Government as Regulator: The Good, the Bad, and the Ugly
2nd Workshop: *International Perspectives*

- NDU; 4-5 December 2006
- Approximately 50-60 attendees with a strong international presence
- Roundtable discussion
- Agenda Included
  - Panel 1 - Major Space Actors
  - Panel 2 - Emerging Space Powers
  - Panel 3 - Non-State Actors
  - Panel 4 - Synthesis: Spacepower and the Interrelation of US, International and Non-State Actors in Space
Spacepower Theory: Volume II

VOLUME II CHAPTERS AND AUTHORS

Foreword: Implications of Spacepower for Geopolitics and Grand Strategy

Section I: Introduction to Spacepower Theory
   Chapter 1: On the Nature of Theory: Harold R. Winton
   Chapter 3: Landpower, Seapower, and Spacepower: John M. Collins
   Chapter 4: Airpower, Cyberpower, and Spacepower: Benjamin S. Lambeth

Section II: Spacepower and Geopolitics
   Chapter 5: Orbital Terrain and Space Physics: Martin E.B. France & Jerry Jon Sellers
   Chapter 6: Space Law and Governance Structures: Joanne Irene Gabrynowicz
   Chapter 7: Building on Previous Spacepower Theory: Colin S. Gray & John B. Sheldon

Section III: Commercial Space Perspectives
   Chapter 8: History of Commercial Space Activity and Spacepower: Henry R. Hertzfeld
   Chapter 9: Commercial Space Industry and Markets: Joseph Fuller, Jr.
   Chapter 10: Merchants and Guardians: Scott Pace
   Chapter 11: Innovative Approaches to Commercial Space: Ivan Bekey

Section IV: Civil Space Perspectives
   Chapter 12: History of Civil Space Activity and Spacepower: Roger D. Launius
   Chapter 13: Affordable and Responsive Space Systems: Sir Martin Sweeting
   Chapter 14: Human and Robotic Exploration: Howard E. McCurdy
   Chapter 15: Competing Visions for Exploration: Klaus P. Heiss & Dennis R. Wingo; Robert Zubrin
Section V: Security Space Perspectives
- Chapter 16: History of Security Space Activity and Spacepower: James Lewis
- Chapter 17: Increasing the Military Uses of Space: Henry F. Cooper, Jr. & Everett C. Dolman
- Chapter 19: Balancing Security Interests: Michael E. O’Hanlon

Section VI: International Perspectives
- Chapter 20: Russia: James E. Oberg
- Chapter 21: China: Dean Cheng
- Chapter 22: Europe: Xavier Pasco
- Chapter 23: Emerging Actors: Randall R. Correll

Section VII: Evolving Futures for Spacepower
- Chapter 24: Evolving U.S. Structures: John M. Logsdon
- Chapter 25: Evolving International Structures: Dana J. Johnson
- Chapter 26: Technological and Bureaucratic Drivers for Spacepower: Taylor Dinerman
- Chapter 27: Building Human Capital for Spacepower: S. Peter Worden

Afterword: The Future of Spacepower:

Appendixes
- Space Law: Outer Space Treaty, Registration Convention, Rescue and Return Agreement, Liability Convention, Moon Treaty, PAROS Proposals, IADC
- Orbits and Orbital Mechanics
- Basics of Space System Design
- Possibly Bibliographic Essay, Annotated Bibliography (assembled from COP), and Comprehensive Bibliography
Requirements for Concise Spacepower Theory

➢ Volume I should:
  – Account for the structure of the field:
    • the divergent world views of each sector and
    • the dynamics of their interactions.
  – Define the boundary conditions of the theory:
    • Cis-Lunar space as opposed to all of space
    • International perceptions of spacepower and their effect on US policy
  – Ask the key, fundamental questions regarding the uses and purposes of space to extract underlying principles.
    • Question hypotheses and present conditions.
    • Test counterfactuals.
  – Construct a framework that integrates divergent points of view and takes into account potential future scenarios.

➢ Roles of Theory: Define – Construct – Explain – Connect – Anticipate
Upcoming Activities

- **NDU Capstone Symposium: 25-26 April 07**
  - Initial presentation of Volume I Spacepower Theory findings.

- **Community of Practice Website**
  - [http://groups-beta.google.com/group/spacepower-theory](http://groups-beta.google.com/group/spacepower-theory)

- **HAYSP@NDU.EDU**